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INTERNATIONAL JOURNAL OF ACADEMIC LIBRARY AND INFORMATION SCIENCE

ARTICLES

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Full Length Research

Reading Habits by Faculty Members of BLDE's V. P. Dr. P.G. Halakatti College of Engineering and Technology, Vijayapur: An Analytical Study

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The present study was carried out Reading Habits by Faculty Members of BLDE's V. P. Dr. P.G. Halakatti College of Engineering and Technology, This study evaluates the 56.82% are 'Male' 54.55% Below 20 Years, 95.45% of the respondents are representing 'Assistant Professor', 59.09% of highest respondents 'Computer Science', 'Always' type of reading materials with 'To read Subject Books', purpose of reading habits 'To Career developments', time spent on Less than one Hour' made suggestion and conclusion.

Keywords: Reading habits; Faculty Members; Science & Technology; Halakatti College of Engineering

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INTRODUCTION

Reading is an art of interpreting printed and written words and it is a basic instrument of education is an activity oriented skill. It involves the mechanics of the brain and the combination of other organs before comprehension occurs. This activity becomes a habit when it is frequently carried out. Reading habit stimulates the promotion of one's personal development and social progress in general. Considered in relation to the amount of materials read, the frequency of reading and also the average time spent on reading (Wagner, 2002). The individual who reads well has a means for widening mental horizons and for multiplying opportunities of success. Reading is a vital factor affecting intellectual and emotional growth. Reading is one of the most fundamental components of the learning process and is seen as a catalyst for life-long learning and intellectual growth. The decline in reading habits and interests "has been attributed to the failure of educational instructions in schools to cultivate permanent interest in students to read" (Abeyrathna, 2004). Su-Yen Chen (2007) did a study on the extra-curricular reading habits of college students in Taiwan and discovered that the males spent a greater average amount of time on extracurricular reading compared to the females but there was a greater variance found among males. According to (Satija, 2002), (Toit ,2001), (Irvin 1998), Devarajan (1989), Robinson (1980) "Reading is as a process of thinking, recalling and relating concepts under the functioning of written words. describes the reading

process as "The interaction of what is in the head with what is on the page within a particular context that causes students to comprehend what they read" " defined reading as the art of interpreting printed and written words. defined reading as "an active attempt on the part of reader to understand a writer's message".

OBJECTIVES OF THE STUDY

The main objectives of the study are

➢   To identify the branch wise reading habits of respondents
➢   To study the Types of Reading Materials to read
➢   To Purpose of reading habits of faculty members and
➢   To find out the News paper different pages and different news.

METHODOLOGY

The present study aims to examine the reading habits of faculty members. The questionnaire method was adopted for the present study to collect the necessary data, keeping in view the objectives of the study. Randam sampling techniques was used. Total 60 questionnaires were distributed among Faculty Members of BLDE's V. P.   Dr. P.G. Halakatti College of Engineering and Technology, Vijayapur, 44 questionnaires were filled back. The rate of response is 73.33%. the collected data has been analyzed. Statistic techniques was used simple statistics techniques, Number, percentages, Mean, Standard deviation and chisquare test was used in excel version 1997-2003.

SCOPE AND LIMITATIONS OF THE STUDY

The present study attempts to know the present states of Faculty Members of BLDE's V. P.   Dr. P.G. Halakatti College of Engineering and Technology, Vijayapur, have been considered for the study. The scope of the study is confined to Engineering and Technology faculty members

DATA ANALYSIS AND INTERPRETATIONS

The table-1 depicts that total 60 questionnaire were distributed to the target respondents out of which 44 filled questionnaire were returned back, which amounts to 73.33%. It may be seen from the table that a majority of the respondents numbering 25(56.82%) are 'Male' and the remaining 19(43.18%) are 'Female'.
    The table 2 depicts that the age wise break up of respondents, it can be seen from the table 2 that the respondents in the age group of Below 20 Years of age range representing 24 (54.55%), followed by the age group of 21-30 Years age range representing 19 (43.18%), the age group of Years 41 and Above Years age range representing 01 (2.27%).of respondents.
    The respondents have different designation. The Designation wise distribution of faculty members, College under study is shown in the table 3. It is observed from the table that nearly 42 (95.45%) of the respondents are designated as 'Assistant Professor', whereas each Professor and Associate Professor 01(18 (2.27%) of the respondents.
    Branch wise respondents have been summarized .It can be observed from the Table 4 that 26(59.09%) of highest respondents are 'Computer Science', followed by 06 (13.64%) of respondents are 'Civil, E & C E and Mechanical faculty members of respondents.
    Calculated value is 3.33 and compare to critical value is 7.815. Generally, a probability of 0.05 or less is considered to be significant. Therefore, the returned value of 3.33 is highly significant.
    The Table 5 also depicts that types of reading materials. It can be observed form the table 27(61.36%) of respondents of 'Always' type of reading materials with 'To read Subject Books', followed by 14(31.82%)of respondents of 'Sometime', which type of materials with 'To read Journals', about 16(36.36%)of respondents of sometime which type of reading materials 'To read News papers', 19((43.18%)of respondents always which type of reading materials with 'To read Magazines', 16(36.36%) of respondents some times which type of reading materials with 'To read General Knowledge Books', nearly 18((40.91%)of respondents of often 'To read competitive Exams books', 17((38.64%) of respondents of some times which type of reading materials To read 'Novel /fiction/Story books', Finlay, 14(31.82%) of respondents of faculty members who can say sometimes which type of reading materials 'To read Religious books'. Of

Table 1: Gender wise Respondents

Gender	Frequency	Percentage
Male	25	56.82
Female	19	43.18
Total	**44**	**100.00**

Table 2: Age wise Respondents

Age	Frequency	Percentage
Below 20 Years	24	54.55
21-30 Years	19	43.18
31-40 Years	-	-
Years 41 and Above	01	2.27
Total	**44**	**100.00**

Table 3: Designation wise Respondents

Designation	Respondents	Percentage
Professor	01	2.27
Associate Professor	01	2.27
Assistant Professor	42	95.45
Total	**44**	**100.00**

Table 4: Branch wise Respondents

Departments	Respondents	Percentage	Chisquare Test
Civil	06	13.64	X^2=3.33 Df,3 Critical Value =7.815
Computer Science	26	59.09	
E & C E	06	13.64	
Mechanical	06	13.64	
Total	**44**	**100.00**	

different types of reading materials habits. Highest meal value of 13.62 and SD being 6.63 while always reading habits and 58.24 have been coefficient variation.

Purpose of reading habits have been summarized .It can be observed from the Table 6 that 40(90.09%) of highest respondents are purpose of reading habits 'To Career developments', followed by 37 (84.09 %) of respondents are purpose of reading habits 'To Improve knowledge, 25(56.82%) of respondents purpose of reading habits 'To Examination', 20(45.45%) of respondents are purpose of reading habits 'To Entertainment/recreation', and only 13(29.55%) of faculty members of respondents .are purpose of reading habits 'To Enjoyment'.

The Table 7 also depicts that about time spent of reading habits. It can be observed form the table 11(25%) of respondents of 'often' time spent on Less than one Hour', followed by 14(31.82%)of respondents of always time spent on 'One Hour', 17(38.6%) of respondents sometimes time spent on 2 to 3 Hours and only 15(34.1%) of respondents who can say always spent on Above Three Hours of reading habits daily.

There is no Significance relationship between Time Spent of reading habits and particulars X^2=15.3, df=12, probability = 0.227, alpha 0.05 less or to be considered hence, hypothesis is rejected.

The Table 8 also depicts that about Types of information refer while reading Newspapers. It can be observed form the

Table 5: Type of Reading Material

Reading Materials	Always	Sometime	Often	Never	I Don't Know
To read Subject Books	27 (61.36)	05 (11.36)	04 (9.09)	05 (11.36)	03 (6.82)
To read Journals	10 (22.73)	14 (31.82)	12 (27.27)	3 (6.82)	5 (11.36)
To read News papers	13 (29.55)	16 (36.36)	10 (22.73)	03 (6.82)	02 (4.55)
To read Magazines	19 (43.18)	12 (27.27)	07 (15.91)	02 (4.55)	04 (9.09)
To read General Knowledge Books	11 (25.00)	16 (36.36)	11 (25.00)	2 (4.55)	4 (9.09)
To read competitive Exams books	12 (27.27)	10 (22.73)	18 (40.91)	03 (6.82)	01 (2.27)
To read Novel /fiction/Story books	05 (11.36)	17 (38.64)	09 (20.45)	09 (20.45)	04 (9.09)
To read Religious books	12 (27.27)	14 (31.82)	07 (15.91)	05 (11.36)	06 (13.64)
MEAN	**13.62**	**13**	**9.75**	**4.0**	**3.6**
STDEV	**6.63**	**3.96**	**4.20**	**2.32**	**1.59**
Coefficient Variation	**48.67**	**30.49**	**43.08**	**58.24**	**44.08**

Table: 6: Purpose of reading habits

Particulars	Respondents	Percentage
To Examination	25	56.82
To Enjoyment	13	29.55
To Improve knowledge	37	84.09
To Career developments	40	90.09
To Entertainment/recreation	20	45.45
Total	**44**	**100.00**

(Exceeds of 100% because of is multiple choice option)

Table 7: Time Spent of reading habits

Particulars	Always	Sometime	Often	Never	I Don't Know
Less than one Hour	17 (39)	09 (20.45)	11 (25.00)	05 (11.36)	02 (4.55)
One Hour	14 (31.82)	11 (25.00)	09 (20.45)	07 (15.91)	03 (6.82)
2 to 3 Hours	13 (29.5)	17 (38.6)	05 (11.4)	03 (6.8)	06 (13.6)
Above Three Hours	15 (34.1)	08 (18.2)	12 (27.3)	08 (18.2)	01 (2.3)
X^2=15.3, df=12, probability = 0.227 alpha 0.05					

Table 8 : Types of information refer while reading Newspapers

Particulars	Always	Sometime	Often	Never	I Don't Know	STATISTICS	
						STDEV	CV
Current Affairs	27 (61.4)	06 (13.6)	05 (11.4)	04 (9.1)	02 (4.5)	**10.28**	**116.83**
Employment	11 (25)	09 (20.45)	10 (22.73)	12 (27.27)	02 (4.55)	**3.96**	**45.02**
Editorial pages	11 (25)	11 (25)	15 (34.1)	05 (11.36)	02 (4.55)	**5.21**	**59.26**
Entertainment	17 (38.64)	10 (22.73)	07 (15.91)	06 (13.64)	04 (9.09)	**5.06**	**57.60**
Sports	17 (38.64)	13 (29.55)	05 (11.36)	06 (13.64)	03 (6.82)	**5.93**	**67.41**
Any other please specify	06 (13.6)	13 (29.5)	15 (34.1)	03 (6.8)	07 (15.9)	**5.01**	**57.04**

Table 9: Opinion about Reading Materials

Opinion	100%	75%	50%	25%	Less than 25%
Fully Satisfied	16 (36.36)	13 (29.55)	06 (13.64)	08 (18.18)	01 (2.27)
Satisfied	08 (18.2)	20 (45.5)	04 (9.1)	05 (11.4)	07 (15.9)
Partially Satisfied	18 (40.9)	10 (22.7)	07 (15.9)	04 (9.1)	05 (11.4)
Not Satisfied	12 (27.3)	18 (40.9)	02 (4.5)	06 (13.6)	06 (13.6)
chi-square = 17.5 , degrees of freedom = 12, probability = 0.132, alpha less 0.05					

Table 10: Language Preferred

Particulars	Always	Sometime	often	Never	I Don't Know	STATISTICS	
						STDEV	CV
English	34 (77.3)	05 (11.4)	01 (2.3)	03 (6.8)	01 (2.3)	**14.18**	**161.18**
Hindi	7.00 (15.91)	19.00 (43.18)	6.00 (13.64)	3 (6.82)	9.00 (20.45)	**6.09**	**69.30**
Kannada	17 (38.6)	10 (22.7)	07 (15.9)	06 (13.6)	04 (9.1)	**5.06**	**57.60**
Urdu	10.00 (22.7)	22.00 (50.0)	6.00 (13.6)	4.00 (9.1)	02 (4.5)	**7.94**	**90.33**
Chi-square = 54.5, degrees of freedom = 12, probability = 0.000 alpha 0.05							

table 27(61.4%) of respondents of 'always reading habits of ' Current Affairs, followed by number 12(27.27%)of respondents of never information refer while reading Newspapers 'Employment', nearly number 15((34.1%)of respondents of 'often' information refer while reading Newspapers 'Editorial pages', about 17(38.64%) of respondents (34.1%)of respondents 'often', information refer while reading Newspapers any other news to read with the higest stdev value of 10.28 and CV being 116.83, 'Current Affairs', information refer while reading Newspapers.

The Table 9 also depicts that Opinion about Reading Materials. It can be observed form the table 16(36.36%) of respondents of '100% fully satisfied about reading habits followed by number 20(45.05%) of respondents of 75% of

satisfied with reading habits, nearly 18(40.9%) of respondents of 100% of partially satisfied with reading habits and last but not least 18(40.9%) of 75% of not satisfied with opinion about reading materials.

There is no Significance relationship between Reading Materials and Users opinions chi-square = 17.5 , degrees of freedom = 12, probability = 0.132, alpha 0.05 less or to be considered hence, hypothesis is rejected.

The Table 10 also depicts that Language Preferred to read. It can be observed form the table 34(77.3%) of respondents of always English language preferred to read, followed by 19(43.18%) of respondents sometime Hindi language preferred to read, 17(38.6%) of respondents always Kannada language preferred to read and only 22(50.00%) of respondents sometime Urdu language preferred to read.

There is a Significance relationship between Languages and opinions chi-square = 54.5, degrees of freedom = 12, probability = 0.000 alpha 0.05 less or to be considered hence, hypothesis is accepted.SD being 14.18 and coefficient variation is 161.18 with the English language preferred to read.

MAJOR FINDINGS

1.   Majority of 25(56.82%) are 'Male' and the remaining 19(43.18%) are 'Female'. Respondent of reading habits.(Table-1)
2.   Age group of Below 20 Years of age range representing 24 (54.55%) (Table-2)
3.   Nearly 42 (95.45%) of the respondents are designated as 'Assistant Professor', whereas each Professor and Associate Professor 01(18 (2.27%) of the respondents. (Table-3)
4.   About 26(59.09%) of highest respondents are 'Computer Science', followed by 06 (13.64%) of respondents are 'Civil, E & C E and Mechanical faculty members of respondents . (Table-4)
5.   27(61.36%) of respondents of 'Always' type of reading materials with 'To read Subject Books', followed by 14(31.82%)of respondents of 'Sometime', which type of materials with 'To read Journals', (Table 5)
6.   About 40(90.09%) of highest respondents are purpose of reading habits 'To Career developments', (Table-6)
7.   27(61.4%) of respondents of 'always reading habits of ' Current Affairs, followed by number 12(27.27%)of respondents of never information refer while reading Newspapers 'Employment', (Table- 8)
8.   About 16(36.36%) of respondents of '100% fully satisfied about reading habits followed by number 20(45.05%) of respondents of 75% of satisfied with reading habits, (Table-9)
9.   34(77.3%) of respondents of always English language preferred to read, followed by 19(43.18%) of respondents sometime Hindi language preferred to read, being SD dev 14.18 and 161.18 (Table-10)

CONCLUSION

The study revealed the respondents acknowledge the importance of reading and said reading helps them to express themselves better. Study reveals that to read newspapers, gets some information to prepare competitive examination, Library and Information Science Professionals can play a significant role in developing reading habits among its users. The library should increase more and more number of latest editions of books, journals /magazines added to requirements of the users, It is, therefore suggested that proper user education/library orientation Programmes should be provided for the users.

SUGGESTIONS

The timings of the library should be extended up to 9.00 P.M., ii. Library should provide separate reading room for personal books 24*7*365 days . Books/Magazines should be increased for competitive examination related. Iii. Reading Material should be arranged in proper order for easy accessibility with proper table organizations. iv. More and more reading language paper should be added v The library should provide for photocopy facilities i.e. Reference books, Dissertation/Theses etc.

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Full Length Research

Designing and Configuration of Institutional Digital Repository through OPUS: An Integrated Open Access Framework

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Digital resource is increasing in this modern age due to increase in technological impact and its peripherals. IDRs will additionally include digital materials that subsist outside the physical and administrative bounds of any one digital library. IDRs will include all the processes and accommodations that are the backbone and nervous system of libraries. However, such traditional processes, though composing the substratum digital library work, will have to be revised and enhanced to accommodate the differences between incipient digital media and traditional fine-tuned media. One of the most immensely colossal issues in engendering IDRs will be the building of digital accumulations. Conspicuously, for any digital library to be viable, it must eventually have a digital amassment with the critical mass to make it genuinely subsidiary. One thing IDRs will not be is a single, consummately digital system that provides instant access to all information, for all the students of all libraries and also from anywhere in the world. In this research paper researcher chooses OPUS, popular digital library software that can create and manage the digital environment in libraries. It is helpful both for the students and librarians also because they are able to access, download and upload the relevant documents. Within a coordinated digital library scheme, some prevalent standards will be needed to sanction IDRs to interoperate and apportion resources. OPUS is institutional digital repository open source software that can easily manage and upload all the documents of different file types available in libraries. It also provides tools for creating digital collections for storage and dissemination of intellectual sources for academic institutions.

Keywords: OPUS, Institutional Digital Repository, Open Access, Metadata, Publish interface, Search interface, and Site link interface

INTRODUCTION

The concept of repository is a part of digital library or content management system. It can be classified in two ways such as subject and institutional based in which digital contents have been deposited for maximum use of these resources for different purpose. Most of the repositories have the common characteristics like learning, research and administrative tasks and in this stage by using the open source standards or software,

IDRs have been developed for easy access the multiple resources. Import and export is easily possible by using the open source standards and it also stores metadata and full-text for the easy retrieval of information from a particular websites including lot of contents and sub-contents. Generally content can include research outputs such as journal articles or research data, e-theses, e-learning objects and teaching materials, and administrative data. Online archive or digital resource management is one of the important tasks in managing an institutional repository. It also supports or maintains the other digital documents including datasets, administrative documents, course notes, learning objects, or conference proceedings besides journal articles, theses, etc. Management of web content and linking the electronic resources can be developed by self-archiving. It consists of different facets and elements of any institutional repository like collecting, housing, classifying, cataloguing, curating, preserving, and providing access to digital content— analogous with the library's conventional function of collecting, housekeeping, classifying, curating, preserving and providing access to analogue content. In IDRs, organization of the different types of files like PDF, DOC, audio, videos, image formats and other formats also. All these tasks can be performed by any open source software. In this respect OPUS is considered to be the software to build IDRs. OPUS is an open source user friendly software package and it is compatible with the General Public License for creating Open Access repositories which is also compatible with the Open Archives Initiative Protocol for Metadata Harvesting. It also provides tools for creating digital collections for storage and dissemination of intellectual sources for academic institutions.

OBJECTIVE OF THE STUDY

The main objective of the study is to design and customize open access Institutional Digital Repository through OPUS in which researchers and academicians of an institution concerned can deposit, edit, browse, index their institutional research output to their IDRs with a single window search interface.

Related Study

Both national and international literature regarding this study have been consulted to find out the scope of the study and some of notable related studies have been recorded below—

In 2017, Sengar, Lohiya and Rai presented a paper on CSIR Institutional Digital Repository in a national conference held in Pune and they commented on CSIR IDR as a case study (Sengar, Lohiya & Rai, 2017). Both the authors Fortier & Laws made their focus on Marquette University's institutional repository and they told about an innovative concept on marketing of IDR in this digital era (Fortier, Rose & Laws, Emily, 2014). Passehl-Stoddart and Monge in their paper aims to highlight five IDRs collections emphasis on undergraduate students and showed how IDRs create an opportunity to build student-centric collections. Hamersly Library of Western Oregon University developed an institutional repository with collections based on the university's undergraduate education. In this repository, students are encouraged to publish their original articles, presentations and creative works (Passehl-Stoddart & Monge, 2014) Manjunatha and Thandavamoorthy in their paper present the trend of researchers of Karnataka University for deposition of their intellectual output to IDR. They showed that the most of the science and technology scholars become aware of IDR and they were willing to deposit their papers to IDR. On the other hand, the Humanities and Social Science researchers are reluctant to deposit their intellectual output to the institutional repository (Manjunatha & Thandavamoorthy, 2011).
Ashok Kumar stated that Institutional Repository (IR) is the prime source of digitized intellectual output deposited by research scholars. He also observed that the most of the research and development institutes and few academic institutes in India host their IR to provide service to users (Ashok Kumar, 2009). Royster in 2012 stated in his paper about the different aspects of OARs and the licensing policies attributed on OARs in this regard (Royster, 2012). Robin in his paper in VINE stated about Institutional repository and its features and development (Yates, 2003). Both Laxminarsaiah, Ashalatha & Rajgoli, Iqbalahmad U. and Zahid showed in their paper how to build and develop Institutional repository through open source software (Laxminarsaiah ; Rajgoli; Iqbalahmad ,2007 & Zahid , 2010). Chen & Jieh in their paper stated the innovative features of Institutional digital Repository and its development and creation though open source software (Chen, & Jieh, 2009). In the light of this study the following papers have been noted-- Mandal in his paper 2015 states about thesaurus construction tool and he in 2016 his paper studied on search indexing tool (Mandal, 2015 & Mandal, 2016). In his paper in 2017, Mandal developed a domain specific cluster for college libraries (Mandal, 2017). Chakrabarti and Mandal in their paper on DOAB showed how single window search facility of books is helpful for researchers (Chakrabarti and Mandal, 2017). In a letter from the secretary of UGC dated the 16th August, 2016 { D.O.No.F.l -l12016 (Secy) } , it is stated that UGC requested IIT Kharagpur to build a National Digital Library which will harvest all metadata content from other Institutional Digital Repositories in India (UGC, 2017). National Knowledge Commission led by Sam Pitroda proposed to set up Indian Institutional Digital Repository

and suggested that the higher education and R&D sectors should frame guidelines and open access policies to improve accessibility of research (NKC,2007). Moreover, Developing Library Network (DELNET, 2017) and Information Library Network (INFLIBNET, 2017) have initiated for the establishment the IDRs.

METHODOLOGY

OPUS is an open source software and very user friendly. So it is chosen for building Institutional Digital Repository. According to need and demand of repository users, it is customized for easy access the electronic resources. The whole operation is performed in Ubantu operating system as it is secure and safe to use.

Designing and Customization of Institutional Digital Repository

Designing and customizing the institutional digital repository can easily be possible by using the OPUS open source popular software. It is very simple and user-friendly for customizing the important areas in IDR as follows:

I.   Admin Interface
II.   Publish Interface
III.   User Interface
IV.   Browse Interface
V.   Search Interface
VI.   Site Link Interface
VII.   OAI request interface

I.   Admin Interface

This is the admin interface of institutional digital repository. There are many parameters available in OPUS admin interface for designing and developing the integrated framework of any libraries. Now, these essential components can be classified in twelve parameters such as document, review, persons, collections, series, licenses, languages, information for DNB, access control, setup, settings, and system information. The Figure 1 is represents the admin interface of OPUS for the development of institutional digital repository of any libraries or institutions.

II.   Publish Interface

Basically there are two sections in publish interface such as metadata and full text documents. It is possible to upload the all types of files by using publish interface. The Figure 2 represents the publish interface in OPUS.

This is very essential for developing the institutional digital repository for publication of documents.

III.   User Interface

This is the user interface of OPUS and here any users can easily access the digital resources. It is possible to display the total number of documents available in a particular repository. The Figure 3 represents the user interface of OPUS and it consists of 148 documents available in this repository.

IV.   Browse Interface

This is very simple and easy process to browse a particular facet and sub-facet available in this repository. The Figure 4 is represents the browse interface of OPUS. Any user can browse the different items such as years, institute, collections and so many fields and sub-fields also.
   Further it can be divided in any many facets and sub categories e.g browse by institute and it also displays how many documents are available under a particular repository for the better management of information resources. The Figure 5 represents the browse by institute in OPUS.

V.   Search Interface

The search interface can be classified in two categories such as simple search and advanced search in OPUS for

institutional digital repository. It has many search facilities such as navigation, tagging, and federated searching. Through this interface users can easily retrieve the number of documents as author, year of publication, title, subjects and so many metadata. The Figure 6 represents the search interface of OPUS for searching the different documents in any institutions and libraries also.

VI.   Site Link Interface

Researchers can easily manage references by downloading the BibTex and RIS format. Users have easily accessed the metadata as well as full text pdf files from this interface. Apart from these it also gives additional features such as release date, last modified, and share information among the Google Scholar. The Figure 7 is represents the site link interface of OPUS for managing the digital information resources both for local and global users.
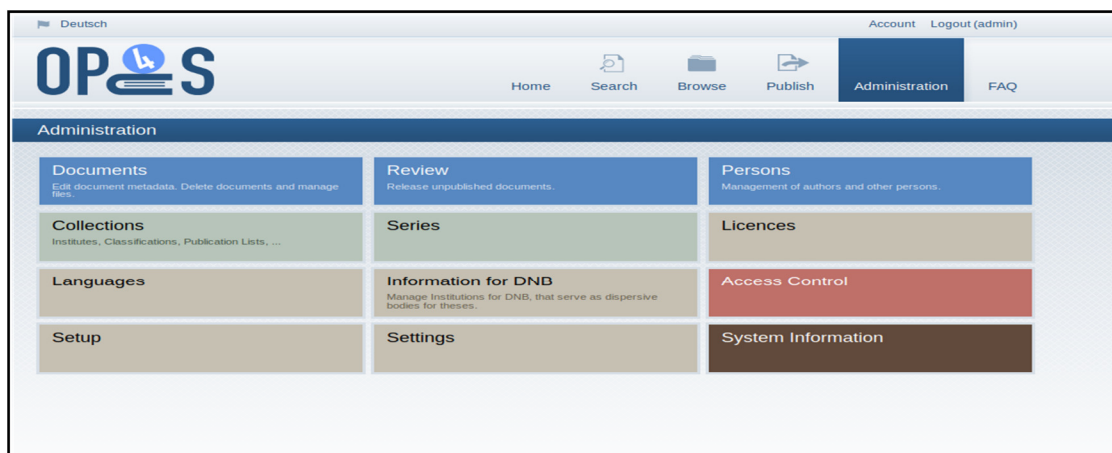
Figure 1: Admin interface of OPUS in IDR
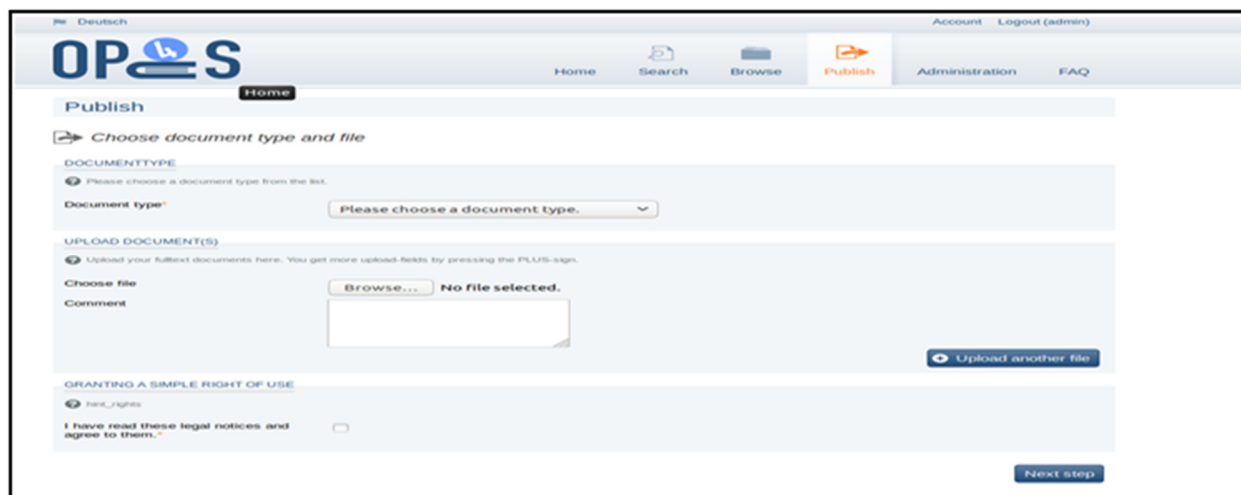
Figure 2: Publish interface of OPUS in IDR

Figure 3: User interface of OPUS in IDR
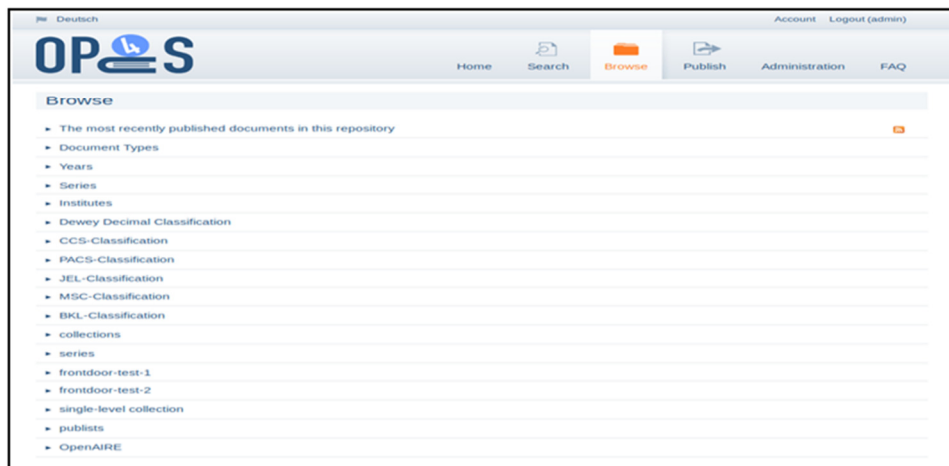
Figure 4: Browse interface of OPUS in IDR
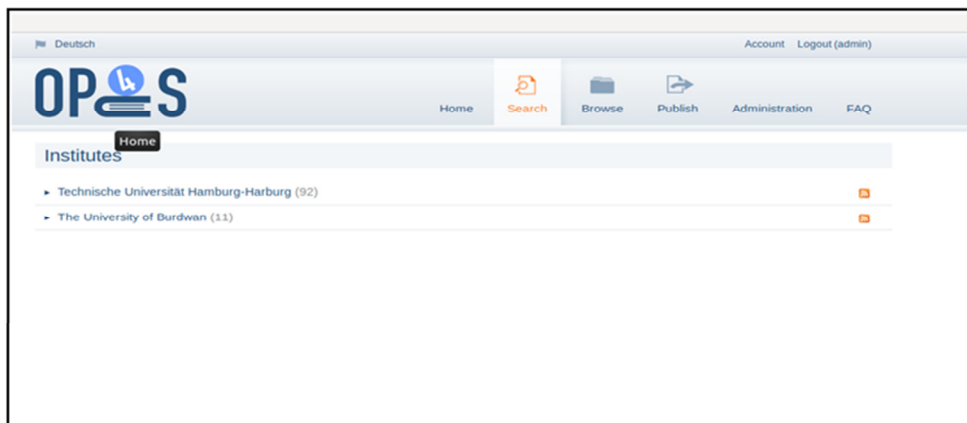
Figure 5: Browse by institute of OPUS in IDR

VII.   OAI request interface

It fully supports the Open Archiving Initiatives for metadata harvesting in different requests such as OAI request with verb Get Record (oai_dc) ; OAI request with verb Get Record (oai_pp) ; OAI request with verb Get Record (EPICUR) ; OAI request with verb Get Record (XMetaDissPlus) ; OAI request with verb Identify ; OAI request with verb List Identifiers ; OAI request with verb List Metadata Formats ; OAI request with verb List Records (with from-date) ; OAI request with verb List Records (with OAI set) ; OAI request with verb List Sets ; OAI request with verb List Records (with Open Aire set). These OAI requests are represented in the Figure 8.

OAI request result is being displayed in the Figure 9. It also displays the full Dublin Core metadata descriptions of each and every facet. It is possible to harvest the metadata and full text resources by using the OAI-PMH tools for the management of digital resources.
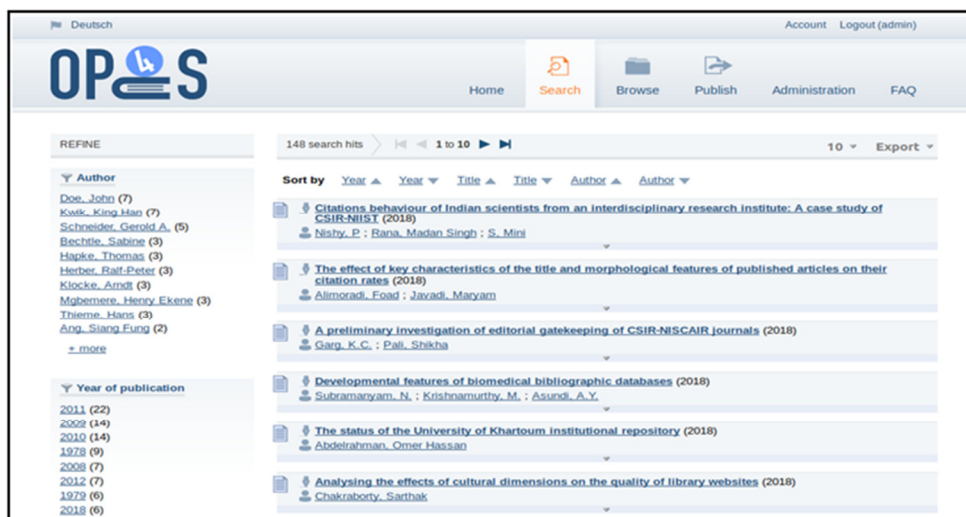
Figure 6: Search interface of OPUS in IDR
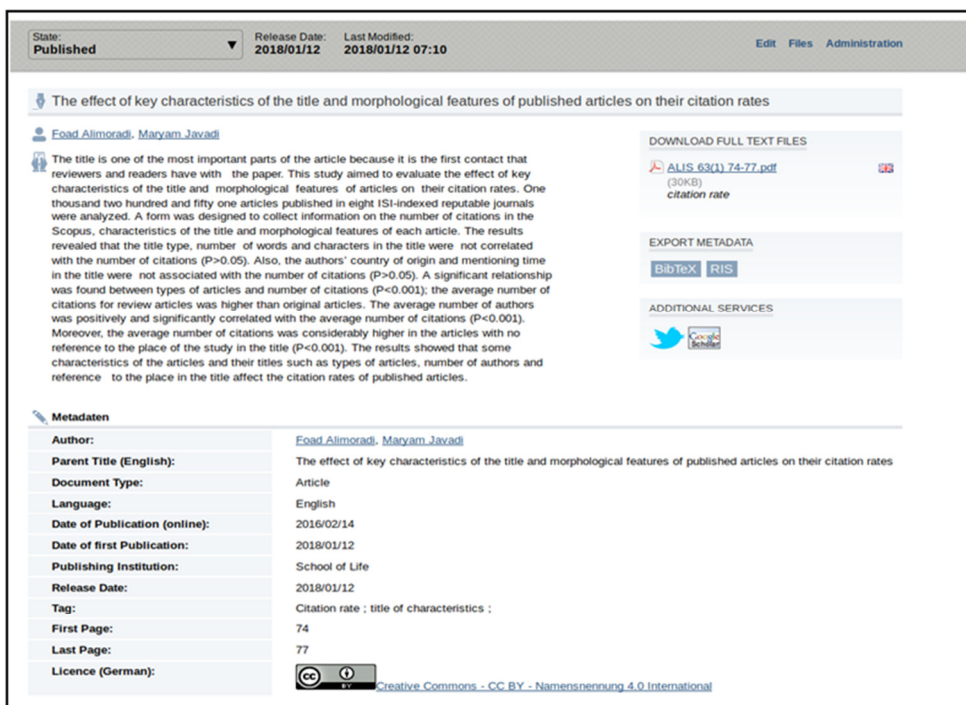
Figure 7: Site link interface of OPUS in IDR
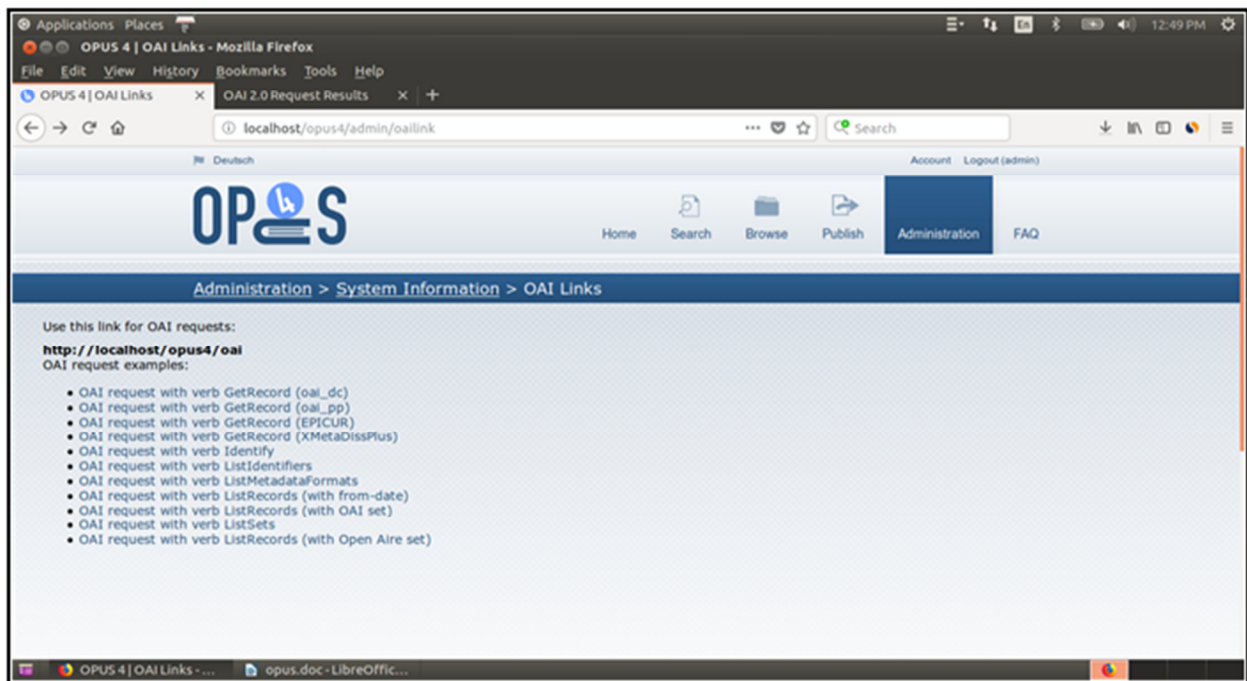
Figure 8: OAI link interface of OPUS in IDR
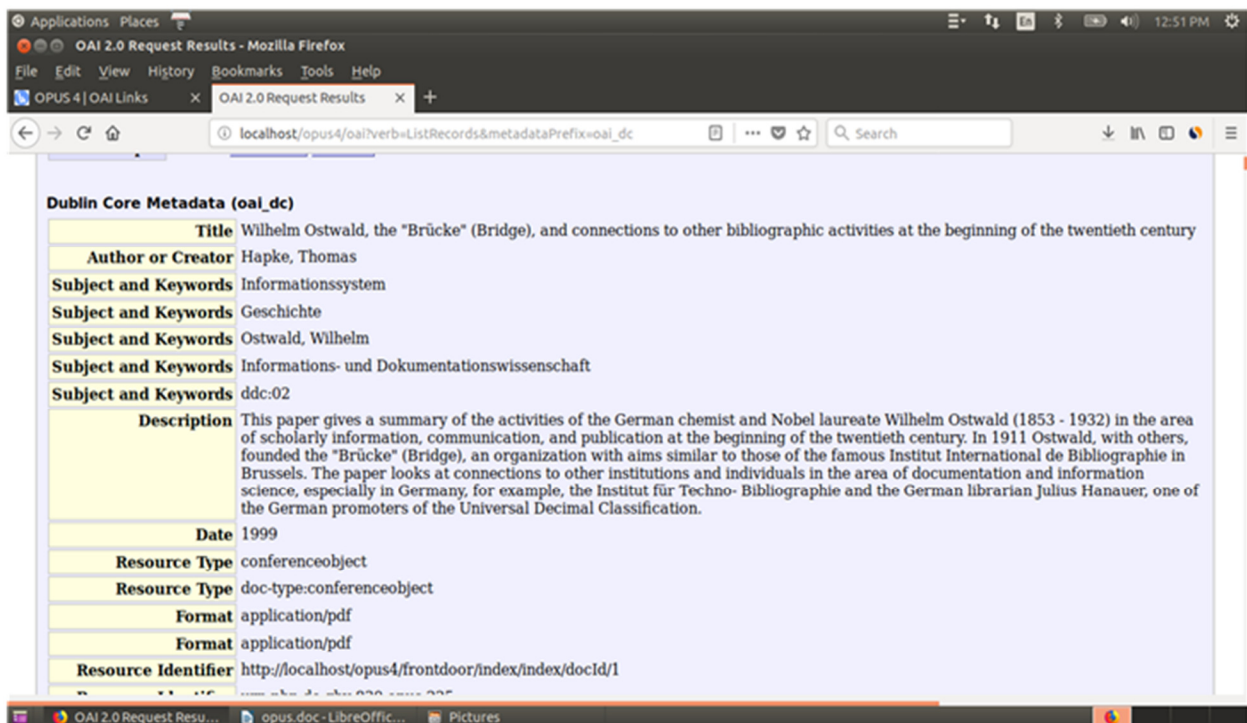
Figure 9: OAI request result interface of OPUS in IDR

CONCLUSIONS

In IDRs, a large number of resources are available to academic community for easy searching at any time anywhere. The awareness programs, training and workshops should be organized and funded by the leading organizations like UGC, CSIR etc. to educate and instruct the faculty members, researchers and scientists and all other working bodies to adopt the open access approach and make awareness regarding the creation of IDRs. It is noteworthy that the academicians, researchers are not at all fully aware of the IDRs and the maintenance of IDRs has not also properly been done. A mandatory order should enforce to harvest the metadata of IDRs to Digital Library .A central repository should be built by using open source software to harvest metadata from various IDRs to provide a single window search facility to the academicians and researchers. The user of a digital library need not to go to the library physically; people from all over the world can gain access to the same information, as long as an Internet connection is available. A major advantage of IDRs is that people can gain access information. The same resources can be used simultaneously by a number of institutions and patrons. This may not be the case for copyrighted material; a library may have a license for "lending out" only one copy at a time; this is achieved with a system of digital rights management where a resource can become inaccessible after expiration of the lending period or after the lender chooses to make it inaccessible (equivalent to returning the resource). The user is able to use any search term (word, phrase, title, name, and subject) to search the entire collection. IDRs can provide very user-friendly interfaces, giving click able access to its resources. Digitization is not a long-term preservation solution for physical collections, but does succeed in providing access copies for materials that would otherwise fall to degradation from repeated use. Sometimes data entered under the organizations of particular full text resources such as books, conference proceedings, journals and etc., so, it is possible to search the organizations name just click on the option of organizations and all the organizations are to be appeared alphabetically. This is the attractive and interesting indexing in user interface of OPUS because here all the users can easily access their documents based on contents of a books or any other types of resources of libraries. If the user clicks on browse button option all the metadata and full text resources will come. So, the users can easily access or search their necessary books with full text resources in different subject both homogeneous and heterogeneous.

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Full Length Research

EVALUATION OF GSDL ON THE BASIS OF FACTORS USING DEMATEL

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Digital Libraries are becoming the most effective for knowledge management and libraries must endeavor to enrich their knowledge store to fulfill the users' requirement. For the implementation of digital library software successfully for the library system, it is very necessary to identify the decisive factors. These factors are significant and have causal relationship among them, but not necessarily that they have the same importance. A list of such critical factors must be created for the higher success and usefulness of implementing softwares. DEMATEL method provides a favorable solution by simply ranking these critical factors. In this study, the authors evaluate the GSDL using DEMATEL on the selected factors. In library domain this type of study is not so much done, the literature review is done from other areas also. The study is done on the four objectives. INRM is created for the GSDL and to find the factors which effects and which causes. Limitation of the study and future scope is also included.

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INTRODUCTION

The 'open source' term refers to one that is accessible freely and can be modified as per the requirements. It is also called a set of values in which source of the code is available to all for customization or modification. Most computer users don't even see the part of software, i.e. source code through which computer programmers can change a program or application of software to improve the features. In Open Source the source code is provided to others for learning, altering or sharing by the authors. Dspace, Greenstone Digital Library, Koha, Eprint, Newgenlib are some examples of open source software. As for proprietary software users have to accept the terms of licences, for OSS also have to accept with different legal terms from the proprietary softwares.

Decision Making Trial and Evaluation Laboratory (DEMATEL)

Using the crisp values to analyze the correlations among factors, the Decision making trial and evaluation laboratory (DEMATEL) is a useful tool. Fontela and Gabus employed the DEMATEL technique at the end of 1971. By considering experts' view to solve many global problems in different fields such as scientific, political and economic, this technique has managed (Falatoonitoosi et al, 2012). It is widespread technique to evaluate and formulate cause and effect relationships INRM in each structural model and become most popular in Japan. With the purpose of studying the complex and intertwined problematic group, the Science and Human Affairs

Program of the Battelle Memorial Institute of Geneva used and improved the DEMATEL between 1972 to 1979. (Naser et al 2010). Based on the diagram's calculations the direct and indirect effects are among the factors measured by this method. The intensive effect of direct and indirect impact of the factors in a qualitative way is measured according to the cause and effect relationship analysis.

OBJECTIVES OF THE STUDY

In the current scenario of development of the digital libraries Greenstone is widely being used as free or open source software systems (FOSS). In fact, the aims of the different free or open source software (FOSS) systems are very different, although their domains of application do overlap. For further study these are the main objectives, which are mention below;

1.   To find the priority of factors of GSDL on the basis of experts' opinion.
2.   To find out the cause and effect groups of factors.
3.   To build the influential network relationship map (INRM) of factors.
4.   To make the strategy and give the recommendation on the basis of result for future implementation of software.

LITERATURE REVIEW

Mahmoodi and Jahromi (2014) carried out a research work for the evaluation of knowledge management through New Fuzzy DEMATEL-TODIM Hybrid Method. The knowledge management is a process of creating, transferring and distributing information and is the indices according to their importance. Pyrounakis et al. (2014) carried out a comparative study on using open source digital repository software to build digital collections and revealed that in the last decade digital library system and digital repository have been developed in bulks and published as open source software. When an organization is planning to build a repository infrastructure to host its collections, the variety of available software systems are a factor of confusion. The five widely used open source software, Fedora, Greenstone, EPrints and Invenio are compared to simplify the decision process and to describe their characteristics. To select repository software matching the organization's criteria, can be directed by using five collection paradigms that represent case studies of different content and functionality. Zha et. Al (2015) worked out on comparing the flow experience in using digital libraries: web and mobile context and found out that flow experience is considered as an optimal experience of an activity and described a match between observed challenges and observed skills.

The DEMATEL approach is used in various situations in manufacturing planning and controlling based on multi criteria decision making, such as Customer behavior (Chen-Yi 2007), E learning Program (Chung & Gwo 2009), Quality of Digital Library (Cabrerizo et al. 2010), Material Selection (Shih-Chi et el 2011) Quality improvement (Yang el al 2013), Knowledge Management (Mahmoodi and Jahromi 2014), HR Management (Kashi, 2015) and Customer relationship (Pechová, Hana 2015) etc.

RESEARCH METHODOLOGY

Today a lot of softwares are available for the Digital Libraries. With the aim to establish a Digital Library or Institutional Repository, it is very necessary to find out the suitable software which can fulfill the aims and provide the end user satisfaction. To evaluating GSDL software eight factors are finalized. The responses were taken through a questionnaire from Twelve experts. The experts were from different academic libraries of well-known universities/ institutions having at least 3 years experiences. To determine the causal relations and INRM DEMTAEL analytical technique is used after obtaining the completed questionnaires from the experts.

ANALYSIS

After taking the data DEMATEL approached is applied step by step and in the 1st step Average matrix is found out in Table 1, in 2nd step the normalized initial direct-relation matrix is calculated in Table 2, in 3rd step total relation matrix and in 4th step threshold value is calculated in Table 3.

Step 1: $A = [a_{ij}] = \frac{1}{H}\sum_{k=1}^{H} x_{ij}^k$ (1)

Average matrix (initial direct relation matrix)

Step 2: Direct Relation Matrix $\qquad$ $\boldsymbol{D}$ by $\boldsymbol{D} = m \times \boldsymbol{A}$, $\qquad$ (2)

Where, $m = min \quad [\dfrac{1}{max_i \sum_{j=1}^{n} a_{ij}}, \dfrac{1}{max_j \sum_{i=1}^{n} a_{ij}}], i, j \in \{1,2, \dots, n\}$ $\quad$ (3)

Each element in matrix D falls between zero and one.

Table 1. Average Matrix

Strategic Decisions	F1	F2	F3	F4	F5	F6	F7	F8	SUM
F1	0.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	**28.00**
F2	3.17	0.00	3.00	3.25	3.58	2.33	3.17	3.75	**22.25**
F3	4.00	4.00	0.00	4.00	4.00	4.00	4.00	4.00	**28.00**
F4	2.50	3.25	3.17	0.00	3.58	3.17	3.83	3.58	**23.08**
F5	3.67	3.58	3.00	3.58	0.00	3.67	3.08	2.17	**22.75**
F6	3.00	2.33	2.33	3.17	3.67	0.00	2.25	1.50	**18.25**
F7	3.75	3.17	3.75	2.50	3.08	2.25	0.00	3.08	**21.58**
F8	1.75	3.75	1.75	2.92	2.17	1.50	3.08	0.00	**16.92**
SUM	21.83	24.08	21.00	23.42	24.08	20.92	23.42	22.08	

Table 2. Direct Relation Matrix D

$$D = \begin{vmatrix} 0.0000 & 0.1429 & 0.1429 & 0.1429 & 0.1429 & 0.1429 & 0.1429 & 0.1429 \\ 0.1131 & 0.0000 & 0.1071 & 0.1161 & 0.1280 & 0.0833 & 0.1131 & 0.1339 \\ 0.1429 & 0.1429 & 0.0000 & 0.1429 & 0.1429 & 0.1429 & 0.1429 & 0.1429 \\ 0.0893 & 0.1161 & 0.1131 & 0.0000 & 0.1280 & 0.1131 & 0.1369 & 0.1280 \\ 0.1310 & 0.1280 & 0.1071 & 0.1280 & 0.0000 & 0.1310 & 0.1101 & 0.0774 \\ 0.1071 & 0.0833 & 0.0833 & 0.1131 & 0.1310 & 0.0000 & 0.0804 & 0.0536 \\ 0.1339 & 0.1131 & 0.1339 & 0.0893 & 0.1101 & 0.0804 & 0.0000 & 0.1101 \\ 0.0625 & 0.1339 & 0.0625 & 0.1042 & 0.0774 & 0.0536 & 0.1101 & 0.0000 \end{vmatrix}$$

Table 3 Matrix T

Matrix T - INV(I-D)	F1	F2	F3	F4	F5	F6	F7	F8
F1	1.5068*	0.6782*	0.6153	0.6634*	0.6773*	0.6109	0.6645*	0.6372
F2	0.5139	1.4518*	0.4961	0.5425	0.5626	0.4726	0.5418	0.5366
F3	0.6318	0.6782*	1.4903*	0.6634*	0.6773*	0.6109	0.6645*	0.6372
F4	0.5063	0.5664	0.5110	1.4492*	0.5744	0.5065	0.5713	0.5411
F5	0.5416	0.5764	0.5089	0.5653	1.4645*	0.5250	0.5514	0.5018
F6	0.4478	0.4588	0.4170	0.4742	0.4988	1.3384*	0.4474	0.4052
F7	0.5271	0.5483	0.5140	0.5164	0.5439	0.4669	1.4354*	0.5134
F8	0.3792	0.4678	0.3696	0.4325	0.4198	0.3562	0.4398	1.3250*

* Indicate the value of any element greater then threshold value (α).

$$= [\frac{1}{24.08}, \frac{1}{28.00}] = \frac{1}{28.00} = 0.035714$$

Step 3: Total Relation Matrix (T Matrix).

T matrix is obtained by utilizing Eq. (5), in which, I is an $n \times n$ identity matrix. The element of t_{ij} represents the indirect effects that factor i had on factor j, and then the matrix T reflects the total relationship between each pair of system factors.

$$T = lim_{m \to \infty}(D + D^2 + \cdots + D^m) = \sum_{m=1}^{\infty} D^i \qquad (4)$$
Where,

$$\sum_{m=1}^{\infty} D^i = D^1 + D^2 + \cdots + D^m$$
$$= D(I + D^1 + D^2 \dots + D^{m-1})$$
$$= D(I - D)^{-1}(I - D)(I + D^1 + D^2 \dots + D^{m-1})$$
$$= D(I - D)^{-1}(1 - D)^m$$

$$\boldsymbol{T} = D(I - D)^{-1} \qquad (5)$$

Calculate matrix $\boldsymbol{T}$:

Define r and c be $n \times 1$ and $1 \times n$ vectors representing the sum of rows and sum of columns of the total relation matrix T, respectively, which are obtained by:

$$\boldsymbol{r} = [r_i]_{n \times 1} = [\sum_{j=1}^{n} t_{ij}]_{n \times 1} \qquad (6)$$
$$\boldsymbol{c} = [c_i]_{n \times 1} = [\sum_{i=1}^{n} t_{ij}]_{1 \times n} \qquad (7)$$

Suppose r_i be the sum of ith row in matrix T, then r_i summarizes both direct and indirect effects given by factor i to the other factors. If c_j denotes the sum of jth column in matrix T, then c_j shows both direct and indirect effects by factor j from the other factors. When $j = i$, the sum $(r_i + c_j)$ shows the total effects given and received by factor i. That is, $(r_i + c_j)$ indicates the degree of importance that factor i plays in the entire system. On the contrary, the difference $(r_i + c_j)$ depicts the net effect that factor i contributes to the system. Specifically, if $(r_i + c_j)$ is positive, factor i is a net cause, while factor i is a net receiver or result if $(r_i + c_j)$ is negative. The sums of rows and columns of matrix $\boldsymbol{T}$ are calculated by using Eq. (6) to Eq. (7) as shown Table 4.

Step 4: Set up a threshold value to obtain the digraph.

The threshold value (α) was computed by the average of the elements in matrix T, as computed by Eq. (8).
$$\alpha = \frac{\sum_{i=1}^{n} \sum_{j=1}^{n}[t_{ij}]}{N} = \frac{41.428}{64} = \qquad \textbf{0.6473} \qquad (8)$$

Where, N is the total number of elements in the matrix T. Since matrix T provides information on how one factor affects another, it is necessary for a decision maker to set up a threshold value to filter out some negligible effects. In doing so, only the effects greater than the threshold value, would be chosen and shown in digraph. In this study, the threshold value is set up by computing the average of the elements in matrix T. The digraph can be acquired by mapping the data set of $(r + c, r - c)$. the threshold value is 0.6473.

RESULTS

Content Acquisition (F1) has the largest (*r+c*) value = 11.108 and User Friendly Interface (F8) has the smallest (*r+c*) value = 9.287. Regarding to (*r+c*) values, the prioritization of the importance of eight evaluation perspective was *F1>F3>F5>F2>F4>F7>F6>F8*. Content Acquisition is most important and User friendly Interface is least.

Based on r-c value, the eight factors were divided in (i) cause group and (ii) effect group, the factors, Content Acquisition (F1) and Metadata Submission and Support (F3) were classified in the cause group, having the (r-c) values of 0.999 and 1.132 respectively. The factors Content Management (F2), Classification (F4), Information Search and Retrieval (F5), Access Control, Privacy and Management (F6) and Authentication and Authorization (F7) are categorized in the effect group, have the (r-c) value -0.308, -0.081, -0.184, -0.400 and -0.251 respectively.

Content Acquisition (F1) has five influencing relationships with other factors like Content Acquisition F1, Content Management F2, Classification F4, Information Search and Retrieval F5, Authentication and Authorization F7, in total five relationships the factor one has also the mutual relationship itself. It shows that this factor is the most important factor as compared to other factors. Metadata Submission and Support has five influencing relationships with other factors. While Content Management; Classification; Information Search and Retrieval; Access Control, Privacy and Management; Authentication and Authorization; and User Friendly Interface have only a mutual relationship with Own.

The values of t_{ij} in Table 4, which were greater than α (0.67432), were highlighted and shown as t_{ij}*, which presented the interaction between perspectives, e.g. the

Table 4. Dimension, Cause & Effect

Factor Dimension	r_i	c_j	$r_i + c_j$	Rank	$r_i - c_j$	Impact
F1	6.054	5.054	11.108	1	0.999	**Cause**
F2	5.118	5.426	10.544	4	-0.308	**Effect**
F3	6.054	4.922	10.976	2	1.132	**Cause**
F4	5.226	5.307	10.533	5	-0.081	**Effect**
F5	5.235	5.419	10.653	3	-0.184	**Effect**
F6	4.488	4.887	9.375	7	-0.400	**Effect**
F7	5.065	5.316	10.381	6	-0.251	**Effect**
F8	4.190	5.098	9.287	8	-0.908	**Effect**
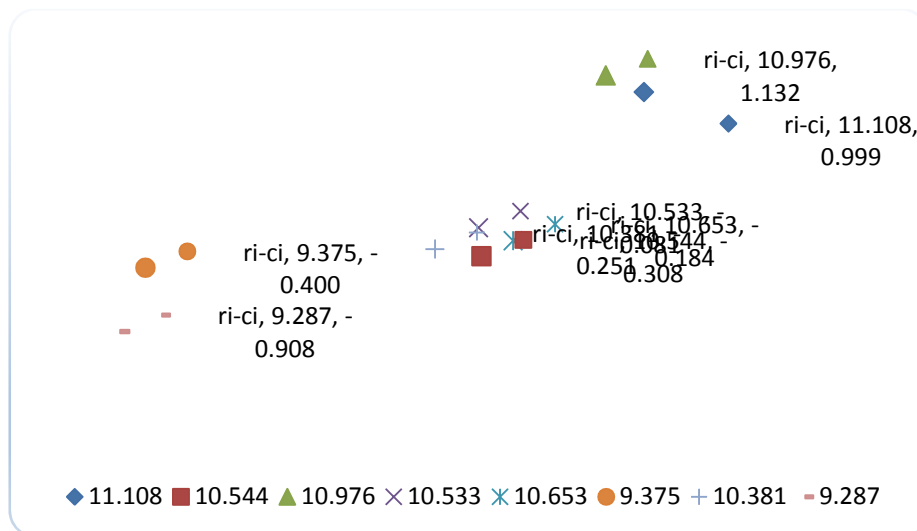
Figure 1: Influence Relation Map – GSDL

value of t 12 (1.5068) > α (0.6743). The cause and effect diagram/ INRM of eight perspectives is constructed as Figure 1.

LIMITATIONS OF THE STUDY

There are always several limitations in the studies, in this study the first limitation concerns the representativeness of sample as larger sample size might not be representative of the entire population of library professionals. This study is done only on the GSDL, the popular digital library softwares. For prioritization, data is calculated of only 20 evaluators on the basis of some certain criteria, but these criteria can vary according to the situation of the problem and the environment. For construction of Network Relationship Map (NRM), this study applied only DEMATEL approach on the selected 12 experts' opinions about GSDL.

SCOPE OF FUTURE WORK

DEMTAL approach is not widely used in the field of Library Science Research. This approach is mostly used in the Management field. There should be proper utilization of this approach to the research in the field of library science with changing perspectives. It is very useful to make decisions in Management of libraries, selection of different softwares for the implementation in various fields. Different services can be provided in the best way to the users by using experts' opinion views and evaluating them through DEMTAL. In the field of library science, there are a lot of opportunities in research using this approach.

CONCLUSIONS

From a practical perspective, the study found out the priority of the identified factors and their interrelationship i.e. cause and effect relationship within the factors. The study shows that content acquisition is the most important factor and it has five positive relationships with other factors. From a management point of view if we are going to implement the GSDL, we must focus the content acquisition. Second, Metadata submission and support have five positive relationships with other factors. Third, Content Management; Classification and Information Search & Retrieve; Access Control, Privacy and Management; Authentication and Authorization; and User Friendly Interface have a mutual relationship with its own. It is recommended from the management point of view that Content Acquisition and Metadata Submission & Support should be focused if GSDL will be implemented for Digital Library.

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Assessment of Koha for Online Library Management in Nigerian Academic Library: A Case Study of Olusegun Oke Library, Lautech, Ogbomoso

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Koha is an open software Library Integrated Management System (LIMS) and is used worldwide by public, school and academic libraries which its development was steered by a growing community of libraries and users collaborating to achieve their technological goal. This study was guided by three objectives. Questionnaire methods were adopted for eliciting relevant information as far as this research work is concerned. Both descriptive statistics were used to analyze the data collected from respondents. It was found that the library has adopted and used Koha for online library management and services. The major challenges confronted the libraries include: inadequate funding, inadequate managerial support, inadequate power supply, and low internet bandwidth. The findings of this study will serve a very useful purpose for Olusegun Oke Library in particular and their counterparts across the Nigeria in general. The flexibility and friendly nature of the software will also enable users maximize their gains in the search for information.

Keywords: Koha, Software, Library Integrated Management System, Olusegun Oke Library, ICT Tools and Academic Libraries.

INTRODUCTION

Information technology has influenced all aspects of librarianship and service delivery in academic library. Today, many libraries catalogue their materials electronically through the use of Online Public Access Catalogue (OPAC) using Integrated Library Management System (ILMS), such as Koha, Dspace, E-prints, Greenstone, OPALS and Plone which have been taken to provide tools for integrated library management system, digital library, and content management. Koha software is used by librarians to manage the library using a computerized system where he/she can record various transactions like issue of books, cataloguing a new materials return of books, addition of new books and addition of new students. Vera (2015) defined Koha as an Open Source ILMS which can keep track of library operations such as items, billing, tracking various items owned by a library such as books, journals, newspapers, etc. Therefore, this paper evaluates the use of Koha software for library management service at the Ladoke Akintola University of Technology Ogbomoso, Oyo State, Nigeria.

Historical Background of Digitization at Olusegun Oke Library

Ladoke Akintola University of Technology also known as (LAUTECH) is a technical university located in Ogbomoso, Oyo State, Nigeria. The university currently enrolls 25,000 students and employs more than 3,000 staff. The main campus is the site of the university's administration as well as home to six faculties and post-graduate schools. Fields of study include pure and applied science, medicine, agriculture, engineering and technology, environmental science and faculty of management. The university management has put in place improved internet bandwidth for the whole of LAUTECH community. The university now has internet bandwidth on fiber link and VSAT link. LAUTECH is currently working on how to expand and improve the reliability and availability of the internet networks in the university. Automation process of library services at LAUTECH, Ogbomoso started in the late 90s. Initiated in the mid 90s by Dr. J. O. Fasanya (First University Librarian) and kick started by Dr. Gboyaga Adio (Second University Librarian). The library administration under the leadership of Mr. Isaac Olugbenga Ajala knowing that digitization would eventually lead to a new culture of library operation. This led to the adoption of Koha for library service and management.

PROBLEM STATEMENT

In many ways, Koha software has made the librarians and libraries more efficient, effective and has improved library management and services. However, Koha has opened up a new area of concern such as low internet connectivity and low computer skilled from the library staff. Librarians are spending time surfing on the net or communicating with their friends, relatives and counterparts during working hours. Indeed, with the entry of younger librarians into the system, this problem is exacerbated in the light of "Internet Age" in which they grew up and play with. Therefore, many young librarians are unproductive in the system. It will be necessary to access and evaluate of Koha for online library management and services in Olusegun Oke Library, LAUTECH, Ogbomoso.

OBJECTIVES OF THE STUDY

The general objective of this study is to investigate the issues around the Integrated Library Management System (ILMS), Koha in Olusegun Oke Library, LAUTECH.

1.   To determine the use of Koha software in
         Olusegun Oke Library, LAUTECH.
2.   To determine the efficiency in the use of Koha with respect to library staff and students.
3.   To find out the common problems encountered with respect to Koha and internet.

LITERATURE REVIEW

Nowadays, library in institutions worldwide use various type of Integrated Library Management System such as Koha on a daily basis at work. Koha is a web-based Integrated Library System (ILS), with a SQL database (MySql preferred) backend, cataloguing data stored in MARC and accessible via Z39.50 (Wikipedia, 2015). Koha is a full-featured, open source ILS. It is easy to use Koha with its many advanced features which attracted to open sources technology and its free availability (Corrado, 2005). It was stated by Uzomba, Oyebola and Izuchukwu (2015) that, the primary aim of Koha is to provide an integrated library management tool, covering all major functions in a library, such as Acquisitions, bibliographic database management, user management, transactions, serial control, online end-user searching on local and external bibliographic databases, and library portal.

Koha Software- The name Koha comes from a Maori term for a "gift" or "donation". The development of Koha began in 1999, funded by a group of libraries in rural New Zealand that found proprietary software expensive and lacking some needed features. The full featured Koha was developed initially in New Zealand by Katipo Communications Ltd and first deployed in January, 2000 for Horowhenua Library Trust. Koha is designed to work with a minimum of hardware resources. It runs on the Linux operating system in conjunction with the Apache Web server, uses the popular MySQL open source database management system, and is written in Peri. The Koha ILS can also be installed on Windows operating system but with a series of additional modules. Migration of data from one ILS to Koha can be done easily *(http://www.librarytechnology.org/libwebcats/)*

ICT as a Processing Tools for Koha in the Library

The application of ICT tool such as computer and internet to house both operation and application software (koha) are no longer a new phenomenon. Information Communication Technology (ICT) is a diverse set of technological tools and resources used to communicate and to create, disseminate, store and manage information (Blurton, 1999). ICT tools are those technologies that enable the handling of information and facilitate different forms of communication. This includes processing technologies (e. g application software). Therefore, this research defines ICT tools as the use and the application of computer, internet facilities, scanner, barcode reader, photocopy machine to mention but few for the processing and enhancement of KOHA software in the library services and operations. Ayodele, Joseph, Helen and Felex (2013) find out some important ICT facilities for the effective use of library application software as: computer system 86.6%, bandwidth 39.2%, printers 81%, telephone 68%, internet 75.3%, scanning machine 50.5%, digital camera 30% and multimedia 39.2%. All these ICT tools are very important for the smooth take-off of library automation with effective koha software to run it. So also, Qutab, Bhatti and Ullah (2014) stated some varieties of ICT equipment available that can make the use of software for library operations possible. These are: digital camera 37%, photocopier 70%, multimedia 40%, barcode reader 63%, scanners 67%, server 65% and printer 77%. University libraries in the countries with developed application software, library systems and infrastructure are using ICT for both library operations and services. This is aimed at ensuring quick and easy access of the large numbers of library users to relevant accurate and current information from both remote and immediate databases to facilitate learning, teaching and research in the universities.

The Usefulness of KOHA Software in the Library

The library has an important role to play within a university to support its objectives of learning, teaching, research and community services. The extent, to which the library is able to carry out its laudable objectives, portrays how the university library has been supportive to it in the provision of all the essential information resources, software packages and ICT tools. Ayodele, et al (2013) opined that it is the expectation of every organization that software run on the operating systems of their computers will perform effectively with little or no hiccups. Wrong choice of software will have debilitating effects (debugging) on a computer. Therefore, selecting high quality software requires some processes or guidelines which a library needs to follow. Selection must always be based on merit and not on financial inducements. Projektlink (2010) mentioned that Koha was the first open-source Integrated Library Software (ILS) in use worldwide by public, schools and special libraries that its development was steered by a growing community of libraries and users collaborating to achieve their technological goal. Breeding (2012), itemized different standard modules in koha software use in the library that address specific functional areas. Such standard modules include cataloguing for creating bibliographic records that represent works in the library's collection and circulation that automates tasks related to loaning items to patrons, serials control for managing periodicals and serials, acquisitions to handle the procurement process for new items added to the collection, and the online public access catalogue to allow library users to search or browse through the library's collection. Uzomba, et al (2015) observed that users can use Koha to search for books and library materials, staff can use KOHA to do cataloguing and classification of books, charge & discharge books and library materials to users, register users or patrons, calculate date due for books and library materials, access its Web based OPAC system and take library stock management. However, it was observed that staff cannot maximally utilize Koha to order for library materials, e-mail and /or text patron's overdue and other notices and print barcodes. It was suggested that staff must understand the new features inherent in Koha in order to better serve the interest of their users.

Problem Militating Against the Use of KOHA Software

Prior to information communication technology, library operations were performed manually and independently from one another. Selectors ordered materials with ordering slips, cataloguers manually catalogued items and indexed them with the card catalogue system (in which all bibliographic data was kept on a single index card), and users signed books out manually, indicating their name on cue cards which were then kept at the circulation desk. With the introduction of ICT tools such as computers (software and hardware) and internet facilities, academic libraries in Nigeria are shifting from their isolated past into integrated systems and networked operations. Nwachukwu, Asiegbu and Ogwu (2014) in the study revealed that the non-utilization of the koha packages is as a result of lack of conducive environment, virus-attack and lack of compatibility, erratic power supply, lack of library staff training and inadequate fund. According to Iroaganachi, Iwu and Esse (2015), the prospect for resource sharing among university libraries in Nigeria is high, but factors hindering effective exercise of same include: inadequate funding, a dearth of skilled librarians, power outages, an absence of web-accessible OPACs, uneven development of libraries, and slow progress of library automation. In view

with inadequate funding for libraries, Mittal (1997) wrote that, "not only were the funds allocated for library development meagre as compared with needs of the country, but also these funds have not been utilized to an appreciable extent". Uzomba, et al. (2015) discovered some major challenges encountered with the use of open source software in academic libraries in Nigeria, the major challenges as witnessed from the findings include: Inadequate funding, inadequate managerial support, inadequate power supply, maintenance cost, lack of training and re-training of staff, cost of procurement of the hardware/software lack of consortium, lack of supervision, proximity to virus, crashing problem, insufficient manpower and compatibility with hardware devices.

Suggestion for Improving the Use of KOHA Software

Adegbore (2010) made a focus on "Automation in two Nigerian university libraries" where he investigated automation procedures in two Nigerian university libraries and problems encountered during automation. He also identified application of information technologies in these libraries and recommends that librarians should improve their services for users. On this, Ukachi (2012) cited Wheeler (2007) restated that;

> "open source software such as koha gives users the freedom to run the program for an purpose, to study and modify the program, and to redistribute copies of either the original or modified program without having to pay royalties to previous developers (Ukachi, 2012, pp.2)."

It offers more flexibility and freedom than software purchased with license restrictions. Based on the findings by Uzomba, et al (2015), the following recommendations were made: libraries should be supported financially, employ adequate number of library staff with appropriate computer skills, provision for uninterrupted power supply such as generators, solar system etc. Software should be made more compatible with hardware devices, software should be fortified against virus attack. There should be a strong back as against any unwanted threat to the system. The use of KOHA ILS will solve the problem of manual processing and untimely statistics generation. Online registration database gives access to easy and accessible information retrieval in an efficient and effective manner. Therefore it was recommended by Akpokodje, et al. (2015) that the software should be moved to the Wide Area Network (WAN) to ease congestion and encourage self-registration from library users.

METHODOLOGY

Based on the nature of the research topic, the major instrument for data collection for this study is questionnaire. Questionnaire methods were adopted because it is an institution kind of study, and the fastest means of eliciting relevant information as far as this research work is concerned. Staff and students are the major stakeholders to collect data from. Three hundred (300) copies of the questionnaire were distributed among the students and staff of the institution but only two hundred and ninety five (295) questionnaires were well and correctly administered for analysis. This was easily done by the assistance of both library assistance and library attendance assigned to reading rooms in the library. The questionnaire mainly consists of close-ended questions making it very friendly, hence easy to complete. In order to get the necessary information needed to answer the research questions and objectives of the study, the responses obtained from the completed copies of the questionnaire were recoded and analyzed using the Statistical Package for Social Science (SPSS). Both descriptive statistics were used to analyze the data collected from the respondents. Such descriptive statistics include the use of Percentages, Frequency and cumulative distributions, were used in finding relationships between variables.

Note: The average number of students used library per day were 285, while library has 52 both professional and nonprofessional staff (Library statistics, 2017).

RESULTS

The result from table 1 shows that there were more male students (52.00%) and male staff (62.02%) than their female counterpart. Also, the students that were age between 11-21 had highest percentage of (48.08%) and the staff were age between 31-00 (44.04%). Staff members that were 61 years above had the lowest percentage of 4.05%. Students that were single had highest percentage of 95.02, while students that were married 4.08%. Among the staff that were married had the highest percentage of 95.06, also 2.02% of staff were single. While the lowest percentage 4.04% of staff were either single or widowed. Also, 90.00% of students were First Degree and 7.02% of the students were master

degree. 2.0% were PhD program. In case of staff, 66. 07% had First Degree qualifications and 22.02% of staff had Master Degree. While, 4.04% staff had PhD, and 6.07% of staff had other qualifications.

Table 2 indicates 76.3% strongly agreed that there is availability of computer (PC) and 6.0% disagreed. 49.5% strongly agreed the availability of internet and 10.2% disagreed. Also, 45.8% agreed the availability of bandwidth while 10.2% disagreed. 56.6% of the respondents strongly agreed the availability of scanning machine while 4.1% strongly disagreed. 20.4% agreed the availability of barcode reader and 32.5% disagreed. Furthermore, 67.8% agreed that there is availability of computer printers while 3.1% disagreed. 27.8% of the respondents strongly agreed the availability of digital camera while 23.7% disagreed.

Table 3 presents the distribution of respondents that use KOHA Software for different purposes. 49.2%

Table 1: Demographic Factors of the Respondents

N = (295)

Demographic Factors	RESPONDENTS			
	STUDENTS		STAFF	
Sex	Freq	%	Freq	%
Male	130	52.00	28	62.02
Female	120	48.00	17	47.08
Total	250	100	45	100
Age (years)				
11-20	122	48.08	0	00.00
21-30	120	48.00	05	11.01
31-40	08	03.02	20	44.04
41-50	0	00.00	15	33.03
51-60	0	00.00	03	06.07
61above	0	00.00	02	04.05
Total	250	100	45	100
Marital Status				
Married	12	04.08	43	95.06
Single	238	95.02	01	02.02
Widowed	0	00.00	01	02.02
Divorced	0	00.00	00	00.00
Total	250	100	45	100
Level of Education				
First Degree	225	90.00	30	66.07
Master Degree	18	07.02	10	22.02
PhD	02	00.08	02	04.04
Others	05	02.00	03	06.07
Total	250	100	45	100

Table 2: Availability of KOHA Process Tools

Variables	SA		A		D		SD	
	Freq.	%	Freq.	%	Freq.	%	Freq.	%
Computer (PC)	225	76.3	68	23.1	02	0.6	00	0.0
Internet	146	49.5	100	33.9	30	10.2	19	6.4
Bandwidth	120	40.7	135	45.8	30	10.2	10	3.3
Scanning Machine	167	56.6	105	35.6	11	3.7	12	4.1
Barcode Reader	55	18.6	60	20.4	96	32.5	84	28.5
Computer Printers	180	61.0	200	67.8	09	3.1	6	2.1
Digital Camera	82	27.8	77	26.1	70	23.7	66	22.4

Table 3: Use of KOHA Software in the Library

Variables	SA		A		D		SD	
	Freq.	%	Freq.	%	Freq.	%	Freq.	%
KOHA is Use to Register Users	145	49.2	145	45.8	10	3.4	05	1.6
KOHA Software is Use for Cataloguing and Classification	140	47.6	147	49.8	03	1.0	05	1.6
KOHA Software is also Use to Charge and Discharge Library Materials	156	52.9	118	40.0	15	5.1	6	2.0
KOHA Software is Use to Print Barcodes	147	49.8	114	38.6	20	6.8	14	4.8
KOHA is Use to Access Web based OPAC System	105	35.6	125	42.4	38	12.8	27	9.2
KOHA Software is Use to Generate Statistics Data for Research Purpose	95	32.2	164	55.6	52	17.6	24	8.2
KOHA is Use for Library Stock Management	94	31.8	117	39.7	53	18.0	31	10.5

Table 4: Problem Militating Against the Use of KOHA Software

Problems	Not a Problem		Serious Problem	
	Freq	%	Freq	%
Lack of Uninterrupted Electricity	45	15.3	250	84.7
Inadequate Internet Accessibility	215	72.9	80	27.1
High Cost of Procurement of both Hardware and Software	160	54.2	135	45.8
High Cost of Maintenance	20	6.8	275	93.2
Lack of Training and Re-retraining of Staff	132	44.7	163	55.3
Compatibility with Hardware Devices	182	61.7	113	38.3
Crashing Problem	26	8.8	269	91.2
Lack of Technical Knowledge from the Staff	140	47.5	155	52.5

strongly agreed that Koha is for library users' registrations and 3.4% disagreed. While, 49.8% agreed to using Koha for cataloguing and classification and 47.6% strongly agreed. In addition, 52.9% strongly agreed that Koha is used for charging and discharging library materials, while 5.1% disagreed. Also, 49.8% strongly agreed and 6.8% disagreed to the use of Koha Software to print barcodes. 42.4% agreed, while 12.8% disagreed the use of Koha to access web based OPAC system. Furthermore, 55.6% of the respondents agreed and 17.6% disagreed that Koha use to generate statistical data that can be used for research. While 39.7% agreed and 18.0% disagreed to the use of Koha for library stock management.

The result from table 4 shows that lack of uninterrupted electricity 84.7%, high cost of maintenance 93.2%, lack of training and re-retraining of staff 55.3%, crashing problem 91.2% and lack of technical knowledge from the staff 52.5% constitute serious problem against the use of Koha Software in LAUTECH. However, inadequate internet accessibility 72.9%, high cost of procurement of both hardware and software 54.2% , and compatibility with hardware devices 61.7% are not seen as a serious problems confronting Koha software activities in LAUTECH.

The findings in table 5 reveal that standby generators should be provided to prevent interrupted electricity supply

Table 5: Suggestion for Improving the Use of KOHA Software

Possible Solutions to the Problems	Frequency	Percentage	Cumulative
Adequate Internet Should be Provided Uninterruptedly	33	14.6	14.6
Standby Generators should be Provided to Prevent Interrupted Electricity Supply	47	15.9	30.5
Adequate Fund should be Provided for the Procurement of both Software and Hard ware	42	14.2	44.7
Enough Fund should be Allocated for Maintenance of Library Facilities	40	13.6	58.3
Library Staff and Users should be Given Proper Orientation on the Benefits and Use of KOHA Software	41	13.9	72.2
KOHA Software should be Made More Compatible with Hardware Devices	37	12.5	84.7
Software should be Fortified with Antivirus Against Virus Attack	45	15.3	100.0
Total	292	100.0	

15.9% and software should be fortified with antivirus against virus attack 15.3% of the respondents provide the major suggestions for improving the use of Koha in the LAUTECH library. Also, adequate internet should be provided uninterruptedly 14.6%, adequate fund should be allocated for maintenance of library facilities 14.2%, library staff and library users' should be given proper orientation on the benefits and use of Koha Software 14.9% and enough fund should be provided for maintenance of library facilities 13.6% of the respondents will go a long way to assist the use of Koha.

Table 6 shows the comparison between staff and students sampling. Staff, 16(35.6.0%) responded the availability of computer (PC), while 75(30.0)% of students responded availability of computer (PC). 18(40.0%) from staff use Koha for cataloguing and classifications, while 118(42.2%) of students use Koha for users' registration. Staff, 12(26.8%) responded that high cost of procurement of both software and hardware was problem militating against the use of Koha. 12(50.4%) responded from students that inadequate internet accessibility was a problem militating against the use of Koha. 13(28.9) of the staff suggested that adequate fund should be provided for the procurement of both software and hardware package. While 78(31.2) of the students suggested that adequate internet bandwidth should be provided uninterruptedly.

DISCUSSION OF FUNDING

There are various justifications for the use of koha software. These includes: for users' registration, cataloguing, charge and discharge library materials, to print barcodes, access web based OPAC system, to generate statistics data for research purpose and use for library stock management. The justifications that recorded high percentage are; registrations, cataloguing, charge and discharge and print barcode. In support of these justifications, Breeding (2012) and Uzomba, et al (2015) stated that koha software could be used as cataloguing, search for books and library materials, registrations and access web based OPAC. The reason for this might be its freedom for alteration of the program for varying services once it is modified to suit those purposes. However, it was observed that the major ICT facilities available deployed for the application of Koha software in the library are computer systems, computer printers, and scanning machines. This study corroborates with the funding of Ayodele, et al (2013) where computer systems, internet and computer printers were rated higher. The finding makes it possible because Olusegun Oke Library has moved from manual ways of services into automation that is the use of ICT for day to day library services. Furthermore, the results found based on the problems militating against the use of koha software are enormous, but the serious problems as witnessed from the findings include: High cost of maintenance, crashing problem and lack of uninterrupted electricity. The results are in line with Nwachukwu, et al. (2014), Iroagamach, et al. (2015), and Uzomba, et al. (2015) that lack of interrupted electricity, cost, and crashing due to virus pose serious problems militating against the adoption

Table 6: The Comparison of Staff and Students

Variables	Staff		Students	
	Freq	%	Freq	%
Availability of KOHA Process Tools				
Computer (PC)	16	35.6	75	30.0
Internet	10	22.2	66	26.4
Bandwidth	7	15.3	30	12.0
Scanning Machine	4	08.9	28	11.2
Computer Printers	5	11.2	32	12.8
Digital Camera	3	06.8	19	07.6
Total	45	100.0	250	100.0
Use of KOHA Software in the Library				
KOHA is Use to Register Users	8	17.8	118	47.2
KOHA Software is Use for Cataloguing and Classification	18	40.0	24	09.6
KOHA Software is also Use to Charge and Discharge Library Materials	4	08.9	72	28.8
KOHA Software is Use to Print Barcodes	7	15.3	6	02.4
KOHA is Use to Access Web based OPAC System	3	06.8	15	06.0
KOHA Software is Use to Generate Statistics Data for Research Purpose	3	06.8	12	04.8
KOHA is Use for Library Stock Management	2	04.4	3	01.2
Total	45	100.0	250	100.0
Problem Militating Against the Use of KOHA Software				
Lack of Uninterrupted Electricity	10	22.2	100	40.0
Inadequate Internet Accessibility	2	04.4	126	50.4
High Cost of Procurement of both Hardware and Software	12	26.8	5	02.0
High Cost of Maintenance	7	15.3	2	00.8
Lack of Training and Re-retraining of Staff	6	13,4	0	00.0
Compatibility with Hardware Devices	2	04.4	4	01.6
Crashing Problem	5	11.2	7	02.8
Lack of Technical Knowledge from the Staff	1	02.3	6	02.4
Total	45	100.0	250	100.0
Suggestion for Improving the Use of KOHA Software				
Adequate Internet bandwidth Should be Provided Uninterruptedly	3	06.7	78	31.2
Standby Generators should be Provided to Prevent Interrupted Electricity Supply	9	20.0	56	22.4
Adequate Fund should be Provided for the Procurement of both Software and Hard ware	13	28.9	40	16.0
Enough Fund should be Allocated for Maintenance of Library Facilities	6	13.3	25	10.0
Library Staff and Users should be Given Proper Orientation on the Benefits and Use of KOHA Software	6	13.3	18	07.2
KOHA Software should be Made More Compatible with Hardware Devices	3	06.7	8	03,2
Software should be Fortified with Antivirus Against Virus Attack	5	11.1	25	10.0
Total	45	100.0	250	100.0

of koha in the library. However, the solutions for the above mentioned problems as indicated by the respondents include: standby generators should be provided to prevent interrupted electricity supply, software should be fortified with antivirus against virus attack, adequate internet services should be provided uninterruptedly. These are the major possible best solutions to some of the problems militating against the use of koha in the library. The findings of this study are in support with a study by Adegbore (2010) which focused on "Automation in two Nigerian university libraries" He identified application of information technologies in these libraries and recommends that librarians should improve their services for users.

RECOMMENDATIONS

The use of Koha should not be restricted to any category of staff. All the staff are to be involved in the service provision chain and should have access to computer sets and they should be exposed to training and retraining in manipulating the Koha automation software and Internet operations. Library users including staff and students should be trained and retrained in the act of utilizing Koha facilities and OPAC to access information in the library. Koha software facility is the intelligence site linking the local library to the other libraries in the world. Therefore, equipment should be consistently sustained by adequate provision for internet subscription and maintenance of Koha and ICT tools. Library users particularly students are shifting their search for information from hard copies to accessing information from soft sources by surfing information from the internet. It is being recommended that bibliographic summary of library collections should be programmed into all the systems such that users will compulsorily interact with these pieces of bibliographic information through the Koha interface.

CONCLUSION

The use of Koha software has become a burning issue amongst academic libraries in Nigeria. It is clear that use of Koha in the library is extremely necessary to achieve or implement library automation concept. Koha cannot function at full strength if necessary tools and accessories are not incorporated for appropriate applications. Computerization of library processes is the only way of ensuring that the librarian will be able to perform its task efficiently and improve its services to the library and perspective users. Now librarians are realizing that there is no way to escape the use of Koha in the library. It is expected that the findings of the planners and policy makers to realize the importance of Koha in the process of library automation so that a scientific need based library and information services would be provided by LAUTECH library. It is a recognized fact that the coming age is going to rely heavily upon information. The libraries will therefore have to play an increasingly important role in functioning as information servers. To play this role more effectively and efficiently in order to meet challenges of the 21st century, Koha must be fully introduced in the library services without any delay.

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Full Length Research

A Comparative study of selected University Library Portals in South India

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This paper concentrates on the substance of University library portals of Karnataka and Tamil Nadu state. The study found that of the 10 portals studied from both states just 40% have copyright explanation followed by site copyright developers and maintenance (30%). The technical aspects such as hyperlinks and frames were tolerably utilized within the portals. There are chances to overhaul the outline and structure of the portals. Paper has additionally given proposals dependent upon the discoveries.

Keywords: Library, Portals, University, Hyperlinks, Frames, Internet.

INTRODUCTION

In recent years, the Internet has emerged as the most powerful medium for storage and retrieval of information. It works round the clock and connects every nook and corner of the globe (Singh, 2006). The internet is a million of computers interconnected together that allow millions of users to search, retrieve and store information in various forms. It provides numerous services such as email services, discussion forums, File Transfer Protocol (FTP), chat, instant messaging and web portals to share the information in electronic form. Few organizations and individuals develop technical aspects of this network and set standards for creating applications on one hand whereas, few are using it on the other.

The eruption of the Internet and information technology has created opportunities for the information professionals who are redefining their role for the present and future (Krishnamurthy, 2005). Progression of the Internet has its effect on establishments included in information activities. University libraries, information centers, documentation centers use the web and its services to fulfill the client requirements. Libraries are kept tabs on advancing apparatuses, for example, web portals (Krishnamurthy, 2005). Thus, web portals are well known and utilized in the academic libraries. The portal allows searching databases, refining of search results, email alerts, record searching and basic and advanced search options (http://faculty. weber.edu/portals/library_portals.htm). They are the gateway to a rich source of information for the yearning students and research scholars. These should be constantly upgraded now and again[4]. As Strauss has noted, a portal is a special kind of gateway to Web resources, "a hub from which users can locate all the web content they commonly need" (Strauss, 2003). They provide information about the library, library services, collection, E-Resources, E-journals. The development and maintenance of the portals lie in studying them systematically.

This study concentrates on two things. Firstly, the study might give a thought regarding the library homepage, the

extent of the library, the scope of the library and profundity of data furnished in the library homepages of Karnataka and Tamil Nadu Colleges. Secondly, a study of nature would help the prospective design of university library portals regarding the kind of information that should be made available ona website.

OBJECTIVES OF THE STUDY

The present study has the following objectives.

1.   To study and analyze the homepage contents and contact details of library portals of Karnataka and Tamil Nadu universities.
2.   To find out the projection of traditional and specialized services offered by the different university libraries.
3.   To identify the general information offered by the library portals.
4.   To compare the number of hyperlinks provided and frames used in university library portals of Karnataka and Tamil Nadu universities.

SCOPE AND LIMITATIONS OF THE STUDY

This study is limited to the library portals in Karnataka and Tamil Nadu University libraries. The websites that were retrievable with the help of search engines only were considered. Researchers have taken only 10 University library portals of Karnataka and Tamil Nadu University libraries portals. The study focused on the analysis of the content of University library portals of Karnataka and Tamil Nadu. For the present study, the following universities have been selected on the basis of convenience of the researcher. (Table 1)

METHODOLOGY ADOPTED FOR THE STUDY

Examiner has utilized Internet Explorer to search and retrieve the content from selected University library portals. The University library URLs were gathered and entered in the address bar. Essential information was gathered and recorded in MS-Excel worksheet for further examination. Then, the information was classified, tabulated and inferences were drawn.

Analysis and Interpretation of data

Ten dynamic portals, a total of ten university library portals from Karnataka (n=5) and Tamil Nadu (n=5) have been studied. The study concentrated on the analysis of several components that are displayed over the library portals of universities of 2 selected states. Table 2 projects the home page elements that are available in the university library portals of Karnataka and Tamil Nadu.

   Availability and accuracy of home elements of a portal determine its usability. Table 2 reports the availability of a title, university logo, library picture, and menu bar. An average of 80% university library portals from Karnataka and Tamil Nadu has a title. All five university library portals of Karnataka state have library photo whereas, only 60% University library portals have library photo. Out of 10, a total of 5 portals (50%) have a university logo.

Communication Elements in University Library portals

Most of the libraries portals have provided communication elements like library address, phone number, fax number, e-mail address. Table 3 represents the contact details of the Karnataka and Tamil Nadu University libraries portals. 80% of the library portals from both states have library address and phone numbers followed by Email address (70%) and fax number (50%). 80% of university library portals of Tamil Nadu universities and 60% of the portals from Karnataka University libraries have anemail id. Highest numbers of university library portals from Tamil Nadu are providing contact details than the university library portals of Karnataka state.

Copyright statement in University library portals

Table 4 explains the details of copyright holders and developers and maintaining the authority of University library

portals.   Of the 10 portals of both states, only 40% have copyright statement followed by site development and maintenance (30%). Observation of table 4 reveals that the awareness towards Intellectual property rights is limited.

Academic elements in university libraries portals

It is evident from Table 5 that the details of the librarians and library hours are projected in 5 university library portals of Tamil Nadu (100%) followed by four university library portals of Karnataka State (80%). A total of 9 (90%) library portals provided information on the librarian. Comparatively, Tamil Nadu library portals standfirst in providing information on working hours of the library. It also observed that only 40% of the university library portals of Karnataka and Tamil Nadu have given the details of the various sections of libraries followed by information on alumni (20%)

Table 1.

Karnataka	Tamil Nadu
Indian Institute of Science	Anna University, Chennai
Manipal Academy of Higher Education	Bharathidasan University, Tiruchirappalli
National Institute of Technology	Indian Institute of Technology Madras, Chennai
National Law School of Indian University	Madurai Kamaraj University
University of Agricultural Sciences	Vellore Institute of Technology, Vellore

Table 2: Homepage Elements

SL. No	Elements	Number of library portals					
		Karnataka (n=5)	%	Tamil Nadu (n=5)	%	Total	%
1	Title	4	80	4	80	8	80
2	Logo	2	40	3	60	5	50
3	Library Photo	5	100	3	60	8	80
4	Menu bar	4	80	3	60	7	70

Table 3: Contact details

SL. No	Elements	Karnataka		Tamil Nadu		Total (n=10)	%
		Number	%	Number	%		
1	Library Address	4	80	4	80	8	80
2	Phone Number	4	80	4	80	8	80
3	Fax number	2	40	3	60	5	50
4	E-mail address	3	60	4	80	7	70

Table 4: Intellectual Property Rights Elements

SL. No	Elements	Karnataka (n=5)		Tamil Nadu (n=5)		Total	%
		Number	%	Number	%		
1	Copy right	3	60	1	20	4	40
2	Site developed (Designed and Maintained by)	1	20	2	40	3	30

Table 5: Academic Elements

SL. No	Elements	Karnataka (n=5)		Tamil Nadu (n=5)		Total	%
		Number	%	Number	%		
1	Service offered	4	80	3	60	7	70
2	Sections of the libraries	2	40	2	40	4	40
3	Staff/faculty	4	80	3	60	7	70
4	Librarian	4	80	5	100	9	90
5	Working hours of library	4	80	5	100	9	90
6	Library authority	2	40	2	40	4	40
7	Alumni	1	20	1	20	2	20
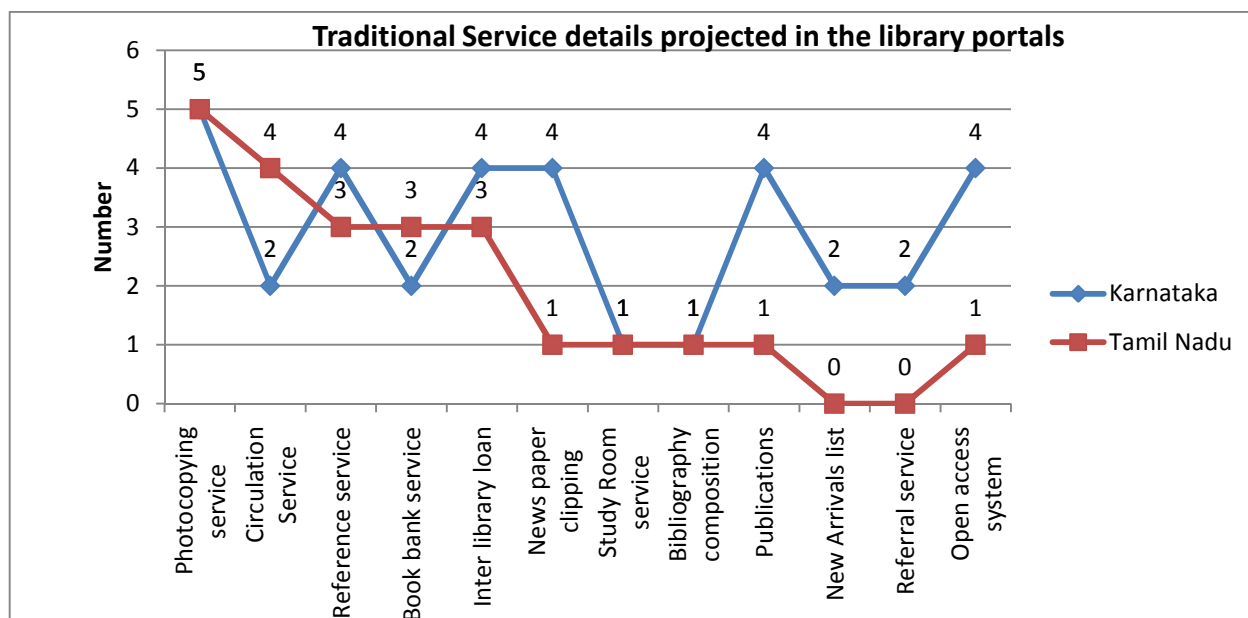
Figure 1: Traditional Service Elements in University portals
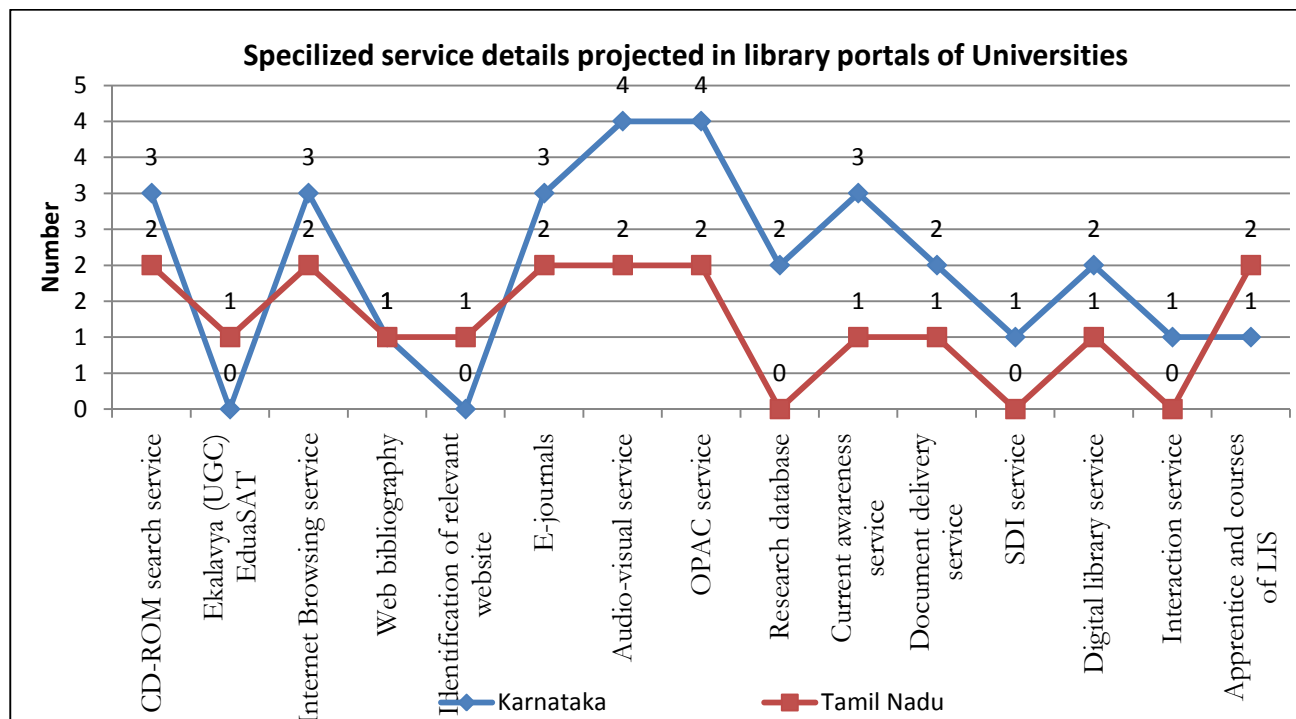
Figure 2: Specialized Service Elements in University portals

Specialized service elements in University Libraries Portals

University Library portals project the details on traditional and specialized services offered by the libraries. Figure I and II depict that the services project in the university library portals of two states. It is evident from figure 1 that all 10 portals studied have projected the details of photocopying service (100%) followed by Reference, Interlibrary Loan, Newspaper clipping services, bibliographic compilation and open access system (80%). Figure 2 deals with the specialized services that are

Table 6: General Information Elements

SL. No	Elements	Karnataka (n=5)		Tamil Nadu (n=5)		Total	%
		Number	**%**	**Number**	**%**		
1	Rules	-	-	2	40	2	20
2	Total collection	5	100	4	80	9	90
3	workshop	1	20	1	20	2	20
4	Eye view / overview	3	60	-	-	3	30
5	About library	5	100	5	100	10	100
6	Established year	4	80	4	80	8	80
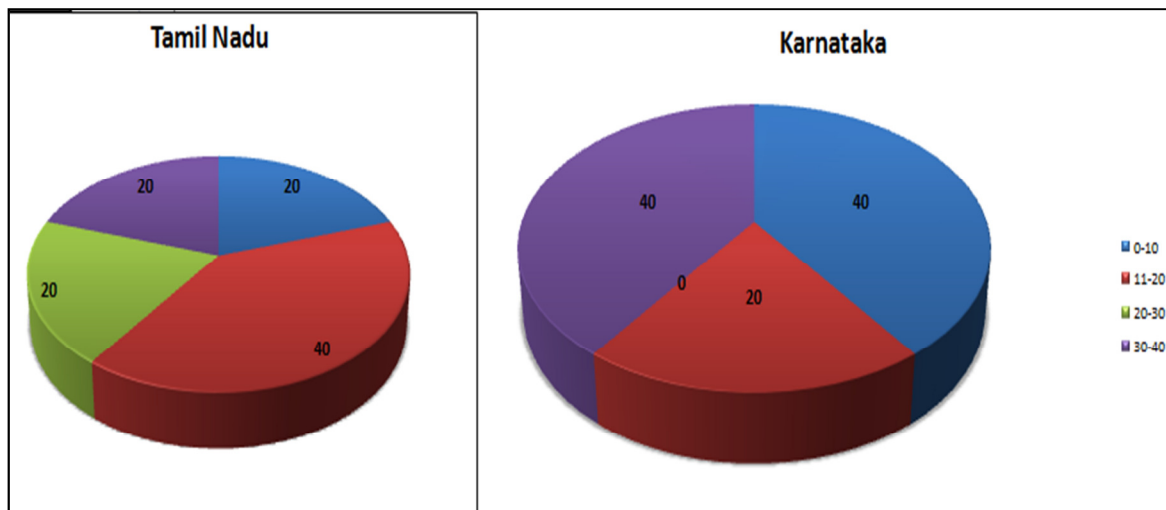
Figure 3: Number of Hyperlinks in University Library Portals

projected in the university library portals of Karnataka and Tamil Nadu state. 4 university library portals of Karnataka state have provided the details of audio-visual service and OPAC service. It is interesting to note that the display of the details of specialized service in Tamil Nadu university library portals is not more than 40%.

General Information Elements in University Library portals

It is clear from Table 6 that 100% University library portals of both states have given background information on their libraries in 'About Us' segment, followed by 80% of them have recorded the establishment year of the libraries. 100% library portals of Karnataka university libraries and 80% of library portals of Tamil Nadu universities have furnished information on library collection. 60 percent of Karnataka college library portals have given information on library overview, whereas none of the library portals from Tamil Nadu colleges have specified this issue. Just 2 (40%) of library portals of Tamil Nadu state have furnished information on library rules while none of the library portals from Karnataka Universities have focused on this issue.

Hyperlinks and Frames Used in University Libraries portals

Out of 5 library portals of Karnataka Universities 2 (40%) have 0-10 and 30-40 hyperlinks, whereas, 40% of library portals of Tamil Nadu universities have 10-20 hyperlinks. (Figure 3)
    Table 7 deals with the number of frames projected in university library portals. 4-6 frames were most astounding among university library portals of Karnataka (40%) and Tamil Nadu (60%). Only 20% portals from Karnataka university libraries have the most noteworthy number of frames i.e. 13-15.

Table 7: Number of Frames

SL. No	Range of Frames	Karnataka (n=5)		Tamil Nadu (n=5)		Total	%
		Number	%	Number	%		
1	0-3	1	20	2	40	3	30
2	4-6	2	40	3	60	5	50
3	7-9	1	20	-	--	1	10
4	10-12	-	-	-	-	-	-
5	13-15	1	20	-	-	1	10

FINDINGS OF THE STUDY

1.   Averages of 80% university library portals from Karnataka and Tamil Nadu have a title.
2.   Highest numbers of university library portals from Tamil Nadu are providing contact details than the university library portals of Karnataka state.
3.   Of the 10 portals of both states, only 40% have copyright statement followed by site development and maintenance (30%)
4.   The highest number of university library portals of Tamil Nadu state provides information on librarians and library working hours than those of Karnataka.
5.   Photocopy service is the common service provided in all studied university libraries, whereas audio-visual service and OPAC are highest among the university library portals of Karnataka.
6.   Details on library rules and regulations have not been projected in the library portals of Karnataka Universities whereas, limited library portals of Tamil Nadu state universities have concentrated on the display of rules and regulations over the portal.
7.   The study also identified that the portals are technically moderate. The hyperlinks given in the portals and the frames used in the designing of the portals are not exhaustive.

SUGGESTIONS AND CONCLUSION

This study concentrated on deliberately thinking about the significant components that are projected in the university library portals. Taking into account the significant findings of the study it was suggested that the library portals may as well have copyright holder's portions. The information on the specialized service offered by the university libraries ought to be anticipated. It exhibits the competencies of the libraries. Likewise, rules and regulation of the libraries could be completely given to make consciousness around the library clients. At long last, truly library portals can lure the clients when they utilize propelled and advanced techniques within creating portals. Most recent methods, for example, CSS style sheets/latest form of HTML could be utilized to plan the portals which furnish stylish magnificence to the portals.

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Full Length Research

Ways of Promoting Electronic Learning through University Libraries in Selected Federal Universities in the North-Central, Nigeria

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The paper examined the various ways of promoting e-learning through university libraries in selected federal universities in the North-Central; Nigeria. The descriptive survey design was adopted for the study. Questionnaire was used as the instrument for the collection of data. The population of the study was the ninety two (92) academic practicing librarians in the four universities under study. Frequency tables, percentages and mean scores were used to analyze data. The study revealed that e-mail, use of online information resources, internet search engines/databases, assistance in online retrieval access, use of search engines/databases, multimedia overhead projectors, online subscription of literature, online tutorials etc are some of the ways of promoting e-learning through university libraries. The paper recommended that university administration and the library should lobby government for more funds to purchase and sustain ICTs facilities. Efforts should be made to intensify internal revenue generation to sustain the system; standby generator should be purchased for the library as an alternative source of power supply. Furthermore, university libraries should create their own website which help the library to market their services as well as training librarians to acquire skills in ICTs which is the backbone of e-learning.

Keywords: Promoting, Electronic Learning, University Libraries, Federal Universities, North Central, Nigeria.

INTRODUCTION

Libraries through the ages enhanced access to knowledge through the routine operations that included cataloguing, classification, abstracting, indexing, bibliographic compilation, current awareness services (CAS), selective dissemination of information (SDI). The advent of information and communication technologies (ICTs) is reshaping these traditional methods. The main purpose for utilizing technology in the library is to extend human capability through the enhancement of the services mentioned earlier which had been provided manually Longshak (2010). In fact, technology's incursion into the library is creating numerous opportunities for librarians and users of information resources of the library.

Ezeani & Eke (2010) opined that in this present era of information technology, librarians' roles as information organizers and managers have gone beyond the traditional, delving into the realm of the new paradigm which carries along with it, a myriad of challenges. They contend that in this present state, there ought to be new adoptions and integrations whereby librarians adopt new technologies and integrate them into their traditional setting of services and replicate such services using the emerging, modern tools in order to drive access to knowledge. To this end Ugwuanyi & Ezeani (2010) noted that in this 21st century we are being overtaken by the wind of information and communication technology which is coming fast to us. We in this part of the world cannot ignore it, rather have to embrace it, rise to its challenges and join the developed countries in tapping its benefits by transiting from conventional libraries to electronic libraries. Ekoja (2011) concludes that we cannot share in the vast information offered by ICTs nor contribute to it unless we migrate into the electronic environment.

The concept 'electronic library' had been referred to variously as 'digital library', 'virtual library', 'library without borders', or simply community network. Although these concepts have some similarities, there are some differences as well. In this research, the term 'electronic library' will be more preferred as the topic of this research is on e-learning. An electronic library according to Ojedokun (2000) as cited by Ilorah, Nwafor& Onwudinjo (2007) is basically a library that consists of materials and services in electronic format rather than in the print format. The contents of electronic library includes digital materials such as electronic databases, CD-Rom disc and any material used in the library like video and audio-tapes, microphones etc. that require the use of electricity. Etim (2004) summed up that the technological development of the past 25 years, such as the electronic database, online services, CD-Rom, and the introduction of internet has radically transformed access to information. The application of ICTs in the library services to facilitate learning have created diverse ways of quick and portable access, encouraged new research routes, refreshed the information consumer-base and redefined our various methods of information delivery.

E-learning is of great benefit to the organization/Institution, the e-learner or student and the teacher. To the institutions, the incorporation of e-learning is a logical extension of their distance education activities. E-learning is of interest to the residential campus-based educational organizations as well. They see e-learning as a way of improving access to their programs. Great numbers of teachers are increasingly using information and communication technology to support their teaching. To e-learners or students, e-learning is a viable option for those with commitments or conditions such as family, or work, or who cannot participate easily for reasons including disabilities. The time and cost of commuting to and from campus are eliminated, resulting to less population on campus. E-learning does not know time zones, location and distance are not taken as important. Students can access the online materials anytime, anywhere, while synchronous e-learning allows for real time interaction between students and instructors. In the same vein, students can use the internet to access up-to-date and relevant learning materials as they can communicate with their subject expert in the field they are studying. For the teacher/instructor, tutoring can be done any time and from anywhere. Online materials can be updated and learners are able to see the changes at once. When learners are able to access materials on the internet, it is easier for instructors to direct them to appropriate information based on their needs. E-learning refers to all organized learning activities under the influence of an educational organization that are carried out with the help of information and communication technologies.

Information and Communication Technology (ICT) have redefined the existing ways of library services in our universities. The literature on library services in an electronic environment affirms that ICT have changed the various ways of providing library services in academic libraries. As the concept of e-learning is been introduced into our university system, the university libraries are also adapting new methods of information delivery to promote e-learning in the university system.

STATEMENT OF PROBLEM

From time immemorial, universities have remained centers of academic excellence and have evolved through centuries to perform four distinctive functions: to preserve, transmit (teach), and advance knowledge (research), as well as engage in community service. The university is a service institution to develop the human person and advance human civilization. The link between the university and the library is very critical in order to realize the potentials of the university. The unique status of higher education is tailored towards its relations to the library at large. This is because the objective of higher education such as university cannot be achieved without a functional library.

The recent development of Information and communication Technologies (ICTs) have brought about a paradigm shift from the traditional model of classroom teaching to a new concept called electronic learning (e-learning). E-Learning is the use of ICTs to impart knowledge to an individual or group of individuals wherever they may reside on the globe. In order words, it is the use of computers and telecommunication technologies to impart knowledge to learners or students. The most important advantage of e-learning is universal access to education irrespective of one's geographical

location, age, pace and time. Despite several advantages of implementing e-learning in any university system and the role the university libraries are expected to play in supporting the university's mission; Nigerian universities seem not to recognize ways of promoting e-learning through university libraries. This paper is set to investigate the various ways of promoting e-learning through university libraries in selected federal universities in the North-central, Nigeria.

OBJECTIVES OF THE STUDY

This paper is guided by the following objectives:-

1.   To find out ways selected federal universities in the North-central, Nigeria have been using in promoting e-learning through university libraries
2.   To recommend possible ways of promoting e-learning through university libraries.

LITERATURE REVIEW

Social networking is a social utility that connects people with friends and others who work, study and live around them e.g. face book. Ezeani & Eke (2010) pointed out that librarians can harness these tools in interacting with users and knowing what they want. They add that groups can be formed in facebook where strictly academic issues are discussed. A facebook is a hugely popular social networking site that allows you to make connections, share interest and join groups (facebook 101 tutorial 2008) Facebook is becoming more open and social and impacting our experience of the web in ways we had not dreamed. Wikis is an online encyclopedia. It is an open collective publication allowing people to contribute or create a body of information. Ezeani & Eke suggested that librarians are expected to drive users to this platform where they can obtain firsthand knowledge on definitions and concepts. It is a collaborative website where both the writer and the readers can edit and make contributions to topics. Blogs is another utility which allows an individual to make regular postings to the web e.g.A personal diary or an analysis of current events. Blogs can be used to market available library resources which users may find useful. Multimedia is also a good utility for librarians. It allows end-users to access, store, download, and share audio recordings, photographs and videos e.g. Pod casts, flicker, YouTube etc. Ezeani & Eke (2010) summed up that, all these platforms boil down to knowledge access. In employing these tools, librarians drive access to knowledge by establishing contact with the users and providing their needs.

   Multimedia services in university libraries are another method of promoting e-learning in any higher education system. Reitz (2004) defined multimedia as a combination of two or more digital media (text, graphics, audio, animation, video, etc) used in a computer application, such as an online encyclopedia, computer game, or web site. Multimedia applications are often interactive. Also, contributing to the definition of multimedia, Naidu (2006) said that this refers to computer-based software that suitably integrates audio-video, text, and animation into a single product. Multimedia is therefore a combination of two or more digital media which uses a computer application and is often interactive. It is important to note that in most contemporary technology enhanced learning environments where media is skillfully integrated with the instructional method, media can and do play a very influential and critical role in learning and teaching. According to Tamas & Vauthier (1996) quoted by Madu & Pam (2011) despite the high cost of the systems and their use, multimedia education builds on the basic principles and should be incorporated in library services. Multimedia resources in libraries have the capability of presenting to the user information in more than one channel which enhances more utilization and understanding of the information being used. This conforms to the Chinese saying that:

   What I hear, I forget
   what I see, I remember
   what I do, I know

Online reference service is another method of promoting e-learning in university system. Madu (2008) opined that reference service is undoubtedly one of the basic services provided in the library and is the root of librarianship. Katz (1982) defined reference service as the process of answering questions. He further pointed out that an individual user has a query about a topic and approaches the reference desk expecting the librarian to provide an answer or indicate where or how an answer may be found. Reference service is the personal assistance eagerly given to library users in pursuit of information by a librarian in charge of the reference section (Madu 2008). Reference service is therefore the apex of librarianship whereby the librarian seeks to satisfy the hunger of the user with information. It is the formalized provision of information in diverse forms by a reference librarian who is interposed between the inquirer and the available information source.

With the application of information and communication technologies (ICTs) in reference service, Kohdrup quoted by Anozie and Usman (2010) maintained that the use of internet in reference work gives the librarian new possibilities and support searching of information by users. ICT is changing the environment in which reference service is being offered today in our libraries.

The internet provides the reference librarian with the opportunity to provide on-line reference service. According to Madu (2008) an electronic resource contains a variety of information types and has grouped them into bibliographic data-bases and non-bibliographic databases. He defined bibliographic databases as those in machine readable format and includes indexes and abstracts, while non-bibliographic databases are those electronic databases that are not in machine readable format and include full-text databases.

It is no doubt that ICT has revolutionized access to information in libraries and users now search databases with the use of on-line catalogues terminals. The result is that reference service is more efficient and effective as questions posed to the reference librarian are answered faster and more easily using computerized sources. According to Bopp in Madu (2008) library users familiar only with traditional library services are amazed and impressed when the reference librarian without leaving his desk, moves fluidly and confidently from one online database to another to find an elusive citation or to print out the full text of a periodical or newspaper article.

It is not an overstatement to say that ICT has impacted and improved the content and quality of reference service rendered in modern libraries. Access to outside databases of other libraries had considerably improved through the delivery of documents by e-mail as well as answers to reference queries.

Furthermore, a study was conducted by Ilorah, Nwafor and Onwudinjo (2007) on "the place of university libraries and e-learning in universities in Anambra state. A case study of Nnamdi Azikiwe University, Akwa; Anambra state university, Uli; and Madonna University, Okija." The major objective of the study was to identify the preparedness of university libraries in Anambra State to support e-education programme recently introduced in our university system. Specifically, the study sought to find out the essential ICTs for e-learning, the ICT facilities available in the university libraries in Anambra State, the benefits of electronic library, hindrances to the establishment and efficient use of e-library in the university libraries in Anambra state and the way forward. Survey research design was used to carry out the study. Questionnaire and observation checklist were instruments used for data collection and twenty (20) professional librarians from the three universities formed the population of the study. Data collected was analyzed using percentages.. The findings of the study showed that the essential ICTs for e-learning at the university libraries are lacking. The study also showed some factors that impede the establishment of e-learning to include, poor funding of university libraries , the library resources have not been digitalized, they are still in print format. The study recommends the establishment of e-library foremost before e-education in Nigeria universities.

Eteng & Ntui (2009) also conducted another research on "Access to e-learning in Nigerian university system (NUS): a case study of University of Calabar". The study sought to survey the extent to which e-learning is applied in University of Calabar for effective teaching and learning processes. The design of the study was survey research and University of Calabar located in the Niger Delta area was used as sample. Questionnaire, physical counting and observations were used to gather information from respondents. Questionnaires were distributed to one hundred (100) lecturers and three hundred and fifty (350) students spanning across arts and science based programmes during an e-learning workshop organized by AfriHUB. Mean scores were used for the analyses of data.

The findings revealed that lecturers and students are literate in the use of most aspects of Information and communication Technology (ICT), most e-learning facilities are available and functional but inadequate in the University of Calabar. The situation in the University of Calabar may be applicable to many Universities.

Another study was undertaken by Dadzie (2009) on "E-learning and E-library services at the University of Ghana: Prospects and Challenges." The purpose of the study was to investigate the prospects and challenges of using an e-learning platform, Knowledge Environment for Web-based Learning (KEWL) by the teaching staff of the Faculty of Social Sciences, University of Ghana. It also highlights the need for integrating e-library services within the e-learning platform. Data collected through survey questionnaires and in-depth interviews and opinions, expectations and capabilities in using KEWL for teaching and learning. The population of the study was the teaching staff of the Faculty of Social Sciences, University of Ghana. The study found that infrastructure, technology and training should be considered by university administrators to increase the rate of adoption of e-learning within the university community. The study recommends a modest contribution to the discourse on the integration of e-library services within the e-learning platform from a developing country's perspective. It offers important insights into how e-library services and e-learning in developing countries can be better managed to enhance its rapid adoption.

METHODOLOGY

The research design adopted for this study was the descriptive survey. The population size of the study was the ninety two (92) practicing librarians in the four selected university libraries in the North-Central,Nigeria. The sample size was all

Table 1: Questionnaire Administration and Retrieval

Institution	Number distributed	Number Returned	Percentage returned	Number Lost	Percentage Lost
FUTM	32	26	81.25%	6	18.75%
UAM	18	14	77.77%	4	22.22%
UNILORIN	20	15	75%	5	25%
UNIJOS	22	16	72.72%	6	18.75
TOTAL	**92**	**71**	**77.17%**	**21**	**22.82%**

Table 2: Ways of Promoting E-learning through University Libraries
N=69

S/N	E-LEARNING	VHE	HE	LE	NA	$\bar{X}$	DECISION
1	Electronic mail	25	14	20	10	2.78	Accepted
2	Use of online information resources	22	18	17	12	2.72	Accepted
3	Internet search engines/databases	17	22	21	8	2.70	Accepted
4	Assistance in online retrieval/access	12	20	27	5	2.60	Accepted
5	Use of search engines/databases	14	18	27	10	2.52	Accepted
6	Multimedia/overhead projectors	17	22	21	8	2.18	Not accepted
7	Online subscription of literature	21	18	17	14	2.16	Not accepted
8	Spreadsheets	15	10	15	29	2.15	Not accepted
9	Online tutorials	8	9	25	27	1.97	Not accepted

KEY: VHE**=**Very High Extent, HE= High Extent, LE=Low Extent, NA= Not at All

the academic librarians practicing in the four institutions. Questionnaire was the only instrument used to collect data. Frequency tables, percentages and mean scores were used to analyze data collected for the study.

RESULTS

Table 1 shows the number of questionnaires administered to the four institutions selected in the zone. Ninety two copies (92) of questionnaires were administered to the practicing librarians in the four institutions. Seventy one (71) copies of the questionnaire, representing 77.17% were completed and returned to the researcher.

The result obtained from table 2 above revealed that electronic mail (e-mail) is the major way of involving university libraries in the promotion of e-learning in universities with the highest mean of 2.78. This is closely followed by the use of online information resources with a mean of 2.72. Other ways include internet search engines/databases, assistance in online retrieval/access, multimedia/overhead projector and online tutorials with a mean of 2.70, 2.60, 2.52, 2.18, 2.16, 2.15, and 1.97, respectively.

DISCUSSION

The result in table 2 ways of promoting e-learning through university libraries, the findings in table 2 reveal that e-mail is the most used facility in the university libraries under study. E-mail is used for document delivery, one to one communication, one to many communications etc. The findings also indicated that respondents use online information resources to render library services to their users. Assistance to users to access or retrieve information is undertaken and use of internet search engines is employed to browse the internet. However, online subscription of literature, multimedia resources, online tutorials and spreadsheets are not common among the federal universities. According to Longshak (2010) the main purpose of utilizing technology in the library is to extend human capability through the enhancement of the services which had been provided manually. By implication no modern library can ignore the use of technology in the provision of library services.

The attainment of quality service delivery in libraries requires improving on selection, acquisition, organizing, preservation and dissemination of information through the use of ICT. The internet which is an offshoot of ICT has provided several opportunities for the librarian to disseminate and collaborate with individuals without geographic limitations and space. The imperative of the internet in book selection, acquisition, cataloguing and classification, circulation, serials, reference etc. cannot be over-emphasized. With internet connectivity, university libraries can provide several services mentioned above to support and promote e-learning in universities.

RECOMMENDATIONS

1.   The university administration in conjunction with the library administration should lobby government seriously for more budgetary allocation in order to purchase and sustain ICT facilities
2.   Efforts should be made to intensify internal revenue generation in order to have enough funds to sustain the system
3.   A standby generator should be purchased for the library as an alternative source of power supply
4.   University libraries should create their own website which will help the library administration to market their services
5.   Librarians should be trained and re-trained to acquire skills in ICT which is the backbone of e-learning. They should also show more commitment to their duties.

CONCLUSION

The symbiotic relationship between libraries and education is so obvious that it is not debatable. The link between the university and the library is very critical in order to realize the objectives of the university. No education programme such as the university can succeed without functional libraries. As the emergence of ICTs and related technologies has brought a dramatic shift from the traditional method of education to a new method called e-learning. the university library is capable of providing student access to up-to-date information anywhere, anytime and to promote independent learning. In order words, if university libraries are involved in the implementation of e-learning in the education system, they are capable of providing high-quality learning resources and exchange of information on a global scale through the networked technologies such as the internet and the World wide Web (www).This will enable the universities to carry out their mandate of teaching, learning and research.

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Full Length Research

An Evaluation Study of the Application of Web 2.0 in Asian National Libraries

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Purpose
The purpose of the paper is to discovered the recent trends in the application of the Web 2.0 purposes and features as exemplified through national library web sites around the world.

Design/Methodology/approach
In Asian continent collected 52 countries, out of them we found 46 countries owning national libraries. Overall, 42 national libraries are accessed URL's remaining 4 national libraries are non-accessible. On the whole 28 with 66.6 percent of the national library websites from Asia selected for data collection. Content analysis methods used for data collection and Checklist used for the main research instrument. (see Figure 1)

Findings
Results revealed that the National Library of Israel is leading in the adoption of the Web 2.0 tools and technologies in Asia (See Table 1). 17 national libraries are adopting social networking sites, followed by 16 national libraries applied RSS, 11 national libraries used Mashups, 6 national libraries used Vodcasts, 5 national libraries used Blog and 2 national libraries used Instant Messaging tool (See Table 2). And overall 17 national libraries adopted Social Networking Sites tool with in that 10 national libraries effectual adopted SNS in their websites for various purposes and features (See Table 3).

Research limitations/implications
The findings of the study can be utilized to assess the status of assorted Web 2.0 tools used in Asian National libraries. It may enable future research to investigate other aspects, such as the adoption of Web 2.0 tools in Museum library, oriental library or reference library of a particular country as well as continents.

Originality/Value
The research paper begins with an evaluating of Web 2.0 in a wide scope continent of Asian country's national libraries implemented various types of Web 2.0 technologies, like Social networking sites, RSS, Blog, Mashups, Instant messaging etc.

Keywords: World Wide Web, Web 2.0, National Libraries, Asian Countries, Continent

INTRODUCTION

Adoption of Web 2.0 tools and technologies, especially in the field of Asian national libraries has been a significant and exciting aspect for the last few years. The impersonal space of the World Wide Web (WWW) is rapidly being replaced by Web 2.0 tools and technologies that put an individual user in the spotlight. The application of Web 2.0 tools facilitates easy, collaborative and instantaneous access to the library resources. It (Web 2.0) has opened many opportunities for the libraries to extend the services through a user interface with librarians and modes of delivering the information to the intended users in significantly less time.

In a normal circumstance, every national library has its own website. As expected, in the last few years all-most-all types of national libraries have implemented Web 2.0 tools and technologies. Web 2.0 invites user participation, encourages constant and purposeful change.

There is a need to investigate the adoption of Web 2.0 tools such as blogs, bookmarks, RSS, podcasts, mashups, YouTube, wikis, social networks (Facebook, Orkut, Netlog and so on) in national libraries around the Asian Continent.

Concept of Web 2.0 in Asian National libraries

The term "Web 2.0" was coined by Darcy DiNucci in 1999 and was popularized by Tim O'Reilly at the O'Reilly Media Web 2.0 conference in late 2004, but 2005 onwards it became very popular.(O' Reilly, 2006)
Table 1 shows the adoption of Web 2.0 technologies in Asian national libraries. Used Web 2.0 forvarious purposes and features like post Library news, events and vediosand browsable by date, subjects, Archives etc. It is found that the National Library of Israel (51.2%) is leading in the adoption of the Web 2.0 technologies in Asia, followed by the National Library of Malaysia (34.5%), Cultural Foundation National Library, United Arab Emirates (29.8%), National Library of Mongolia (29.2%), National Library of Thailand (28.6%), National Diet Library, Japan (27.4%) and the National Library of Sri Lanka (3.6%).
The study will be conducting at different levels to find out the plan of the Asian national libraries should be reached or not by used of varied types of Web 2.0 technologies such as:

Level 1   Identified the type of Web 2.0 tools and technologies adopted in the Asian national library websites.
Level 2   The investigator found that even though the Web 2.0 tools and technologies adopted in the Asian national library websites and is continuously updated by providing the current information from time to time.
Level 3   The investigator took the websites which have been updated with the information sources, news, etc., in such cases, users interact with the sites and library staff; and the users share the ideas, comments, suggestions that will be considered as a good application of Web 2.0 tools and technologies.
Table 3explored in effective application of Asian national library adopted various types of Web 2.0 tools and various levels in reaching their aims. Hence here I highly and effectively adopted Web 2.0 tools is Social Networking sites because 10 Asian national libraries are adopted SNS fully for their reaching aim.
In the Table 4 was found that high application on Facebook and Twitter was at 82.4 percent, followed by Flicker of 23.5 percent in the Asian national libraries.

Table 1: A list of the National libraries in Asia used Web 2.0

Sl. No.	National libraries	Application of Web 2.0 checkpoints N=168
1	National Library of Israel	86 (51.2%)
2	National Library of Malaysia	58 (34.5%)
3	Cultural Foundation National Library, United Arab Emirates	50 (29.8%)

4	National Library of Mongolia	49 (29.2%)
5	National Library of Thailand	48 (28.6%)
6	National Diet Library, Japan	46 (27.4%)
7	National Library of Russia	34 (20.2%)
8	National Library, Singapore	34 (20.2%)
9	National Library of Kuwait	28 (16.7%)
10	National Library of Indonesia	26 (15.5%)
11	National Library of Qatar	26 (15.5%)
12	King Fahad National Library, Saudi Arabia	24 (14.3%)

13	National Library of China	22 (13.1%)
14	National Library of Kazakhstan	22 (13.1%)
15	National Library of Korea	21 (12.5%)
16	National Library of India	20 (11.9%)
17	National Library of the Maldives	19 (11.3%)
18	National Library of Turkey, Turkey	14 (8.3%)
19	National Library of Iran	11 (6.5%)
20	National Library of Jordan	11 (6.5%)
21	The Lebanese National Library, Lebanon	11 (6.5%)
22	National Library of the Kyrgyz Republic, Kyrgyzstan	10 (6%)
23	National Library of Uzbekistan	10 (6.0%)
24	National Library of Vietnam, Vietnam	10 (6%)
25	National Library of the Philippines	9 (5.4%)
26	Iraq National Library and Archive	8 (4.8%)
27	National Library of Myanmar	7 (4.2%)
28	National Library of Sri Lanka	6 (3.6%)

Table 2: Various types of application of Web 2.0 tools in Asian National libraries

Sl. No.	Various types Web 2.0	National libraries of Asia N=28
1	Social Networking Sites	17
2	RSS	16
3	Mashups	11
4	Vodcasts	6

5	Blog	5
6	Instant Messaging	2
7	Podcasts	0
8	Folksonomy	0
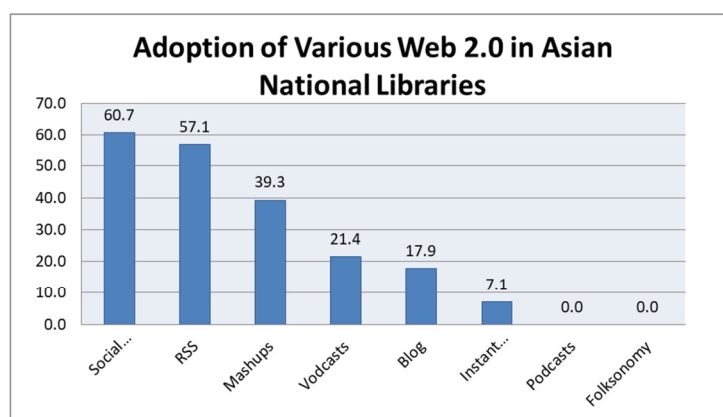
Figure 1 shows adoption various web 2.0 in Asian national libraries, 60.7 percent of the national libraries in asia adopted social networking sites and very less used Instant messaging with 7.1 percent but podcasts and folksonomy tools no one used in asian countries national libraries.

DISSCUSION AND CONCLUSIONS

Overall of this study we found in the world, more than half of the national libraries in the Asian continent adopted Web 2.0 various tools like social networking sites, RSS, Blog ect. We are happy because most of the national libraries effectively used and reached their aim but some of the Web 2.0 tools like podcasts and folksonomy no one library implemented. So we recommended use folksonomy is a best tool for tagging online contenet in one certain places.

Table 3: Effective application of Web 2.0 in Asian national libraries shows various Levels

Sl. No.	Various Web 2.0 tools	Effective adoption of Web 2.0 in Asian national libraries			Total Number of Asian national libraries N=28
		Levels 1	Levels 2	Levels 3	
1	Social Networking Sites	3	4	10	17
2	RSS	6	3	7	16
3	Mashups	5	5	1	11
4	Vodcasts	5	1	-	6
5	Blog	-	2	3	5
6	Instant Messaging	1	-	1	2

Table 4: Types of Social Networking sites in Asian national libraries

Sl. No.	Social Networking Sites	Asian National Libraries N=17
1	Facebook	14 (82.4%)
2	Flicker	4 (23.5%)
3	Twitter	14 (82.4%)

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Full Length Research

BEST PRACTICES FOR AUTHORITY CONTROL IN LIBRARIES

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A library cannot operate with an inchoate catalogue. A well organized catalogue becomes the image of the library for speedy retrieval and access. Authority control is the creation of a controlled vocabulary in the catalogue that involves cataloguer's decisions and experience in selecting the form that subject headings, names and titles will use as an authorized entry in the catalogue. The main objective of any library is to make her holdings accessible to her target audience so there must be a process to choose the references to link/support each form and also create relationships to other authorized headings to ensure control and promote integrity of the catalogue. Since all headings function as access points, authority control systems do well by collocating each heading and differentiating from each other to break a conflict and ensure consistency in content acquisition. The service provision of authority control is getting more purposeful by the degree of controlled access in the library catalogue. Today we witness a large-scale transition from card catalogues to online public access catalogues (from Paris principles to today's internationally shared authority records enhanced by the World Wide Web). In trying to adapt to this changing workload librarians must be totally breasted with the latest information technology systems and tools, including databases, e- resources, web searches, social media use and more. This paper discusses the place and use of authority control in modern catalogues and best practices for structured access which underscores the preposition of an effective cataloguer-user interface.

Keywords: Authority control, libraries, library catalogues, RDA (Resource Description and Access), AACR2 (Anglo American Cataloguing Rules 2nd edition) and Authority record

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INTRODUCTION

Created to identify the strength and weaknesses of a collection, authority control is indispensable in providing accurate authorized referenced information to readers by collocating the forms of headings as well as recognizes their variant references, thereby providing users with all the authoritative access points for fast and easy search. It embodies the very fabric of knowledge structure that shapes the traditional and contemporary practices to:

- Find (an entity attribute or relationships)
- Identify (confirm that the entity desired corresponds to the entity sought
- Select (choose an entity meeting user requirement for content, physical form etc) and
- Obtain (acquire or access an item resources).
- Access (retrieved and use materials when needed)
- Navigate resources relevant to their needs.

In organization of knowledge, authority control emphasizes the value of social context of service provision that enhances the full range of accessibility to users' needs recognizing information resources, sources, systems and service to end users. Authority control, the consistent use and maintenance of the forms of subjects, titles used as headings in a catalogue is a process that creates a link between bibliographic records and authority file, therefore providing the underlying structure of the catalogue. Put differently, it is a term used in library and information science to refer to the practice of creating and maintaining consistent headings for bibliographic materials in a catalogue. Cataloguing cannot exist without a standardized accessed point and authority control is a mechanism by which we achieve immediate degree of standardization and it ensures such attributes (Taylor 2004, Taylor and Tillett ed. 2004).

Let us understand how authority control works.

A French writer Celin is also known as Celina in English speaking countries. She is also called Celonova in Russian language.
First, we must create a heading which will be generally accepted in all these languages. For example, we might decide that the form of heading for this particular author would be the name he is using for his daily publications or the one used for   him   in   other   publications   or   reference   sources   (see   Authority   control https://ipfs.io/ipfs/QmXoypizjW3WknFiJnKLwHCnL72vedxjQkDDP1mXWo6uco/wiki/Authority_control.html.)   Uniformity is of essence and any name used as entry must be the same name in all works concerning this particular author no matter the subject of transliteration. This way, according to Rochlind (https://bibwild.wordpress.com) information could easily be shared on set/memberships to that entity. In other words Rochlind puts things into sets <=> to create relationships. To create the sets of (the records for) all works by a given author is to establish a relationship between (the records for) an author and (the record for) each work by that author...To achieve this, the syndetic structure of cross referencing ('*see*' and '*see also')* will link the three names from 'unused' to 'used term' to create consistency in usage. Example,

> Celina *see* Celin
> Celinova *see* Celin.

In this case Celin is the authorized name, other names, that is, unused term - Celina and Celinova, are linked or directed to the used term Celin by using the term 'see'

Function of Authority Control

Authority control fulfills two important functions *(see* Nlu 2013; Gorman 2004; Thomas 2011; FIU https://library.fiu.edu>cataloguing>auth, Swatek 2016)1) It enables cataloguers to disambiguate items with similar or identical headings. For example two authors who have published under the same name can be distinguished from each other by adding middle initials, birth or death date, or a descriptive epithet to the heading of one or both if that is different.

 Note: middle name can only be used if one has evidence that that is the authors full name and must be in bracket (the addition).

To break a "conflict" of distinction, a standard committee on training (SCT) recommends that

	Adan C
Could be	Adan C [Ide]
not	Adan C I

Qualifiers like dates are used but in some cases birthdates might be added to differentiate (break the conflict) the name in the event that information shows that the authors were born the same year with the same name

> Epe, N.C (10.31.62)
> Epe,N.C.(12.30.62)

This is applicable only in name Authority file.

2) It is used to collocate materials that logically belong together although they present themselves differently. Example

Uniform titles used to distinguish

•   Two versions of the same work
-     preceding titles (given to earlier works)
-     succeeding titles (given to current works of the same materials)
•   Two works with same title written in other languages (when representing in a catalog it takes the equal sign)

Example

       Isaac Bashevis' novel is also translated to English
       Der Kunzenmacher fun Lublin = The Magician of Lublin

If the title is in non English language then provide a translation in English (If English is the language of your target audience)

       النيل فــوق ثـــــرثرة = *Adrift on the Nile*

Authority record

A valid authority record contains
-     A Heading
-     Cross referencing, and a
-     Statement of Justification

Heading

A heading refers to the form of name that the cataloger has chosen as the authorized form based on the
-     Catalogers' interpretation of the bibliographic item. The importance of this translation process is to allow the cataloger to turn on the analysis of the concept contained in the item into the language the user will be using for search in the library catalog.
-
-     Existing National or local Authority file
-     Applications of tools used for cataloguing of that material (Catalog Schemes, Subject Headings, Schedules, Supplements)
-     Document that is being cataloged
-     Reference sources (many other sources providing useful data
-   (see Gorman 2004, NCSU Libraries 2017)

Rochlind (https://bibwild.wordpress.com) sees authority control as a set using existing heading to record a consistent relationship from one record to the other. He warned

     "for the primary purpose of authority control, it is highly desirable that those headings (our current mechanism of accomplishing the purpose) **never** change. The heading is used to establish a relationship, and if the heading is ever changed, all the records recording the old heading have to be found and updated–it would be better if this never had to be done (because many will invariably slip through the cracks, leading to harm to the very purpose of authority control–as most of our catalogs demonstrate)"

A catalogue cannot be so organized without a standardized (heading) access point. These access points have two functions (Gorman http://www.haworthpress/web/CCQ)

     -enables the catalogue user to find the record quick and easy
     -groups together records sharing the same characteristics for ease of access and retrieval

In order to carry out the first task the entries (headings) must be standardized providing the variant precedents. Example: the same name, title, subject should always be maintained in a bibliographic record no matter how many times it appears.

NOTE: It is advisable to create authority records for local subject headings. Authority record varies within societies depending on the end users. This will give the cataloguer allowable liberties to always edit or update the authority records by deleting unnecessary cross references and adding new ones that will be helpful to the patrons. This further standardizes the heading access points.

Cross Referencing

Cross referencing is the syndetic structure which lays out as building blocks that underlay the bibliographic structure of the catalogue, providing explanations to the end user for variations. The main aim being to get users to the authorized form used to collect the works of an author, title or subject, cross references are used in collocating works under a single form with references to related entities when appropriate.

The **see reference** tells the user that the information being sought is to be found not under a particular heading (this heading is written down but regarded as old entry which may still be sought by the user) but rather under a different heading [authorized headings]. The old file which it leads from has been deprecated in favour of the authorized form. Put differently, the **see reference** directs the user from unused term to a used (authorized).
Example

Law, Greko – Roman
        USE [see]
        Law, Byzantine

'Law, Byzantine' is the authorized heading so entries on 'Law, Greko – Roman (former heading)' will be collated under 'Law, Byzantine'

The **See also (SA)** reference shows relationship between headings. It is made from a used term to another used term and also used to link individual headings as specific references under a broader heading. In this case both headings are used authoritatively and none is deprecated for the other.

Let us look at the subject **Law** with its scope note instructions and also the treatment of its first subdivision of Interpretation and Construction

LAW
        -Interpretation and Construction
        Here we entered works on the interpretation of law including statutory interpretation. Works on the library and practice of statutes are entered under **legislation.** *Works, on statuette law as a source of law, as distinguished from constitution and law and from the law arising from judicial or administrative decisions are entered under* **statutes.**

        S.A. *Subdivision: Interpretation and Construction under names of legal systems, special branches of law and specific legal topics e.g Canon law-Interpretation & Construction; Criminal law – Interpretation &Construction; Juristic acts – Interpretation &Construction.*

NOTE:

Most headings have subdivision combinations created by **see and see also (S.A)** references as seen above. They are not listed in the Subject Headings but are used as authorized entries to accommodate entries that would have otherwise been lost. The scheme cannot list out every name or subject but relies on instructions from the scope notes and these reference structures to properly place a particular item for consistency and retrieval.
   Cataloguers agree that it makes sense to provide as many points of access to the resources as possible for proper control for quick retrieval. To achieve this they advised:

❖   Do not make cross reference from variant to variant names unless there is a reason to believe that the added cross reference would improve access. Variant means headings that belong to the same person but not used as authorized entry, example, one person could bear a pen name in one of works; his vernacular name in another work and official name in another. To control the heading (access point) cross reference

can only be made from all the variant names to the authorized name
❖   Do not create reference from forms of names not recorded in the chief source or other reference sources.
❖   Make a cross reference from different element of heading for a person under which the name must be reasonably sought. Make reference from here to the chosen heading.
❖   Cross reference are made from the part of the heading following a prefix where the two elements are written together e.g.

Letrix, Syl R
not   Trix, Syl R Le.

Cross references must be added accurately and comprehensively into the catalogue to provide appropriate linkages otherwise when users are confronted with different names for same author, they might be confused if the variances are not linked. Readers could also believe that the library does not contain the resource they need just because they have not searched under all the terms in the catalogues.

Statement of Justification

In addition to providing standardized heading and suitable references, a valid authority file contains a reference to all sources of information the cataloguer used to determine both the authorized and deprecated form of the same name. To justify this, the cataloguer has to provide the name and date of publication of the source, location of the name or the title on that source.
   Let us use a hypothetical name in an authority file. Bailey, Taila 1952--, Rajuno Sylvia 1952 –

Bailey Taila 1952–
Rajuno Sylvia 1952–
The best of me 1960 (Rosez Brooks)
My School years 1960 (Rajuno Sylvia) (Bailey Taila)
Adulthood 1985 (Bailey, Taila) (Rosez Brooks)

If the first name is the form of name heading that has been chosen to be authoritative, then ideally every record of all the works by the authors above (Rajuno, Sylvia and Rosez, Brooks) will be recorded and linked to the authorized name – Bailey, Taila. There are many reasons why authors have different names. In case of Bailey, Taila the other two names could be from works for which she is a subject like poems in anthologies, festschrift; they could be names used by the same author in her works or by other reference sources to her works (which might be in different languages or it is outright different name). Other forms of the authors' variant names will have to appear in the authority file but only as unused terms not as authorized headings. These variant names are the old names that have deprecated for the new and will always have a **see reference** from the old name to the authorized name.

FUTURE OF AUTHORITY CONTROL IN LIBRARIES

We are presently being confronted with information explosion and its transformation as well as the technology used for its production, dissemination and control. Librarians can now use modern tools to provide quicker and quality service to users. Today, not only libraries share a high interest in the use of a high quality authority data for their proper work but there is an increasing interest in authority data on the part of the end users who want to have access to the result of the cataloguing work worldwide without limitations concerning language to be used or special knowledge of access rules (Tillet and Taylor 2012). Hider (2014) conducted a survey of current cataloguing practice and policy among   a structured sample of 40 Australian libraries and observed a considerable interest in the new standard, RDA and an even growing demand for records of online resources; Chambers and Myall (2010) envisioned the future of authority control as collaborative, decentralized, international in scope, web based and dynamic. In his work 'Authority Control in the World of Metadata', Borbinha (2009) discusses metadata in a digital library with relationship of authority control to technology and services. Wells (2016) stressed the indispensability of catalogue control in the metadata creation process and provided a brief overview of the value of authority control focused on ways in which certain fields in USMARC authority records interact with the online catalogue to provide valuable information to cataloguers and library users – In this different scenario one thing that has not changed is the determination by libraries to impose structure and order for controlled terminology thereby maintaining standardized and consistent form for easy access to information for users

whether in a traditional or digital library. As technology advances and information is gathered from diverse sources, the need to provide control for enhanced access to resources becomes more apparent. Librarians cannot sit on the fence to watch the global information environment changing but must be proactive in participation if we, according to (UCBS Task Force 2011) must remain contenders in the information marketplace. The better the quality of authority data used In cataloguing, the more we find information contained in the catalogues and the higher the expectations that this information will match with the search terms (https://www.ohionet.org/blog/2014/05/library-fundamentals-authority-control)

Metadata became a new word to multi-format information resources relating to libraries, this information explosion with its service provisions gave expression to the term Digital libraries. The introduction of the digital library trumps up new challenges of integrating prints and multimedia sources into library routines. The term digital is used to describe a cybernetic phenomenon that has great dependence on the use of computers and data transmission linkages to generate and disseminate information (Resnik 2006; blog archive 2011; Oguntola 2017). For decades we have had data migrating to online resources giving a greater access to the World Wide Web. The emerging electronic systems no doubt, provide better and broader platforms for the actualization of the library goals and institutional efficiencies Omekwu (2014).

The place of library catalogue in this success story concerned Cerbo (2011) who queried the functionality of the catalogue in the present. In fact, is there even a need for a library catalog? "Today, a large and growing number of students and scholars routinely bypass library catalogs in favor of other discovery tools, and the library catalog represents a shrinking proportion of the universe of scholarly information" (Calhoun 2006). If the catalogue shrinks then what of the information contained in them? Will there be any need to control the language and invariably library data for enhanced access? Will libraries be saddled with muddled catalogues that will stall retrieval? Then what would be the need of creating catalogues in the first place. Some cataloging librarians see these challenges as making their work more valuable and relevant. Morrelli (2016) wrote 'through the years, the cataloguing profession has evolved to get adapted to the needs of the time. Many factors have intervened in the shaping of the cataloguer as a professional, although the most important relates to the developing of new technologies. Every time technology steps further and provides new tools these are quickly incorporated into the functioning of the library. However, so far professionals have always been able to face the challenges, adapting, and taking the most advantage from those technologies'.

Information (data, knowledge) has long played in one way or the other a significant role in human culture and society and has shaped over a long period of time the way in which we behave and think in stages of human development. We must recognize that in the library world, making these information accessible is not only the hallmark of our professionalism but also in part the need to respond to better structured data processing for users. Librarians must, in their changing role, rise to this demand of catering for library users who are now very sophisticated in their demands of achieving high precision to their search terms

In the Workshop on Authority Control among Chinese, Korean and Japanese Languages, the National Library concluded that with the growth of bibliographic databases, library users demand to find the right information within a short time more and more. It is thought that a best way to meet such demand is to provide bibliographic data under authority control from the perspective of librarians (Foster, Andrea, and Howard 2010). Others see the need for cataloging control more today than ever. Wynn (2011) wrote that the Next-generation catalogs or discovery tools (NGCs) will overlay existing bibliographic data and repackage it in displays that differ from the traditional catalogues. Many implementations of NGCs *have* revealed errors, omissions, or inconsistencies in the underlying data that had not been apparent in the traditional library. Michael Gorman (2004) sees the digital age as a great opportunity for cataloguing control, with the library of the future having an "…integrated catalog into all aspects of its programs and services."

In adapting to this digital age and considering the avalanche of information churned out daily the need to adopt a new set of rules to replace the Anglo American Cataloguing Rules (AACR2) became apparent to exploit the full potential that technology offers. American Library Association ALA (2012) sees RDA (Resource Development and Access)as a more dynamic tool in enabling   authority record to serve current and future bibliographic needs in a much more dynamic way than AACR2. Weng (2015) also looked at the standardization of names in bibliographic database with a new model Known as RDA (Resource Description and Access), these new cataloging standards are designed to improve flexibility in rules for dealing with the changing landscape of resource description and access. RDA extend the scope of Other Designation Associated with the Person. RDA incorporates and updates AACR2 and applies the new FRBRized concept applications allowing the cataloger to be better equipped in organizing the vast resources of information available and utilizing the standardized descriptive access tools in guiding researchers to materials that might otherwise not have been found (IFLA Study Group). ***RDA Steering Committee (2009)*** states that RDA goes beyond earlier ***cataloguing*** codes in that it provides guidelines on ***cataloguing*** digital ***resources*** and a stronger emphasis on helping users ***find***, identify, select, and obtain the ***information*** they want.

With so much information migrating to electronic resources, Librarians must manage the users to make sure that

materials that are sought actually match the search terms and our ongoing attempt to impose order to this chaos represents the hallmark of our professionalism

CONCLUSION

One thing that has remained a constant is the fact that the universe of knowledge is forever expanding and librarians' priority is not only to preserve this knowledge but make it accessible.. Making user access the overall objective, authority control has operated in libraries from inception to meet these ends. As the body of knowledge expands and becomes more sophisticated, the world is becoming interconnected with globalization of information a reality, environment is evolving rapidly and web resources is changing continually to reflect changes in best practices, records change bringing in more catchy titles, authors update or change names, and new subject headings are generating or revision of old ones, libraries are compelled to update their bibliographic records as well as establish authority record alongside to not only improve access by providing consistency in the forms of heading but provide linkages between terms thereby promoting controlled access and better precision at searching , helping to bring libraries closer to the possibility of International Corporation in cataloguing.

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User Education in Academic Libraries and the Information Seeking Behavior of Users

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University libraries are established to provide resources and materials for studying but students in Nigeria are not encouraged to effectively make use of them. The growth and academic excellence of a University depends on the Library that serves the institution, hence the importance of user education for proper and efficient usage of the Library. This paper drew out the importance of user education on students. Statistical data were collected through the use of questionnaire administered to one hundred and fifty (150) respondents from two Universities in Nigeria using stratified random sampling technique. Out of this number, only one hundred and thirty two (132) copies of the questionnaires with adequate information were retrieved. Data for the study were analyzed using simple percentage. The findings revealed amidst others that though more than half of the respondents do not attend Library lectures regularly yet the course has positively influenced the utilization of the library resources. It was therefore recommended that practical lectures should also be organized at the University library to further enhance the students' use of the catalogue and other library resources. It was also observed that the user education program is very essential to the academic excellence of students. Universities should also be encouraged to organize seminars and workshops for student and staff to educate them on new trends and improve their skills on utilization of library resources. The Library staff should be more friendly and ready to assist in other to encourage Library usage.

Keywords: Library instructions, User education, Library resources, Information explosion

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INTRODUCTION

User education is a process of activities involved in making the users of the library conscious about the value of information in everyday life to develop interest among the users to seek information as and when they are needed. Aina (2004) opines that user education is meant to teach library users on how to acquire information they need as well as developing the skills to make use of the resources of the library independently and appropriately. They are the instructions given to users to make them more efficient and effective when making use of the resources of the library. User education is a process whereby potential users of the library are made to learn how to make efficient and effective use of the library and its resources. (Iheaturu, 2012)

   User education has been made more important as a result of Information explosion because information seekers are faced with an overload of information. There is a need to guide students on how to search for information materials so as not to waste the time of the users.

   The purpose of user education is to train the students on how to make use of the library resources effectively by

enabling users to learn the necessary skills of independent library usage and to encourage users to seek the assistance of Library professionals when the need arises. Library users should be attended to when the need arises so as to prevent frustration and lack of interest.

The library is an important component of the university system, staff and students rely on the university library for research purpose and academic excellence. It is important that librarians pay attention to this. It is essential for students, lecturers and researchers to retrieve information quickly and correctly. The right and timely information to the right users will bring about knowledge and research development. In other to serve the information users efficiently, they must be taught on how to make use of the library effectively.

LITERATURE REVIEW

User education is the process of imparting knowledge so as to make library users effectively utilize library resources. User education can also be referred to as reader or Library instruction, library orientation, use of library, library and information skill.

Library user education teaches how to make the most effective use of the Library system. It involves all activities undertaken to help users become efficient users of information. The users are taught on how to identify information need and find it, evaluate and select the best information to meet that need (Tiefel, 1995). Edoka (2000) asserts that the objective of user education is to assist the users make the best use of the library resources.

The main purpose of the Library instruction program is to improve the student's awareness of the library and the entirety of what the library has to offer, it also provides users the opportunity to improve their retrieval skills.

It is important for the librarians to improve on the library instruction program. There is a rapid development of information technology, this makes the library to be more computer technology inclined such as the system software.

According to Ali (2005), a number of users are facing lot of problems while using electronic information resources, such as lack of knowledge about the resources, lack of trained staff and inadequate terminals. Also Wills (1990) also agreed to these problems when he identified lack of information retrieval skills for making use of electronic resources, which as a result affects the level of usage of resources by students. In his study, he found that majority of students sampled could not make use of a computer, that the use of database was poor due to lack of awareness, lack of access to computers, insufficient training and the high cost of provision. Users must be taught on how to make use of electronic materials and retrieve materials electronically.

Higher education is fast changing and getting more complex from the method of teaching to curriculum of lectures, as a result of these Libraries collections should also increase along and technological developments in handling and retrieving techniques so as to directly influence the academic performance of students.

Library is important in higher institutions, a Library is the platform where students achieve academic success, librarians should teach students who does not have any prior knowledge of information retrieval skills before entering the university the needed skills to make use of the library resources. Kari (2004) stated that information skill is necessary for students so as to equip them with knowledge to cope with the demands of information. Students are encouraged to have a wide knowledge of information skills.

Majority of the new students in the university does not have knowledge of Library usage just as Clarke (1999) suggested that Third World countries, in the majority of cases, does not have enough public libraries that could efficiently serve as a necessary addition to the teaching and learning process in secondary schools. Even the available public libraries do not have user instruction for new users. As a result of this the responsibility lies on the university Libraries to ensure efficient teaching of the use of Library for proper utilization.

Muogilim (1986) investigated why students still find library usage difficult after taking the Library instruction program. The outcome of his findings shows that students hardly interact with the library and its staff during the orientation program. Also, they were overloaded with so much information within such a short period of time that the chances of retention of new information are quite slim. He concludes that high enrolment with inadequate physical facilities made effective work difficult.

User education is very important, it helps to publicize library services and improve the image of the library. Ogwu (2010) in his study of the impact of library studies at Kogi State College of Education observes that majority of the students do not attend lectures. Majority of the student does not take Library course seriously majorly because most schools take the course as an elective program.

Akinbola (2007) opines that library instruction programs should be made to be more relevant. The course should be taken by qualified librarians and the course should be made more practical. There is a need to educate and train students so as to meet their information requirements (Babakasi, 1998). According to Suleiman (2012) it was also observed that in other to increase the standard of the library program, there should be an increase in the number of

skilled librarians.

User education is done through course program, handbooks or manual, seminars, workshops and tours. Students of higher institutions are taught on the use of library through these methods.

Library staff should be ready to attend to students at all times in a friendly manner, this will encourage the students continue to make use of the library and the library resources.

Libraries should make sure that their services show proper level of customer care and that the information given to the users is useful and at the right level. Flaharty and smith (2007) further stated that library staff needs to make an enabling environment for the staff to feel welcome at all times.

To be able to handle library resources that are available, users must be taught on how to make use of these resources. User education is necessary for students to be able to locate and retrieve information in the library manually and electronically. Librarians are expected to find out the needs of the users, interaction with the users would provide library professionals the relevant information needed (Loho, 1992)

User education is changing as a result of changes in concepts of information use and understanding. Librarians are adapting to the concepts of information and communication technology literacy. (Kenney, 2006). The level and standard of user education depends on how independent students are in searching and retrieving information materials with little or no supervision. (Singh et al, 2009).

Koenig and Nicholas (2003) opined that students in higher education institutions need user education because pattern of courses are becoming interdisciplinary, use of library resources and retrieval of information becomes easy and less frustrating for students who have gone through the library instruction program.

Ozoemelem (2009) stated that information users must learn how to retrieve information from electronic resources. Adeyemi (2002) further stated that electronic literature is very important for students and researchers due to the vast amount of data it contains. The huge amount of information at their disposal enable students to have an in depth view of the research topic

McGuigan (2001) stated that computer awareness of students before admission into higher institution helps users in making use of electronic resources in the library

After the user education program, students must continue to make use of library resources. According to Mutshewa (2008), knowledge and skill are improved through the use and practice of the library resources.

OBJECTIVES AND SIGNIFICANCE OF THE STUDY

This paper examined the methods of user education in academic libraries and the information seeking behavior of the users in libraries. In other to achieve this general objective, the following specific objectives were developed to

1.   Find out if the acquired knowledge has enhanced users in exploiting the library resources effectively
2.   Know if users are encouraged to seek assistance of library professionals
3.   Examine if users have the necessary skills for retrieving required information materials.
4.   Find out if the acquired knowledge has enhanced the use of various sources of information in the library.

Several factors make this paper of this nature very significant. Foremost of these is the fact that there are relatively few studies on the user education and the information seeking behavior of users in academic libraries in Nigeria. This report will therefore go a long way in filling this gap. Since Academic libraries support the teaching and research needs of institutions they serve, the responsibility lies on the library to ensure that the use of information materials, resources and services are maximized to benefit the users, hence there is a necessity for user education programs.

METHODOLOGY

A survey design was chosen for this paper. This is in line with Babbie (2004) submission that the survey approach allows the investigator to draw on a large sample that is representative of the total population. The study is limited to 300level undergraduate students in two Universities namely: Obafemi Awolowo University, Ile-Ife, Ekiti State University, Ado-Ekiti, The research instrument used for the study is questionnaire and was designed and used to collect data for the study. One hundred and fifty (150)copies of questionnaire were administered to the targeted respondents at the various Universities. Seventy five (75) respondents each were selected from the two Universities using stratified random sampling technique. Out of the 150 questionnaire, 132 were retrieved, fully completed and were found usable. This represents 88% which was considered well enough for the study. The collected data were analyzed using descriptive statistics.

RESULT AND DISCUSSION

Table 1 shows the frequency distribution of respondent's gender. 52% of the sample population is male while 48% represents the female population. This reveals that there were more male respondents than female respondents.

Table 2 shows the frequency distribution of responses acquired from the universities. Out of the 75

Table 1. frequency distribution of respondent's gender

Gender	Frequency	Percentage
Male	69	52
Female	63	48
Total	132	100

Table 2. Frequency distribution of responses acquired from the Universities.

No	Names of responded Universities	Frequency	Percentage
1	Obafemi Awolowo University Ile-Ife.	65	49
2	Ekiti- State University	67	51
Total		132	100

Table 3. level of awareness and effective use of the library resources

Items	Yes	%	No	%
I am aware of the OPAC in the Library	104	79	28	21
I can make use of the OPAC	88	67	22	17
I make use of the reference materials	110	83	22	17

Table 4. Perception of library users about the use of the library and the library professionals

Items	Yes	%	No	%
Library staff are friendly towards me	98	74	34	26
I seek the assistance of library staff	86	65	46	35
I am satisfied when they offer assistance	111	84	20	15
I get frustrated when making use of the library	34	26	98	74
I don't like asking questions from Library staff	43	33	89	67

questionnaires prepared for Obafemi Awolowo University, 65 questionnaires (49%) were recovered. 67 questionnaires (51%) were retrieved from Ekiti-state University from a total of 75.

Table 3 shows the level of awareness and effective use of the Library resources. The table 3 shows that 79% of the respondents are familiar with the Online Public Access Catalogue (OPAC) but just 67% can make use of it. This is in line with Babakasi (1998) who said students need help and guidance in other to meet their information requirements, students need training on how to find information materials so that they make use of Library resources.

Table 4 elicits information about the perception of Library users about the use of the library and the Library professionals. 74% believes the Library staff are friendly towards them. This is in line with with Fleharty and Smith (2007) who stated that users need to feel welcome and the library staff has an obligation to make the library user-friendly.

Also 65% seeks the assistance of the library staff and 84% is satisfied with the assistance rendered. 26% gets frustrated when making use of the Library and 33% don't like asking questions.

Table 5 elicits information about the level of user's skill of retrieving information.55% of respondents indicated that after user education they are able to find information they need in the Library, this is line with Babakasi (1998) who stated that students need training on how to find information materials so that they make use of Library resources. Also 54% of the respondents indicated that the user education has improved their searching and retrieval skills, this is in line with Singh et al (2009) that stated that the quality of the services of the Library depends on the efficiency of knowledge

retrieval methods and tools adopted by the libraries as well as skills and awareness of the users. Also in table 3, 44 % of respondents indicated that they can make use of the online database, this is in line with Ali (2005) who stated that a sizable number of users are facing problems while using electronic information resources because of lack knowledge about the resources. In the study 55% knows how to make use of the Library catalogue box while 53% indicated that they are fast in locating the catalogue card.

Table 6 elicits information about the perception of students on the methods of user education. 86%

Table 5. user's skills of retrieving information

Items	Yes	%	No	%
After user education am able to find relevant information I need	76	58	56	42
It helped me to increase my searching and retrieval skills	71	54	61	46
I know how to make use of the library catalogue box	73	55	59	45
I am fast in locating required catalogue card	70	53	62	47
I know how to make use of the online database resources available in the library	58	44	74	56

Table 6. perception of students on the methods of user education

Items	Yes	%	No	%
I was at the library tour and orientation as a fresher	113	86	19	14
The library tour and orientation was too congested	108	82	18	14
I attended Library class regularly	60	45	72	55
Is the class timetable convenient for you	107	81	25	19
Library course do clash with my main course	105	80	27	20
Do you understand what is being taught in class	112	85	20	15
Is the training program relevant to your needs in the library	113	86	17	14
Does the library professional take practical class	13	10	116	90
Do you make use of the handbook given to you	89	67	43	33
Do you feel seminars and workshops about library use are needed	95	72	37	28
Do you read lecture notes on the library course	98	74	34	26
Will you take it more seriously if it is a credit based course	87	66	45	34

indicated that they attended the Library tour and orientation program as a fresher but 82% believes that the Library tour and orientation program was too congested. 86% of the respondents are of the opinion that the training program is relevant to their needs in the Library, this is line with Loho (1992) who opined that it is expected of library personnel to interact with the users to find out what they need or what to know, and to provide them with the relevant information needed. Also in table 6, only 45% of respondents attend lecture regularly which is in line with Ogwu (2010) in his study who said majority of students do not attend lectures. 85% believes they understand what is being taught in class, this is in line with Kari (2004) who stated that information skill is necessary for students so as to equip them with knowledge to cope with information. It is important for students to have a vast knowledge of information skills. 67% makes use of the handbook given to them while 74% study their lecture notes.

CONCLUSION AND RECOMMENDATIONS

Library is an essential resource center in the university. The Library plays a major role in providing information for students, lecturers and researchers. It is of utmost importance for the information users to know how to locate and make use of these available information materials and to locate these materials on time in other to avoid frustration.

It is necessary for the Library staff to accommodate the users in a friendly and pleasant manner so as to increase the number of the users and encourage Library usage. Librarians should embark on personnel development so that they can properly educate users especially on new trends and techniques. It is also important to encourage Library management in organizing seminars and workshops for students and other Library users. To improve Library resource utilization, it is recommended that practical classes should be added to the Library course, this will help in the usage of the Online Public Access catalogue (OPAC) catalogue box, online database, reference materials and so on.

Librarians should communicate better with faculty staff to know what information material is required in the Library. Also Library tour and orientation should not just be a day program so that it won't be congested and lastly University Management should be encouraged in changing the course to a credit based course.

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Perceived Ease-Of-Use and Usefulness of Personal Digital Assistants use by Undergraduates for Academic Activities in University of Ibadan, Nigeria

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Personal Digital Assistants (PDA) are fast becoming acceptable and useful in all sectors of human endeavor; students are seriously integrating the use of PDAs in their academic activities. The use of PDAs by students can be influenced by their perception on the ease of using PDAs and the perceived usefulness of PDAs for their academic activities. The study investigates perceived ease of use and perceived usefulness of PDAs on use for academic activities by undergraduates in University of Ibadan. Descriptive survey design was adopted for this study. Population consist 3,905 undergraduate students of the Faculties of Arts and Sciences in University of Ibadan, Nigeria. The purposive sampling technique was used for this study; three departments with the highest number of undergraduates were purposively selected for the sample to be a representative of the total population. The selected departments were Chemistry, Mathematics and Computer in the Faculty of Sciences and Communication and Language Art (CLA), English and Philosophy in the Faculty of Arts. A sampling fraction of 18% was used to draw a sample size of 272 undergraduates used in the study. Findings revealed that Blackberry phones 46(16.9%) and Android phones 36(13.2%) were major PDAs used by undergraduates. Using PDAs for Class work ranked the highest in the academic activities undergraduates used their PDAs for, majority of undergraduates believed that PDA can easily be used for learning. PDA was adjudged a useful learning tool 46 (16.9%) by undergraduates and that using PDA will enhance the downloading of electronic resources needed for academic activities 45(16.5%) by students. Also, PDAs assist undergraduates to share information faster among them. The study recommended that the school administration should develop a policy that will mandate undergraduates to own a PDA (tablet or laptop computer) before they can be duly registered for the academic session in order to encourage the use of PDAs. Adequate awareness and user education should be provided by library staff, especially those in charge of emerging technologies to promote the use of PDAs for academic activities by undergraduates.

Keywords: Personal Digital Assistants (PDA), Undergraduates for Academic Activities, University Of Ibadan

INTRODUCTION

The introduction of Information and Communication Technologies has greatly impacted our world. This has led to the use of Personal Digital Assistants (PDA) by students for educational purposes. Lots of information on the internet are now being brought close for the use of students through PDAs. Personal digital assistants, also known as smart devices are hand-held computers which can perform a wide variety of functions including access to the internet, scheduler, task list, phone-book, reference storage, camera and telephone and many more. In the educational arena, PDAs are being used by different users including students (Viken, 2009). PDA use in education provides personalised assistance that helps to support academic activities of users. PDAs offer many useful functions to help student access information resources personally for better outcomes. Through PDA, students can download required software from the Internet. There are applications on the internet that are downloadable which can be used on PDAs by students for different academic functions. Some of these applications are freeware, while some only charge little fees to purchase them. Different kinds of application can help do different kinds of work as they are designed to provide end-user comfort while using them (Andrew and Faithe, 2011).

PDAs are electronic organizers that do not need one to handle bloated spreadsheets, databases or text documents as such, users do not need to keep much power in their pockets. Instead, PDAs simply assist in organising user's lives. This is why they are called "Personal Digital Assistants" and not computers. PDA main function is to make information highly accessible to users (Kahney, 2002). This highly specified objective allows for small, fast, and cheap components without any bells or whistles. Their architecture can handle third-party software and hardware. An example of a simple PDA is the iPod. For a PDA to be successful and accepted, it must be robust and powerful.

Examples of Personal Digital Assistant includes: Window phone, Java phones, I phones, Palmtop, Blackberry, Android phones, Symbian, I-pod, Tablet PC, I-pad, Acer N Series, AlphaSmart, Apple Newton, Dell, Abacus PDA Watch. PDAs afford some potentially useful activities and interventions. For instance, data are efficiently recorded and analysed using PDAs as compared to using pen and paper. Portable and lightweight handhelds can be held in pockets or purses into almost all environments of learning or research. In comparison to desktop computers, PDAs offer improved portability, accessibility (low cost), mobility and adaptability (Ray, McFadden, Patterson and Wright, 2010). PDAs have also been proven to be valuable tools in arts and science (Ostler, 2002).

The PDAs can support software for specialised mathematical programs, examples of these software include: applications for graphing, simulation, animation, and mathematical games. PDAs can also be connected to peripheral tools like temperature probes, digital cameras, GPS units and robotic apparatus for additional functional use. The use of PDAs by undergraduates comes with many benefits. Students can spell-check, modify, and amend their class notes on a PDA. Some lecturers distribute course materials through the Internet or file sharing functions of the PDA. Textbook publishers have begun to release e-books, which can be uploaded directly to a PDA, reducing the number of textbooks students must carry. Software companies have also developed PDA programs to meet the instructional needs of educational institutions, such as dictionaries, thesauri, word processing software, encyclopedias, and digital lesson planners (Andrewet al. 2011).

Students download magazine or newspaper from the Internet as well as dictionary and novels into their PDAs. The idea of PDA e-book was actually encouraged by the introduction of PDAs. PDA acts so many roles. Students do not need to carry MP3 player, mobile phone, dictionary, magazine and pocket book as PDAs can function for all. PDA can be used to satisfy students' information needs. PDA runs on Palm OS and Windows CE operating systems, Palm OS is a new operating system designed for PDA only which makes operations on PDAs simple and easy (Common Time - Cross platform mobile app development tools, 2015). Shimon et al (2014) carried out a study on PDA use by undergraduates. Their study showed a high frequency of use of personal digital assistant among students. The National Survey of Student Engagement (NSSE) is one of the largest U.S. college survey assessment projects, annually surveyed hundreds of thousands of undergraduate students at college and university campuses throughout the United States and Canada. NSSE findings showed that the number of smart phone respondents is increasing each year. The study further reported that in 2011, only about 4% of NSSSE respondents used a smart phone, however, by 2013 the figure had increased to 13%. Preliminary results in 2014 also suggested a continued increase with roughly 18% of respondents using smart phones (NCES, 2014). Dresselhaus and Shrode (2012) also surveyed students' use of mobile devices for academic purposes in Atlanta, USA. They reported that 54 percent of undergraduate students at Utah State University use mobile devices for academic purposes. Of those, 70.8 percent of students reported that they owned a hand held device.

The use of PDA by students is determined by student's perceived ease of use and perceived usefulness of PDAs. Perceived ease of use was defined as the degree an individual believes that by using a particular technology he would be free of effort (Davis, 1989). Perceived ease of use has strong influence on students' intention to PDAs acceptance. If one particular technology is perceived as easy to use, one will make it as new alternative to use. According to

Technology Acceptance Model (TAM), perceived ease of use was found to have direct effect on attitude intention but the effect is much more on the indirect mediating factor "perceived usefulness". According to Burksaitiene (2015), perceive ease of use is defined as the extent to which students believe that using a particular PDA would be free of effort. Perceived usefulness on the other hand suggests result and outcomes of using PDAs. Davis (1989) describes perceived usefulness as the degree to which an individual believes that using a particular system would enhance his/her performance. Osubor and Chiemeke (2015) define perceived usefulness as the degree to which an individual believe that using e-learning innovation and systems will bring enhanced learning outcomes and performance. When student's perception of the usefulness of PDA is positive, use will be compelled.

One of the key reasons for using PDAs in the classroom is that every student can have immediate and personal access to computer technology, and this particular computer technology can also be taken home easily (Brown, 2011). In order to have true technological innovation in schools, computerised devices should be readily available. Handhelds provide economical way to make technological innovation more available in schools, and the **Palm**web site offers successful accounts of handhelds being used in educational environments (Palm, Inc., 2006). However, the acceptance or otherwise of PDAs is highly dependent on the perception of undergraduate on the easiness of using PDAs, as well as undergraduates perception on the usefulness of PDAs. A positive perception on the ease of use and usefulness of PDAs by undergraduate would determine if such PDA would be used or rejected by students. Students are rational beings that will naturally prefer computer system or device that will give them maximum result with little or no stress or physical effort. Some of the personal digital assistants are good but some give more comfort compared with some other personal digital assistants. This is evident in the fact that students often make findings from their friends using these PDAs to find out the level of comfort they derived from using their PDAs so that they might be guided in the choice of theirs.

STATEMENT OF THE PROBLEM

Personal digital assistants have been adjudged useful for many functions, important to this study are the functions that relate to use of PDA for academic activities by students. Despite the numerous benefits associated with the use of PDA by undergraduates, observation revealed that some students tend to use their PDA more for social networking rather than for academic activities. Interactions with some undergraduate students who use their PDA for academic activities showed that they are incapacitated by the features of these devices like small screen size and keypads, low bandwidth and slow internet network. In addition, findings from literature revealed that there appears to be few studies that have been conducted on the use of PDA for academic activities by undergraduates. Therefore, the study on the use of personal digital assistant use for academic activities by undergraduates of University of Ibadan, Nigeria, becomes imperative.

RESEARCH QUESTIONS

The following questions guided the study:

1.   What are various types of personal digital assistant use for academic activities among the undergraduates?
2.   What are the types of academic activities personal digital assistant is usedfor?
3.   What is the frequency of use of personal digital assistant among the undergraduates?
4.   What is the ease of use of personal digital assistant by the undergraduates?
5.   What is the perceived usefulness of personal digital assistant to the undergraduates?
6.   What are the challenges to the use of personal digital assistant among the undergraduates?

METHODOLOGY

Descriptive survey design was adopted for this study and the study population consisted of 3,905 undergraduate students of the Faculties of Arts and Science in University of Ibadan, Nigeria. The purposive sampling technique was used for this study, with the use of this sampling method; three departments with the highest number of undergraduates were purposively selected so that the sample would be a representative of the population. The selected departments were Chemistry, Mathematics and Computer in the Faculty of Science, and Communication and Language Art (CLA), English and Philosophy in the Faculty of Arts. A sampling fraction of 18% was used. With the use of this sampling fraction the sample size for the study was 272 and data was collected by a questionnaire. Data was analysed using the descriptive statistics which consist of tables of frequency and percentage counts.

FINDINGS

Question one: What are various types of personal digital assistant use for academic activities among the undergraduates?

Table 1 shows the types of PDA used by undergraduates. The findings revealed that in Faculty of Science. The most used PDA in the Department of Chemistry for academic activities were blackberry 46(16.9%) and Android phone 36(13.2%).Undergraduates in the Faculty of Arts used tablet PC and the windows phone, with the response rate of 25 (9.2%) in the Department of CLA and Philosophy. In English Department the most used PDA was android phones 23(8.5%). The least used PDA in the Departments studied was palmtop with the response rate of 7(2.6%) in Chemistry and 5(1.8%) in Mathematics, CLA was 5(1.5%) and Philosophy 4(1.5%).

Question two: What are the academic activities undergraduates used PDAs for?

Table 2 reveals that the major academic activities that the undergraduates in the Faculty of Science use their PDAs for. Class work ranked the highest in Department of Chemistry 47(17.3%) and Computer with 44(16.2%). Use of PDA for Class work also ranked the highest in the Faculty of Arts with response rate of 36(13.2%) in the Department of CLA and English with the response rate of 32(11.8%). Academic activity the undergraduate least used their PDAs for was examination. In the Faculty of Science, Computer Science had the response rate of 27(9.9%) and Mathematics with the response rate of 22(4.4%). While in the Faculty of Arts, PDAs were least used for Practical's 16(5.9) and Assignments 18(6.6%) in the Department of English.

Question three: What is the frequency of use of personal digital assistant among the undergraduates?

Table 3 reveals the frequency of PDA use among undergraduates. In Faculty of Science, Department of Chemistry, Computer Science and Mathematics, android phones were used daily with response rate of 33(12.1%), windows phone was used monthly/weekly with response rate of 26(9.6%) in Chemistry. while the least used daily is Symbian phones with response rate of 4(1.5%) and android monthly/weekly with response rate of 5(1.8%) in Chemistry. In the Department of Computer Science the least PDA used daily are I pod and palmtop with the response rate of 7(2.6%) and the least used monthly/weekly was android phone with response rate of 4(1.5%) and in the Department of Mathematics the least used daily was symbian phone with response rate of 4(1.5%) and the least used monthly/weekly android phones with response rate of 4(1.5%).
   In the Faculty of Arts, Android phone was used daily in the Department of CLA with response rate of 23(8.5%), Philosophy with response rate of 21(7.7%) and English with response rate of 19(7.0%).I-pods was used monthly/weekly in the Department of CLA 20(7.4%), Philosophy 19(7.0%) and English 15(5.5%). The least PDA used daily was Symbian phone in the Departments of CLA with response rate of 4(1.5), Philosophy 3(1.1%) and English 3(1.1%).The least PDA used monthly/weekly was Android phones in the Departments of CLA with response rate of 4(1.5%), Philosophy 4(1.5%) and English 1(0.4%).

Question four: What is the ease of use of personal digital assistant by the undergraduates?

Table 4 shows response on ease of use of personal digital assistant (PDAs). In the Department of Chemistry, majority of the respondents, with the response rate of 53 (19.5%) indicated that PDA was most easily used for learning. In Computer Science with the response rate of 48 (17.6%) agreed that PDA was easily used for learning the most. However, findings in the Department of Communication and Language Arts (CLA) showed with the response rate of 36 (13.2%) that PDA can easily be used for learning and that it makes interaction with colleagues easier with the response rate of 34 (12.5%). Undergraduates in the Department of Mathematics felt that using PDA makes their academic activates clear and understandable with the response rate of 26(9.6) and can be easily use PDA for learning 27(9.9). Undergraduates in the Faculty of Arts affirmed that they easily share information with their PDA 21(7.7), 27(9.9) in English and Philosophy departments respectively.

Question five: What is the perceived usefulness of personal digital assistant to the undergraduates?

Table 5 reveals how the respondents perceived the usefulness of PDA. In the Department of Chemistry 46 (16.9%) undergraduates believed PDA is a useful learning tool and that using PDA will enhance how they can download electronic resources useful for academic activities45(16.5%). In the Department of CLA and Philosophy, undergraduates

Table 1. TYPES OF PERSONAL DIGITAL ASSITANT

		Faculty of Science										Faculty of Arts											
		CHEMISTRY				COMPUTER				MATHEMATICS				CLA				PHILOSOPHY				ENGLISH		
		Used		Not Used		Used		Not Used		Used		Not Used		Used		Not Used		Used		Not Used		Used		Not Used
S/N	Types	F	%	F	%	F	%	F	%	F	%	F	%	F	%	F	%	F	%	F	%	F	%	F	%
1	Window phone	30	11.0	27	9.9	30	11.0	23	8.5	24	8.8	17	6.3	25	9.2	18	6.6	24	8.8	15	5.5	22	8.1	17	6.3
2	Java phones	18	6.6	39	14.3	15	5.5	38	14.0	11	4.0	30	11.0	12	4.4	31	11.4	12	4.4	27	9.9	11	4.0	28	10.3
3	I phone	15	5.5	42	15.1	12	4.4	41	15.1	11	4.0	30	11.0	11	4.0	32	11.8	11	4.0	28	10.3	12	4.4	27	9.9
4	Palmtop	7	2.6	50	18.4	7	2.6	46	16.9	5	1.8	36	13.2	5	1.5	38	14.0	4	1.5	35	12.9	6	2.2	33	12.1
5	Blackberry	46	16.9	11	4.0	28	10.3	25	9.2	23	8.5	18	6.6	24	8.8	19	7.0	22	8.1	17	6.3	6	2.2	33	12.1
6	Android phone	36	13.2	21	7.7	29	10.7	24	8.8	25	9.2	16	5.9	25	9.2	18	6.6	22	8.1	17	6.3	23	8.5	16	5.9
7	Symbian phones	12	4.4	45	16.5	10	3.7	43	15.8	9	3.3	32	11.8	9	3.3	34	12.5	9	3.3	30	11.0	8	2.9	31	11.4
8	I pod	16	5.9	41	15.1	13	4.8	40	14.7	12	4.4	29	10.7	12	4.4	31	11.4	11	4.0	28	10.3	13	4.8	26	9.6
9	Tablet PC	33	12.1	24	8.8	29	10.7	24	8.8	25	9.2	16	5.9	25	9.2	18	6.6	24	8.8	15	5.5	21	7.7	18	6.6
10	I pad	24	8.8	33	12.1	23	8.5	30	11.0	17	6.3	24	8.8	19	7.0	24	8.8	19	7.0	20	7.4	17	6.3	22	8.1

Table 2.   USE OF PERSONAL DIGITAL ASSITANT

		Faculty of Science												Faculty of Arts											
		CHEMISTRY				COMPUTER				MATHEMATICS				CLA				PHILOSOPHY				ENGLISH		
		D		A		D		A		D		A		D		A		D		A		D		A	
S/N	Academic activities	F	%	F	%	F	%	F	%	F	%	F	%	F	%	F	%	F	%	F	%	F	%	F	%
1	Class work	10	3.7	47	17.3	9	3.3	44	16.2	6	2.2	35	12.9	7	2.6	36	13.2	7	2.6	32	11.8	7	2.6	32	11.8
2	Projects	12	4.4	45	16.5	10	3.7	43	15.8	7	2.6	34	12.5	8	2.9	35	12.9	8	2.9	31	11.4	8	2.9	31	11.4
3	Seminar	23	8.5	34	12.5	18	6.6	35	12.9	15	5.5	26	9.6	15	5.5	28	10.3	13	4.8	26	9.6	15	5.5	24	8.8
4	Lectures	15	5.5	42	15.4	11	4.0	42	15.4	9	3.3	32	11.8	9	3.3	34	12.5	8	2.9	31	11.4	9	3.3	30	11.0
5	Team papers	24	8.8	33	12.1	15	5.5	38	14.0	15	5.5	26	9.6	12	4.4	31	11.4	11	4.0	28	10.3	12	4.4	27	9.9
6	Assignments	11	4.0	46	16.9	14	5.1	39	14.3	7	2.6	34	12.5	12	4.4	31	11.4	6	2.2	33	12.1	21	7.7	18	6.6
7	Examinations	27	9.9	30	11.0	26	9.6	27	9.9	19	7.0	22	8.1	17	6.3	26	9.6	20	7.4	19	7.0	14	5.1	25	9.2
8	Practicals	24	8.8	33	12.1	24	8.8	29	10.7	18	6.6	23	8.5	18	6.6	25	9.2	15	5.5	24	8.8	23	5.5	16	5.9

Table 3. FREQUENCY OF USE OF PERSONAL DIGITAL ASSISTANT

S/N	PDAs	CHEMISTRY			COMPUTER			MATHEMATICS			CLA			PHILOSOPHY			ENGLISH		
		Never F %	Monthly F %	Daily F %	Never F %	Monthly F %	Daily F %	Never F %	Monthly F %	Daily F %	Never F %	Monthly F %	Daily F %	Never F %	Monthly F %	Daily F %	Never F %	Monthly F %	Daily F %
1	Windows phone	17 6.3	269.6	145.1	145.1	228.1	176.3	103.7	18 6.6	134.8	11 4.0	18 6.6	14 5.1	9 3.3	16 5.9	145.1	12 4.4	16 5.9	11 4.0
2	Java phones	27 9.9	20 7.4	103.7	24 8.8	176.3	124.4	207.4	14 5.1	7 2.6	20 7.4	14 5.1	9 3.3	17 6.3	13 4.8	9 3.3	20 7.4	12 4.4	7 2.6
3	I phone	2810.5	21 7.9	8 3.0	26 9.7	166.0	103.7	18 6.7	14 5.2	8 3.0	2 7.5	14 5.2	8 3.0	17 6.4	14 5.2	7 2.6	21 7.9	10 3.7	7 2.6
4	Palmtop	2910.7	23 8.5	5 1.8	27 9.9	197.0	7 2.6	20 7.4	16 5.9	5 1.8	22 8.1	16 5.9	5 1.8	20 7.4	16 5.9	3 1.1	19 7.0	14 5.1	6 2.2
5	Blackberry	16 5.9	16 5.9	238.5	16 5.9	134.8	238.5	11 4.0	13 4.8	165.9	12 4.4	11 4.0	17 6.3	10 3.7	11 4.0	176.3	13 4.8	9 3.3	16 5.9
6	Android phones	19 7.0	5 1.8	3312.1	23 8.5	4 1.5	269.6	14 5.1	4 1.5	269.6	16 5.9	4 1.5	23 8.5	145.1	4 1.5	217.7	19 7.0	1 0.4	19 7.0
7	Symbian phones	3211.8	21 7.7	4 1.5	2910.7	186.6	6 2.2	21 7.7	16 5.9	4 1.5	23 8.5	16 5.9	4 1.5	20 7.4	16 5.9	3 1.1	24 8.8	12 4.4	3 1.1
8	I pod	24 8.8	25 9.2	8 2.9	23 8.5	238.5	7 2.6	16 5.9	20 7.4	5 1.8	18 6.6	20 7.4	5 1.8	16 5.9	19 7.0	4 1.5	18 6.6	15 5.5	6 2.2
9	Tablet PC	17 6.3	20 7.4	207.9	18 6.6	165.9	197.0	11 4.0	15 5.5	155.5	13 4.8	15 5.5	15 5.5	11 4.0	15 5.5	134.8	14 5.1	11 4.0	14 5.1
10	I pad	3412.5	14 5.1	9 3.3	27 9.9	155.5	114.0	20 7.4	12 4.4	9 3.3	22 8.1	12 4.4	9 3.3	20 7.4	10 3.7	9 3.3	23 8.5	9 3.3	7 2.6

Table 4. EASE OF USE OF PERSONAL DIGITAL ASSISTANT

		Faculty Of Science						Faculty of Arts					
		Chemistry		Computer Science		Mathematics		CLA		Philosophy		English	
S/N	Statement	D F%	A F%	D F%	A F %	D F %	A F %	D F %	A F %	D F %	A F %	D F %	A F %
1	I can easily use PDA for learning	4 1.5	5319.5	51.8	4817.6	145.1	279.9	72.6	3613.2	93.3	3011.0	10 3.7	2910.7
2	I feel that using PDA makes my academic activities clear and understandable	186.6	3914.3	114.0	4215.4	155.5	269.6	114.0	3211.8	72.6	3211.8	124.4	27 9.9
3	I feel that using PDA makes it easy for me to download electronic resources that enhance my academic activities	134.8	4416.2	176.3	3613.2	62.2	3512.9	114.0	3211.8	51.8	3412.5	93.3	3011.0
4	I feel that using PDA makes interactions with my colleagues that centre in academic activities	207.4	3713.6	145.1	3914.3	114.0	3011.0	93.3	3412.5	82.9	3111.4	103.7	2910.7
5	I feel I can easily share information with the use of PDA	134.8	4416.2	165.9	3713.6	134.8	2810.3	103.7	3312.1	124.4	279.9	186.6	217.7

Table 5. PERCEIVED USEFULNESS OF PDA

Faculty Of Science								Faculty of Arts					
		Chemistry		Computer Science		Mathematics		CLA		Philosophy		English	
S/N	Statement	D F%	A F %	D F %	A F %	D F %	A F %	D F %	A F %	D F %	A F%	D F%	A F%
1	I believe that using PDA is a useful learning tool	11 4.0	4 16.9	16 5.9	37 13.6	16 5.9	25 9.2	9 3.3	34 12.5	10 3.7	29 10.7	4 1.5	35 12.9
2	I believe that using PDA will enhance how I download electronic into resource useful for academic activities	12 4.4	45 16.5	16 5.9	37 13.6	13 4.8	2810.3	9 3.3	34 12.5	9 3.3	30 11.0	9 3.3	30 11.0
3	I feel that using PDA will enhance my interaction with colleagues	16 5.9	41 15.1	14 5.1	39 14.3	8 2.9	3312.1	103.7	33 12.1	17 6.3	22 8.1	6 2.2	33 12.1

Continuation of Table 5

4	I feel that using PDA will assist me to share information faster with friends	18 6.6	39 14.3	10 3.7	43 15.8	7 2.6	34 12.5	6 2.2	37 13.6	5 1.8	34 12.5	6 2.2	33 12.1
5	I believe that using PDA will provide access to information resources in various formats like PDF, HTML, and DOC	17 6.3	40 14.7	13 4.8	40 14.7	13 4.8	28 10.3	7 2.6	36 13.2	7 2.6	32 11.8	6 2.2	33 12.1

affirmed that PDAs assist them to share information faster with friends 37(13.6%) and 34(12.5%) respectively. Undergraduates in Department of Chemistry least perceived the usefulness of PDA to share information faster with friends 39(14.3%). While undergraduates in Computer Science (13.6%), CLA (12.1%) and English (11.0%) least perceived the usefulness of PDA in downloading electronic resources useful for academic activities.

Some of the challenges of smart personal digital assistants use by undergraduates included: small size of phone keyboard, slow data entry and slow downloading in database format. Problems of battery life power outages, battery life power outages, privacy concern, poor data entry interface, poor vision, poor vision and preference of pen and paper.

CONCLUSION AND RECOMMENDATION

The era whereby users can only access the Internet in the cyber cafes is gone; PDAs now provide one-touch access to the internet at the convenience of users anywhere and at any time. The use of PDAs for academic activities will provide the opportunity for the undergraduates to access, download and share relevant information that will improve their learning and research. PDAs can also be used to discuss with lecturers and facilitators in seeking clarifications. It is therefore recommended that the school administration to encourage the use of PDAs for academic activities by undergraduates should develop a policy that mandates all undergraduates to own a PDA (tablet or laptop computer) before they can be duly registered for the academic session. Adequate awareness and user education should be provided by library staff, especially those in charge of emerging technologies to promote the use of PDAs for academic activities by undergraduates.

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Full Length Research

Library Information Resources Use as Determinant Of Improve Study Skills of Social Science Students in the University Of Ibadan

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The aim of the study is to investigate the use of library information resources on improve study skills of undergraduates with major attention on the Social Science undergraduates in the University of Ibadan. Library is one of those resources which are essential to support and strengthen the educational quality. Over the centuries, libraries are the source of keeping and distributing the information through books, journals, maps and other resources that are used by students in their learning process. The library with the provision of information resources can help instill good reading habits in students but it is if students make use of the resources. Survey design was used by the study. This method was adopted because it is a suitable and efficient way of studying large population. The population of the study included 1479 undergraduates in the five departments in Social Sciences, University of Ibadan. The proportional sampling method with equal proportion of sixty was used to determine the sample for the study. This made a total of 300 undergraduates used for the study. The questionnaire was the main data collection instrument and data was analysed using the descriptive statistics of tables, frequencies and percentages. Result showed that electronic books, textbooks, internet facilities and online database were the major information resources used by undergraduates studied. Undergraduates devote enough time for all their courses and they spent more time on their studies than they do on social media. There was a relationship between the variables of interest. In this relationship p was 0.000 which is < 0.05. We can infer from the result that there is a positive relationship between the use of library information resources and effective study skills of undergraduates. The study recommended that all relevant stakeholders like the school authorities, student union, faculties, departments, libraries, etc should assist in creating awareness on the use and benefits of the library. Also, that library user should also be educated on the use of online resources and databases for their research work. That user education and information literacy programme should be place in place and should be connected to students' course work on continuous basis.

INTRODUCTION

Library and information centres are increasingly faced with the challenge of providing relevant, up-to-date and timely information to a wider range of users to satisfy their varied and ever increasing information needs. A library is an institution where information is gathered, processed, organised, stored and disseminated in both book and non-book form to users by a qualified librarian. Users of a library require availability and accessibility to a variety of information resources that are in various formats such as digital full- text, sound, graphics, images, multimedia and hypertext, as well as print documents (Kumbar, 2008). There are several types of libraries; they include academic library, special library, national, public, school and digital library. Academic libraries are libraries situated in higher institutions of learning; these include: polytechnics, monothecnics, colleges and more importantly in universities

University library serves students, researchers, lecturers and non-teaching staff of the university. University library is such a vital element not just in the successful accomplishment of the vision of the university which the university library serves, but also for the overall advancement of mankind. It is the ember that fans the fire of excellence of the institution that owns it and the world where it exists. Opara (2001) as cited in Yusuf and Iwu (2010) posits that library stands in the same relationship to the society as the harmony of an individual by making available and accessible to its users information required for teaching and independent study. Igbeka (2008) posits that university libraries are libraries that serve post-secondary institutions, and these libraries may serve a particular faculty or the entire institution. University library is to produce capable and reliable human resources who are worthy in character and learning, those that will champion the success of the various sectors of their economy. Aina (2004) in his contribution states that the main purpose of a university library is to support the objectives of the university, which are in the areas of learning, teaching, research and services.

The emergences of electronic information resources (EIRs) have greatly transformed information handling and management in Nigerian university communities. Ani and Ahiauzu, (2008) assert that electronic information resources have gradually become a major resource in every university community. Electronic information resources are provided in electronic form, and these include CD-ROM database, online databases, online journals, OPACs, Internet and other computer-based electronic networks (Ehikhamenor, 2002). Students in developing countries are fast embracing the Internet as a source of information for teaching, learning and research. Some studies have revealed the use of the Internet, email and search engines for research purposes (Ojedokun and Owolabi, 2003; Oduwole, 2004).The emergence of electronic resources has tremendously transformed information-handling and management in Nigerian academic environments and university libraries in particular (Ani and Ahiauzu, 2008).

Adeoye and Popoola (2011) added that library information resources can be in both printed and electronic formats including: textbooks, journals, indexes, abstracts, newspapers, magazines, reports, CD-ROM databases, internet, email, video tapes/cassettes, diskettes, computers and microforms. Ezeala and Yusuff (2011) added the electronic resources as: functional computers, photocopying machines, CD-ROM, microforms, microform readers, fax machines, internet, local area network, radio messages, telephone, lighting and computer workstations for library users which must have to be measured periodically by librarians to ensure that the resources and services of their libraries as a way of ensuring that they are meeting the set objectives of the library. Based on the above information, we can divide library resources into two categories i.e., traditional printed material or resources and non-printed or electronic resources (Lance, Rodney and Pennell, 2005).

The use of information resources in university libraries is essential for the overall wellbeing of students. Popoola (2000) argues that social scientists in the Nigerian universities utilise the library information services such as current awareness, photocopying, referencing, statistical data analysis, E-mail, selective dissemination of information and on-line database searching, in support of their research activities. According to him, these sources have contributed immensely to the learning outcome of students. Ogbebor (2011) examines the use of library resources, focusing on e-resources, by the members of the faculty of a higher educational institute. The study revealed that majority of students use printed sources more than e-sources, but they also use e-sources quite frequently. However, it was discovered that what they use mostly are books, websites and printed journals. It has also been found that there is greater use of e-sources among undergraduates. Also, the results indicate that the use of e-sources is positively influenced by the respondents' perceived usefulness of resources to their research productivity and as well as the convenience of access to the sources.

Okiy (2000) submits that students and academics in Delta State University, Abraka, Nigeria make use of book materials such as journals, newspapers, textbooks magazines, dictionaries, projects, encyclopedias and government publications. In the same vein, Burke (2011) carries out a study on the utilisation of archival information by students in the University of Nairobi, Kenya and reports that students make use of maps and atlases, gazettes, theses and dissertations, newspapers, statistical abstracts, video films, political records, journals

and conference papers, books for their academic activity. The use of library information resources can play a vital role in the improvement of students study skills/habit.

Somuah, Dankyi and Dankyi (2014) define study habits as behaviours directed at effective learning. These behaviours are usually manifested in the learners' response to class work, assignments, reading, note taking, concentration, and time management, consultation with teachers and other learners and tactics used in examination. Study habits or strategies such as paying attention in class, being on time, taking good notes, completing homework in a timely manner, and reading the study material before a lecture would have a significant direct relationship with the academic performance of students. Although not every learning strategy or study habit produces useful results in terms of academic achievement, it would be expected that students who possess good study habits in general are better performers than those students with poor study habits.

According to Rangnekar (2013), study habits elicited by students could be classified generally as good and bad. Bad ones include studying at home, listening to music, procrastinating, highlighting textbooks and notes, not making an outline and studying all night. On the other hand, good study habits include being optimistic about learning, engaging in social learning, using online resources, using mnemonic value or other memory tricks for easy memorisation, alternating study topics and having a good study place. On this account, external and environmental factors have a crucial effect on studying and studying habits. These include studying in a comfortable, consistency use of study place, getting resources and work materials ready before studying and 'group studying'. Some of these are adopted and are elicit in students while others are not. In this sense, study habits are good and positive when it helps in promoting effective learning and bad or negative when it inhibits learning (Ramsey and Witter, 2010).

According to Chinn (2013), basic study habits of every student include attending class every day, reading textbooks, doing assigned homework, paying attention in class and taking examinations. Experts have agreed that great success in the field of knowledge is attributed to good and consistent study habits. Like any other activity, skills and dedication are the key points for learning. One must study with the primary intention of understanding. This requires one not to be in a hurry in reading, instead sustained concentration is necessary. Concentrating on learning requires several useful techniques and tips for helping students to get the best understanding of their course material in order to achieve competence in their courses or field of study and good performance in examination. These methods include critical thinking, metacognition, reading text skills, time management, controlling reading difficulties, using the index system of study, enhancing memory efficacy, concept mapping and thinking aloud. Most of the study habits exhibited by distance learning students in South Africa were poor and could lead to poor academic performance. For most online learners, the development of effective study skills is critical to their achievement and retention. Moreover, students enrolling in an e-learning class must not only master the course's subject matter but also possess the technical skills to participate in the course and study effectively (Modesto, 2009).

STATEMENT OF THE PROBLEM

The role of the information provider is to understand the needs of the users and their attitudes towards seeking their needs. Only then can users optimize the benefits that such services tend to offer. However, the responsibility of supporting learning and research within the university environment, through the provision of information materials has always being that of the university library. However, literature and observation suggest a decline in library usage as some students may not be taking advantage of the resources provided by the university library. Where such is the case, students may find it difficult coping with the rigours of academics and building good study habit. It is in the light of the above, that the present study investigates the use of library resources influencing study habit of Social Sciences undergraduates in University of Ibadan, Nigeria.

RESEARCH QUESTIONS

The following questions guided the study.

1. What is the extent to which undergraduate students make use of library resources and service?
2. What are the study habits exhibited by undergraduate students?
3. What are the ways by which the use of the library has improve the study skills of undergraduate students?
4. What is the influence of library information use on study skills of undergraduates?

Hypothesis Testing

1.   There is no significant relationship between the use of library information resources and effective study skills of undergraduates**.**

METHODOLOGY

Research design adopted for this study was the survey

Table 1: Demographic characteristics of undergraduates

Variables		Respondents	Percentage
Gender	Male	189	63
	Female	111	37
Total		300	100
Marital status	Single	298	99.3
	Married	2	0.7
Total		300	100
Age	16-20years	180	60
	21-25years	120	40
Total		**300**	**100**

Table 2: Extent to which Undergraduate Students make use of Library Resources and Service

S/N	Library resources	Very High extent	High extent	Not at all
1	Electronic book	224(74.7%)	74(24.7%)	2(0.7%)
2	Textbook	224(74.7%)	74(24.7%)	2(0.7%)
3	Journals	48(16%)	250(83.3%)	2(0.7%)
4	CD-ROM	105(35%)	156(52%)	39(13%)
5	On-line Public Access Catalogue (OPAC)	105(35%)	193(64.3%)	2(0.7%)
6	Internet facilities	224(74.7%)	74(24.7%)	2(0.7%)
7	on-line database	224(74.7%)	74(24.7%)	2(0.7%)
8	News paper	200(66.7%)	98(32.7%)	2(0.7%)
9	Help desk	48(16%)	155(51.7%)	97(32.3%)
10	Dictionaries	109(36.3%)	132(44%)	59(19.7%)
11	Loaning materials	48(16%)	155(51.7%)	97(32.3%)
12	Thesis/dissertation	106(35.3%)	192(64%)	2(0.7%)
13	Digital collections	163(54.3%)	135(45%)	2(0.7%)
14	Lamination	139(46.3%)	122(40.7%)	39(13%)
15	Binding	163(54.3%)	135(45%)	2(0.7%)
16	Projector	48(16%)	155(51.7%)	97(32.3%)
17	Photocopy	200(66.7%)	98(32.7%)	2(0.7%)
18	Encyclopedia	139(46.3%)	122(40.7%)	39(13%)

method. This method was adopted because it is a suitable and efficient way of studying large population. It allowed only a sample of the population to be used to represent the entire population. The population of the study included 1479 undergraduates in the five departments in Social Sciences, University of Ibadan. The proportional sampling method with equal proportion of sixty was used to determine the sample for the study. This made a total of 300 undergraduates used for the study. The copies of the questionnaire were personally administered by the researcher and data was analysed using the descriptive statistics of tables, frequencies and percentages.

RESULT AND DISCUSSION

Table 1 shows that 189(63%) of the respondents were male while 111(37%) of the respondents were female. The table 1 also shows that 298(99.3%) of the respondents were single while 2(0.7%) of the respondents were married. On the age distribution of respondents, it was revealed that 180(60%) of the respondents were between the ages of 16-20years while 120(40%) of the respondents were between the ages of 21-25years.

   Table 2 shows that 224(74.7%) of the respondents made use of electronic books, textbooks, internet facilities and online database respectively on a very high extent. While 97(32.3%) of the respondents do not make

Table 3: Study habits exhibited by undergraduate students

S/N	Study skills	Strongly agree	Agree	Disagree	Strongly disagree
1	I devote enough time for all my courses	263(87.7%)	37(12.3%)	-	-
2	I do not spend much time on social activities at the expense of my studies	224(74.7%)	76(25.3%)	-	-
3	I am able to study up to three hours or more in a day	162(54%)	63(21%)	75(25%)	
4	I do not study until few hours before exams	-	-	78(26%)	222(74%)
5	I only study when I know I can study well	178(59.3%)	85(28.3%)	37(12.3%)	-
6	I study when I have access to the internet		37(12.3%)	84(28%)	179(59.7%)
7	I prefer to study on my bed than in the library	84(28%)	118(39.3%)	61(20.3%)	37(12.3%)
8	I use other materials other than the prescribed text to study	103(34%)	164(54%)	25(8.3%)	8(2.6%)
9	I highlight important words or phrases in my book when studying	15(5%)	81(27%)	89(29.6%)	115(38.3%)
10	I take notes while studying	111(37%)	98(32.6%)	56(18.6%)	35(11.6%)
11	I read, listen to and/or watch course materials repeatedly	224(74.7%)	76(25.3%)	-	-
12	I leave difficult materials and study than later	96(32%)	84(28%)	76(25.3%)	44(14.6%)
13	I engage in group study	122(40.6%)	66(22%)	60(20%)	52(17.3%)

Table 4: Effect of use of the Library on improve the study skills of Undergraduate Students

Items	Frequency	Percentage
I have better access to materials that I may not have been able to afford on my own	37	12.3
I am able to get my reading materials at no cost	58	19.3
It make me more focus on what are important to be read	57	19
I find myself concentrating better while studying in the library than anywhere else	24	8
No response	124	41.3
Total	300	100

use of the help desk, loaning materials and projector respectively at the university library.

   Findings on Table 3 reveal the various study habit exhibited by undergraduates in Social Sciences. The following were the most exhibited study habits of the studied undergraduates: that students devote enough time for all their courses 300(100%), students spent more time on their studies than they do on social media 300(100%), students also read, listen to and/or watch course materials repeatedly 300(100%), students use other materials other than the prescribed

text to study 267(88%). Also, undergraduates in Faculty of Social Science take notes while studying 206(69.6%), they engaged in group study 188(62.6%), only study when they know they can study well 263(87.6%). However, undergraduates do not study until few hours before exams 300(100%) and they do not study only when I have access to the internet 263(87.7%).

Table 4 shows the effect of use of the Library has improve the study skills of Undergraduate Students. The findings showed that 58(19.3%) of the respondents confirmed that the use of the library has help improve their study skills by allowing them to get reading materials at no cost, 57(19%) of the respondents also revealed that the use of the library has help improve their study skills by making them more focus on what are important to

Table 5: Relationship between the use of library information resources and effective study skills of undergraduates

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	151.254	6	25.209	234.238	.000[a]
	Residual	31.533	293	.108		
	Total	182.787	299			

read, while 37(12.3%) of the respondent revealed that they have a better access to materials that they cannot afford on their own and 24(8%) of the respondents reveal that they concentrate better while studying in the library than anywhere else.

Hypothesis 1

There is no significant relationship between the use of library information resources and effective study skills of undergraduates.

Using regression analysis to test the hypothesis which states that there is no significant relationship between the use of library information resources and effective study skills of undergraduates; Table 5 shows that it is obvious that there was a relationship between the variables of interest. In this relationship p was 0.000 which is < 0.05. We can infer from the result that there is a positive relationship between the use of library information resources and effective study skills of undergraduates. We therefore reject the null hypothesis which states that there is no significant relationship between the use of library information resources and effective study skills of undergraduates and accept the alternative hypothesis.

CONCLUSION AND RECOMMENDATION

A key objective of university libraries in Nigeria is to develop and maintain collections in all formats –print and electronic and to make these information resources available and accessible to all users including undergraduate students. The use of these information resources in whatever format, however, will greatly influence the study habits of students because that are provided with information resources that are needed, which are valuable and are made available to them in the format they require. It is therefore recommended that all relevant stakeholders like the school authorities, student union, faculties, departments, libraries, etc should assist in creating awareness on the use and benefits of the library. That library user should also be educated on the use of online resources and databases for their research work. That user education and information literacy programme should be place in place and should be connected to students' course work on continuous basis. The university libraries should intensify effort to educate their library users through every available program in place.

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Full Length Research

The Use of Reference Resources and Services for Quality Research by postgraduate Students of Federal University of Agriculture Makurdi

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This study examined the use of reference resources and services for quality research of Postgraduate Students of Federal University of Agriculture Makurdi. Four research questions were answered. Population for this was 120 subjects comprising 31 Professionals and 89 Para-Professionals from University of Agriculture Makurdi library. The entire population was used for the study as sample. Instrument for this study was constructed questionnaire. Data was collected and analysed using weighted mean. Findings for this study revealed that reference resources are available in the library. The services also suit the level of students. However, the services and resources are not adequate in the library. Perception of users of the resources and services is also very low. The study concluded that use of library's resources and services have been found to be important for quality research by students of all levels. It was recommended that the available resources and services in the library should be intensively used by students as they enhance quality research and the University management should assist the university library financially so that more library resources and services are provided for use by students

Key words: Reference Resources, Services, quality Research and Postgraduate students.

INTRODUCTION

Libraries exist in order to provide their clientele with information resources. These materials are made accessible through cataloguing, classification and indexing services provided by the libraries through the public service section. Among the public service functions of a library the greater part of it is performed by the reference section. The term reference service according to Azubuike (2014) is a direct personal assistance to readers seeking for information in the library.

It is also defined as a personal assistance provided to users in the pursuit of information. Adenije (2007), posited that it is a major characteristic of reference service in Nigerian libraries to be part of a whole library organization, except where the specific function of the

organization concerned is mainly referral Consequently, reference services in Nigeria libraries is an age long tradition as reference librarians serve as pilot toward directing information seekers on the latest information that are inherent in a particular field of human endeavour, The provision of qualitative reference service will no doubt promote research and development for national development. However, reference service can be attributed to selective dissemination of information (SDI) as well as current awareness services (CAS). This is to say that a reference librarian should be able to provide some selected information that are relevant to the researcher and also create an enabling environment whereby the researcher or the investigator or the information seeker can get current information that will help him/her solve a particular problem.

Subsequently, reference services are accorded great importance in libraries worldwide. It entails assisting library users to find the required library resources. A reference service is referred to as one of the most professional aspects of the librarian's responsibilities which every prospective librarian must properly grasp. Reference departments serve as the link between the library and its immediate clientele be they public, community or groups of specialist users. The main aim is to provide a wide range of services and facilities, which will enhance exploitative use of the literature through the concepts of assistance and self-direction. A library can be regarded as a collection of books and other forms of recorded knowledge, purposefully selected and systematically organized and preserved by qualified library personnel for use by either the public or a target group. As a repository of man's knowledge of the universe, the library is the most dependable source of information on any subject. Adeyemi (2005) opined that the modern reference librarian does not merely acquire published documents or books but also document original information emanating from its locality, such original documentation covers socio-cultural issues which ordinarily might not have been the subject of books for a long time to come.

OBJECTIVES OF THE STUDY

The major purpose of this study is to critically evaluate the reference services for quality research by postgraduate students of Federal University of Agriculture, Makurdi.

1.   To find out the available reference resources and services in the academic library
2.   The extent to which reference services provided by the library suit the users
3.   The level of adequacy of the reference services provided in the library.
4.   Users' perceptions on reference services in the library under study.

RESEARCH QUESTIONS

The following research questions guided the study.

1.   Which of the reference resources and services are available in the library under study?
2.   To what extent do the reference resources and services provided in the library suit the users?
3.   What is the level of adequacy of the reference resources and services provided in the library under study?
4.   What are the users' perceptions on reference resources and services in the library under study?

LITERATURE REVIEW

The libraries help to disseminate information that is recorded, and that may be in form of written document, printed materials and digitized materials. They appear in different formats such as books, periodicals, newspapers, diaries, letters, manuscripts, tapes, diskettes, compact disks, databases, artifacts, microforms, etc. Thus, any activity that is concerned with the handling of information, such as searching, retrieval communication, dissemination, preservation, management and evaluation is librarianship. Anyone that has need of information no matter the subject, the first port of call should be the reference department of the library. This department has the human and material resources to provide answers to any information need expressed by the user, while it can provide some information immediately; it could lead the inquirer to the discovery of more detailed information through a variety of tools and techniques that are available in the resources or information centres/libraries.

Performance evaluation is the process of judging the competence with which a member of staff has performed the duties and responsibilities associated with the position for which the person was hired by an organization or Information

centre. Akanya (2006) alleged that reference services are all the functions performed by a trained librarian employed in the reference section of a library to meet the information needs of the patrons (in person, by telephone, or electronically), including but not limited to answering substantive questions, instructing users in the selection and use of appropriate tools and techniques for finding information, conducting searches on behalf of the patron, directing users to the location of library resources, assisting in the evaluation of information, referring patrons to resources outside the library when appropriate, keeping reference statistics and Participating in the development of the reference collection. Evaluation of services in any library is done in order to find out whether or not they are meeting the desired goals and to what extent.

In relation to educational research, academic performance of a student can be regarded as the observable and measurable behaviour of a student in a particular situation. For example, the academic performance of a student in biology includes observable and measurable behaviour of a student at any point in time during a course. Students' academic performance consists of his scores at any particular time obtained from a teacher- made test. Therefore, we can equate academic performance with the observed behaviour or expectation of achieving a specific statement of or statement of educational intention in a research. Academic performance of students consists of scores obtained from teacher-made test, first term examination, and mid-semester test. Academic performance is defined as measurable behaviour in a standardised series of tests (Simpson and Weiner. 1989). Academic performance test is usually constructed and standardised to measure proficiency in school subjects. In most cases, according to them. "Accomplishment" is sometimes used in place of "performance". According to Bruce and Neville (1979) educational performance is measured by standardized performance test developed for school subjects. What this means is that academic performance is measured in relation to what is attained at the end of a course, since it is the accomplishment of medium or long-term objective of education. What is important is that the test should be a standardised test to meet national norm. For a test to be standardised, it must be valid for over a period of time. Academic performance is regarded as action of completing or attaining by exertion.

Many authors and scholars wrote so much on reference services. In the view of Azubuike (2014) and Akanya (2006) reference service has a dual meaning. Reference service refers to a variety of activities associated with personal assistance to library users including selection, liaison activities, bibliographic instruction and the implementation of electronic products. It also indicates direct librarian user interaction which takes place in some physical service points, typically the reference desk. Jane (2002) in his own opinion states that reference services are the personal assistance given by librarian to an individual in search of information for whatever purpose as well as various library activities deliberately designed to facilitate easy availability of information. According to Kumar (2006) reference librarians are variously referred to as 'mediators between the user and the information', and 'navigators of information superhighway' The role of the reference librarian has changed greatly over the last two decades with the emergence of information technology and the huge impact in the librarianship and information provision. The role has grown from that of a collector and preserver of information resources to a professional involved in very complex issues of organization, the dissemination of and access to information.

Traditionally, the librarian's function was to assist in the collection development and acquisition, cataloguing and classification, circulation, provision of reference services, and preservation, conservation and archiving. As the library evolves into the digital library, reference librarians have been considering how to adjust reference services to the new environment and new information needs. According to some statistics; for instance, users' enquiries at the reference desk are declining Mole (2004) and Moyo (2002). Today the reference librarian's responsibilities have increased by societal expectations for information access through enhanced electronic capabilities. Reference librarians are the key to the continued success of libraries. Several researchers have discussed the new role of librarians in the digital age. This is evident on the assertion of Olanlokun (2003), Singh (2004) and Smith & Bopp (2011). From their views highlighted, it is no doubt that the digital revolution has brought changes and affected the librarian and other information professional. This set-up is also changing the roles of the reference librarian into teaching, consultancy and researching besides providing access to information. The reference librarian must guide users in information gathering, information skills and tools, organizing information resources, search strategies, basic reference works, etc. Amozie & Usman (2010) noted that the success of applying ICTs to reference service depends on the skills and knowledge of the reference librarian and the user who may be searching for information using the internet. The internet has become an important tool for reference service. Several services such as e-mail, electronic publishing, blog, Wiki, bulletin boards, newsletters, online newspapers, online chatting, teleconferencing and many other services are available on the internet. In fact, reference service by its virtue is the core of research activities in the library. It is no doubt that ICTs has revolutionized access to information in libraries and users now search databases with the use of on-line catalogues terminals. The result is that reference service is more efficient and effective as questions posed to the reference librarian are answered faster and more easily using computerized sources. According to Bopp in Madu (2008) library users familiar only with traditional library services are amazed and impressed when the reference librarian without leaving his

desk, moves fluidly and confidently from one online database to another to find an elusive citation or to print out the full text of a periodical or newspaper article for the user. It is not an overstatement to say that ICTs has impacted and improved the content and quality of reference service rendered in modern libraries. Access to outside databases of other libraries has considerably improved through the delivery of documents by e-mail as well as answers to reference queries.

METHODOLOGY

The area of the study is Benue State. This study employed a survey research design. The population for this study was 120 staff, comprising 31 Professionals and 89 Para-Professionals from University of Agriculture Makurdi library. There was no sampling for the study. The entire population was used for the study as sample because the population size could be handled effectively by the researcher.

The instrument for the study was a structured questionnaire titled "The Use of Reference Resources and Services for Quality Research of Postgraduate Students Questionnaire (URRSQRPSQ). The instrument which was developed by the researcher was divided into six sections based on the research objectives. The questionnaire had restricted response options of highly available, (HA), available, (A),slightly available (SA), not available (NA); very great extent (VGE), great extent (GE), low extent (LE) and very low extent (VLE); highly adequate (HA), adequate (A), slightly adequate (SA) and not adequate (NA); strongly agree (SA), agree (A), disagree (D) and strongly disagree (SD) with corresponding values of 4, 3, 2 and 1 respectively. The data for this study was collected by the researcher and 3 research assistants.

Data collected was analysed using descriptive statistics. Mean was used to answer the research questions. The bench mark for this was 2.50 (4+3+2+1=10/4=2.50). The decision rule was: any item with a mean value of 2.50 or above was regarded as agree while any item with a mean value of less than 2.50 was regarded as disagreement.

RESULTS AND DISCUSSION

Research Questions 1

Which of the reference resources and services are available in the library under study?
Data for answering research question 1 is presented in Table 1.

Result in Table 1 shows that all the 9 items had their grand mean values ranging from 2.53 to 3.12and were above the bench mark of 2.50. This shows that the respondents agreed that the 9reference resources and services are available in the library.

Research Questions 2

To what extent do the reference resources and services provided in the library suit the users?
Data for answering research question 2 is presented in Table 2.
Result in Table 2 shows that all the 14 items had their grand mean values ranging from 2.59 to 3.26and were above the bench mark of 2.50. This shows that the respondents agreed that the 9reference resources and services are provided in the library suit the level of users.

Research Questions 3

What is the level of adequacy of the reference resources and services provided in the library under study?
Data for answering research question 3 is presented in Table 3.

Result in Table 3 shows that out of 9 items, only 3 had grand mean values of 2.67 to 3.26 while 7 items had their grand mean values ranging from 2.26 to 2.45and were below the bench mark of 2.50. This shows that the respondents agreed that the reference resources and services provided in the library are glossary inadequate.

Research Questions 4

What are the users' perceptions on reference resources and services in the library under study?
Data for answering research question 4is presented in Table 4.

Result in Table 4 shows that out of all the 9 items had grand mean values ranged from 2.32 to 2.44and were below the bench mark of 2.50. This shows that the respondents agreed that the users' perception on reference resources and services in the library under study is low.

Table 1: Mean of Respondents on the available reference resources and services in the library

S/N	Item Statement	N_1	N_2	X_1	X_2	Xg	Remarks
1	Dictionaries	92	13	3.04	2.77	2.90	Available
2	Yearbooks	92	13	3.27	2.54	2.91	Available
3	Manuals	92	13	3.38	2.61	2.99	Available
4	Indexes	92	13	3.13	2.76	2.95	Available
5	Abstracts	92	13	3.16	3.07	3.12	Available
6	Bibliographies	92	13	3.03	2.21	2.62	Available
7	Biographical sources e.g. Who's Who	92	13	3.14	1.92	2.53	Available
8	Geographical sources e.g. Maps, Atlases etc	92	13	3.37	1.90	2.65	Available
9	Handbooks	92	13	3.14	1.92	2.53	Available

N_1 = number of Professionals, N_2 = number of Non-Professionals, $\bar{x}_1$ = mean of Professionals, $\bar{x}_2$ = Mean of Non-Professionals, and $\bar{x}_g$ = Grand mean
Source: Field survey, 2018

Table 2: Mean of Respondents on the weather reference resources and services are provided in the library suit the users

S/N	Item Statement	N_1	N_2	X_1	X_2	Xg	Remarks
1	Dictionaries	31	89	2.80	3.00	2.90	Suitable
2	Yearbooks	31	89	2.67	2.76	2.72	Suitable
3	Manuals	31	89	2.76	2.77	2.77	Suitable
4	Indexes	31	89	3.00	2.84	2.92	Suitable
5	Abstracts	31	89	3.67	2.84	3.26	Suitable
6	Bibliographies	31	89	2.97	2.85	2.91	Suitable
7	Biographical sources e.g. Who's Who	31	89	3.10	2.61	2.86	Suitable
8	Geographical sources e.g. Maps, Atlases etc	31	89	3.15	2.54	2.85	Suitable
9	Directories	31	89	3.11	2.08	2.59	Suitable
10	Handbooks	31	89	3.49	1.84	2.67	Suitable

N_1 = number of Professionals, N_2 = number of Non-Professionals, $\bar{x}_1$ = mean of Professionals, $\bar{x}_2$ = Mean of Non-Professionals, and $\bar{x}_g$ = Grand mean
Source: Field survey, 2018

Table 3: Mean of Respondents on the level of adequacy of the reference resources and services provided in the library

S/N	Item Statement	N_1	N_2	X_1	X_2	Xg	Remarks
1	Dictionaries	31	89	2.71	1.92	2.31	NA
2	Yearbooks	31	89	2.78	2.00	2.39	NA
3	Manuals	31	89	2.64	2.23	2.44	NA
4	Indexes	31	89	3.2	1.54	2.37	NA
5	Abstracts	31	89	3.67	2.84	3.26	NA
6	Bibliographies	31	89	2.57	2.38	2.45	NA
7	Biographical sources e.g. Who's Who	31	89	3.12	1.69	2.41	NA
8	Geographical sources e.g. Maps, Atlases etc	31	89	3.15	2.54	2.85	HA
9	Handbooks	31	89	3.49	1.84	2.67	HA

N_1 = number of Professionals, N_2 = number of Non-Professionals, $\bar{x}_1$ = mean of Professionals, $\bar{x}_2$ = Mean of Non-Professionals, $\bar{x}_g$ = Grand mean, HA= highly adequate and NA=Not adequate
Source: Field survey, 2018

Table 4: Mean of Respondents on the users' perceptions on reference resources and services in the library under study

S/N	Item Statement	N_1	N_2	X_1	X_2	Xg	Remarks
1	Dictionaries	31	89	2.57	2.38	2.48	Low
2	Yearbooks	31	89	2.71	1.92	2.32	Low
3	Manuals	31	89	2.78	2.00	2.39	Low
4	Indexes	31	89	2.64	2.23	2.44	Low
5	Abstracts	31	89	3.20	1.54	2.37	Low
6	Bibliographies	31	89	2.71	1.92	2.32	Low
7	Biographical sources e.g. Who's Who	31	89	2.78	2.00	2.39	Low
8	Geographical sources e.g. Maps, Atlases etc	31	89	3.20	1.54	2.37	Low
9	Handbooks	31	89	2.64	2.23	2.44	Low

N_1 = number of Professionals, N_2 = number of Non-Professionals, $\overline{x}_1$ = mean of Professionals, $\overline{x}_2$ = Mean of Non-Professionals and $\overline{x}_g$ = Grand mean
Source: Field survey, 2018

DISCUSSION OF FINDINGS

Research question one was to find out the available resources and reference services in the library. Findings revealed that dictionaries, yearbooks, manuals, indexes, abstracts, bibliographies, biographical sources e.g. who's who, Geographical sources e.g. maps, atlases etc and handbooks were available in the library. This finding supports the study of Oguingu (2015) who conducted a study on Availability and use of Reference sources and services in Babcock University library. The study found out that Majority of the respondents indicated that reference sources are highly available, accessible and adequate except yearbook, bibliographies and biographies that are not available, accessible and adequate.

Research question two was to find out whether reference resources and services are provided in the library suit the users. Findings revealed that dictionaries, yearbooks, manuals, indexes, abstracts, bibliographies, biographical sources e.g. who's who, Geographical sources e.g. maps, atlases etc and handbooks are available in the library and suit the level of users. The result agrees with Oguingu (2015) who conducted a study on Availability and use of Reference sources and services in Babcock University library. The study revealed that reference sources such as dictionaries, yearbooks, manuals, indexes, abstracts, bibliographies, biographical sources, Geographical sources available in the library suit the level of users.

Research question three was on the level of adequacy of the reference resources and services provided in the library. Findings revealed that dictionaries, yearbooks, manuals, indexes, abstracts, bibliographies, biographical sources e.g. who's who, Geographical sources e.g. maps, atlases etc and handbooks were available in the library but not adequate for users. This finding is not similar with a study by Okafor, (2012). Appraisal of Reference Services in two Public Libraries -The FCT City Library Wuse Abuja and Nassarawa State Library, Lafia. The study found out that encyclopedias, dictionaries, atlases, journals, yearbooks, gazetteers, bibliographies, newspapers, biographies and thesis were available in the libraries.

Research question four was on the users' perceptions on reference resources and services in the library under study. Findings revealed that users' perceptions on dictionaries, yearbooks, manuals, indexes, abstracts, bibliographies, biographical sources e.g. who's who, Geographical sources e.g. maps, atlases etc and handbooks is low. Finding differs from a study conducted by Okafor, A.I (2012) who found out that library users had low perception on the use of library due to challenges such as lack of reference staff for assistance, Unavailability and Inadequacy of reference sources for course, old and irrelevant reference sources for course, the reference section is not convenient and conducive for reading, they do not know how to use reference sources, the reference librarians are not user-friendly and poor power supply in the reference section.

CONCLUSION

This study examined the use of reference resources and services for quality research of Postgraduate Students of Federal University of Agriculture Makurdi. Use of library resources and services has been found to be important for quality research by students of all levels. This study found out that reference resources and services are available in the library. The services also suit the level of users. However, the services and resources are not adequate in the library. Perception of users on resources and services is also very low.

RECOMMENDATIONS

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

i.   The available resources and services in the library should be intensive used by students as they enhance quality research
ii.   The University management should make sure that more library resources and services are provided for use by students

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Full Length Research

Statistics on Open Access Books Available through the Directory of Open Access Books

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Open Access (OA) books available through the Directory of Open Access Books (DOAB) are investigated and the number of titles, the distribution of subjects, languages, publishers, publication years, licensing patterns, etc., are clarified. Their chronological changes are also shown. The sample comprised 10,866 OA books, which were available through the DOAB as of February 24, 2018. The results show that OA books are increasing in number at an accelerating rate. As for distribution of subjects, Social Sciences ("H" in the Library of Congress Classification [LCC] codes), Science ("Q" in LCC) and World History and History of Europe, Asia, Africa, Australia, New Zealand, etc. ("D" in LCC) are the most popular. As for languages, English, French, and German are the most popular. As for publishers, Frontiers Media SA, Presses universitaires de Rennes, and ANU Press are the most popular. Many books are newly published ones, but older books, published in or before 1999, also began to be available recently. As for the licensing patterns, "CC by-nc-nd" and "CC by" are the most popular. Considering these tendencies, libraries should begin to utilize OA books.

Keywords: Open Access Books, OA books, OA monographs, Directory of Open Access Books, DOAB

INTRODUCTION

According to the International Federation of Library Associations (IFLA), "Open access is the now known name for a concept, a movement and a business model whose goal is to provide free access and re-use of scientific knowledge in the form of research articles, monographs, data and related materials" (IFLA, 2011). Open access (henceforth OA) has already been popular in the field of journal papers, and now it has started to gain a certain position in the field of monographs, or books. In the present paper, OA books are investigated, and the number of titles and the distribution of subjects, languages, publishers, publication years, licensing patterns, etc., will be clarified. Their chronological changes will also be shown.

Although the definition of OA books and OA monographs has not been clearly stated,[1] many articles and reports have been published on them. In the present paper, we define OA books as books of research output that are in electronic form and available on the Web free of charge.

There are two representative directories or repositories of OA books. One is the Directory of Open Access Books (DOAB), and the other is the Open Access Publishing in European Networks (OAPEN) Library. Both are provided by the OAPEN Foundation. The DOAB is a discovery service for peer-reviewed OA books, with links to the full texts of the publications at the OAPEN Library, publisher's website, or repositories (Adema, 2012; Karak & Mandal, 2017). The DOAB was officially launched on July 1, 2013, at the Open Access Monographs in the Humanities and Social Sciences

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[1] For instance, Adema (2012) stated that, prior to the user needs analysis of OA books, online discussion of OA books took place among publishers, academics, librarians, and participants from the wider OA and publishing community. The discussion included the definition of OA books, but Adema did not report any conclusion regarding this definition.

Conference at the British Library in London (Ferwerda. 2014; Karak & Mandal, 2017). However, it had been operating unofficially since 2011, and its beta version was launched in 2012. Lamani (2018) stated, "The Directory of Open Access Books (DOAB) is the major milestone in facilitating organized access to open access e-books."

As of February 24, 2018, the DOAB was providing 10,866 titles, and as of May 11, 2018, the OAPEN Library was providing 5,048 titles. In the present paper, we investigate all 10,866 titles provided by the DOAB. We leave it for future research to investigate OA books provided by the OAPEN Library. One reason is that the number of titles provided by the OAPEN Library is smaller than that provided by the DOAB. Furthermore, OA books available through the DOAB have a higher degree of *Open Access*; i.e., they have higher reusability than those in the OAPEN Library in the licensing sense. Snijder (2013) stated that Amsterdam University Press had placed almost 400 books in the OAPEN Library and that less than half of them were also available through the DOAB. He said that only books with a license that enabled readers to share the contents were allowed in the DOAB. Although it is an interesting direction to compare titles available through the DOAB and the OAPEN Library or to investigate the disjunction of OA books available through them, we leave it for future research.

There are three papers that have investigated the OA books available through the DOAB (no paper was found on those available through the OAPEN Library). Karak and Mandal (2017) investigated OA books in the field of Library and Information Science. They found 35 books and analyzed (1) the year-wise distribution and growth, (2) the number of authors, (3) publishers who were actively involved in the DOAB, (4) language-wise distribution, (5) licensing patterns, and (6) the number of pages. Khanchandani and Kumar (2017) investigated 1,052 OA books available through the DOAB in the field of Science and Technology. They analyzed the books' publishers, licenses, and language-wise distribution. Lamani et al. (2018) investigated 1,200 OA books available through the DOAB in the field of Social Sciences. They analyzed the books' subjects, the number of authors, the licenses, languages, publication years, and pagination-wise distribution. However, few studies have been done on all the titles available through the DOAB regardless of their field. As we mentioned above, we will investigate all 10,866 titles available through the DOAB. The results clarify the current status of OA books and can be used for discussion of the preferable future of OA books.

OBJECTIVES OF THE STUDY

The main objectives of the present study are:

➢ To show the statistics on OA books available through the DOAB such as their distribution of the subjects, languages, publishers, publication/add-on years, licensing patterns.
➢ To find out the chronological changes of the above mentioned data for discussion of the preferable future of OA books.
➢ To identify the active OA books publishers to promote their further contribution.

LITERATURE REVIEW

In this section, we will outline the papers related to OA books. The preceding papers can be classified into six types: (A) those describing the current status and problems of OA books in one institution or in general (Snijder, 2013; Hacker, 2014; Crossick, 2015; Collins & Milloy, 2016; Amano, 2017; Chakrabarti & Mandal, 2017; Hacker & Corrao, 2017; Speicher, 2017; Tanabe, 2017; Mongeau, 2018); (B) those investigating the impacts of OA books on sales of printed books and on academic fields (Ferwerda et al., 2013; Snijder, 2016; Speicher, 2016; Neylon et al., 2018); (C) those studying the users or usages of OA books (Adema, 2012; Ferwerda et al., 2013; Montgomery et al., 2017); (D) those focusing on business models (Adema, 2010; Ferwerda, 2014; London Economics, 2015); (E) those emphasizing the direction that OA books should take in the future (Jisc Collections & OAPEN Foundation, 2016; Barnes et al., 2017); and (F) those investigating the bibliographic information of OA books (Karak & Mandal, 2017; Khanchandani & Kumar, 2017; Lamani et al., 2018). Since we have already outlined type (F) above, we will introduce the rest, i.e., from (A) to (E), in the following paragraphs.

Among papers of type (A), Snijder (2013) reported on the relationship between Amsterdam University Press (AUP), the OAPEN Library, the DOAB, and IMISCOE (International Migration, Integration and Social Cohesion). He stated that the OAPEN Library and DOAB platforms were very useful tools for promoting OA books. Hacker (2014) described the challenges in publishing OA books at the University of Heidelberg and pointed out the importance of collaboration between scholars and publishers. Crossick (2015) showed that the so-called monograph crisis did not exist and examined (1) the advantages and drawbacks of the various models for OA monographs, (2) the strengths of the print

monograph, (3) the problems of licensing, (4) third-party rights, (5) the implications for other stakeholders (such as publishers, learned societies, universities, and university libraries), (6) international cooperation issues, and (7) suggestions for policymakers. Collins and Milloy (2016) reported the main findings from the OAPEN-UK research project, a five-year study into OA monograph publishing in the Humanities and Social Sciences. They first referred to the perspectives of five main groups (researchers, institutions, publishers, learned societies, and funders). Then they referred to the technical and organizational elements of producing an OA monograph and the characteristics that a successful business model of an OA monograph would have. Amano (2017) described the current status and challenges of OA books in the fields of Humanities and Social Sciences in Europe, referring to their various business models, dissemination, and preservation. Chakrabarti and Mandal (2017) investigated the growth, languages, copyright licensing, and publishers of 35 e-books in the Library and Information Science field available through the DOAB. Hacker and Corrao (2017) reported the challenges, accomplishments, and setbacks that Heidelberg University's newly founded OA publisher, heiUP, experienced. They discussed issues such as acquiring manuscripts, designing and building workflows, and building an outlet for the finished product. Speicher (2017) examined the current status of OA monographs and UK university presses. Tanabe (2017) examined the programs by Springer on OA and scholarly books. Mongeau (2018) described the current models, trends, and issues of OA monograph publishing.

Among papers of type (B), Ferwerda et al. (2013) reported the results of OAPEN-NL, which was a project to gain experience in the OA publication of monographs in the Netherlands. OAPEN-NL examined (1) user needs and perceptions about the OAPEN's publishing model for OA monographs, (2) the costs of monograph publishing in the Netherlands, and (3) the effects of OA on sales and scholarly impact. They stated that OAPEN-NL found no evidence of an effect of OA on sales (since Ferwerda et al. also investigated user needs and perceptions, their paper also falls into type [C]). Snijder (2016) investigated whether OA had a positive influence on the number of citations and tweets a monograph received. He found a slight OA advantage and that it depended on the language and subjects of the books. Speicher (2016) reported the effect on print sales of OAPEN-NL and OAPEN-UK/Jisc making a book OA. She also described the experience of the University College London Press and stated that OA seemed to have little effect on print sales. Neylon et al. (2018) investigated the extent to which OA books could be seen by the communities that might make use of them. They focused on OA books made available by publishers and platforms that were part of the OPERAS network, which was focused on the development of a European research infrastructure.

Among papers of type (C), Adema (2012) reported on DOAB users' needs, expectations, and experiences of OA. These covered the awareness of the importance of OA; quality control, especially, peer-reviews; licensing; business models; and the DOAB itself. Montgomery et al. (2017) investigated the usage of OA books via the JSTOR Platform. They investigated where the readers came from, the most popular subjects of the books, readers' behavior when they downloaded or viewed books, and publishers' perspectives.

Among papers of type (D), Adema (2010) investigated various initiatives' OA business models, publishing models, and publishing processes. Initiatives included commercial publishers and presses established by societies, academies, libraries, and universities, etc. Ferwerda (2014) gave an overview of six business models of OA books: (1) hybrid models (which provided free versions of publications and the sale of premium editions), (2) institutional support (the receipt of direct financial support through grants or indirect support through subsidies from the parent institute, etc.), (3) author-side publication charges (derived from the Article Processing Chargemodel for OA journals), (4) library-side models (which used library budgets to support OA publications), (5) crowdfunding, and (6) green OA. London Economics (2015) examined business models for OA monographs and assessed issues relating to cost recovery, quality control, and the incentives for authors and publishers. They identified six types of business model, such as those by traditional publishers and new university presses.

Among papers of type (E), Jisc Collections and the OAPEN Foundation (2016) reported on the potential centralized services that would support and encourage the publication of OA peer-reviewed monographs and presented recommendations for their establishment. Barnes et al. (2017) conducted a survey of academic libraries in the United States and concluded that library-funded OA book initiatives could successfully scale up if they employed sustainable business models, offered quality content, and provided participants with usage data.

METHODOLOGY

In this section, we will explain the data and aspects we investigated concerning DOAB OA books.

Data We Used

The DOAB said that it had "10866 academic peer-reviewed books and chapters from 256 publishers," as of February 24,

2018.[2] We downloaded a CSV file from DOAB on February 25, 2018.[3] The file contained the works' "Title," "ISBN," "Authors," "Pages," "Publisher," "Languages," and "Year of publication," etc. It also contained information about (1) dates on which the books or chapters were added to the DOAB, as "Added-on date," and (2) the Library of Congress Classification (henceforth "LCC") codes as "Subjects."

Books and chapters are not distinguished in the above-mentioned CSV file. If we check each item manually, we may be able to distinguish books from chapters, but doing so would be quite labor-intensive. Here, we would like to recall UNESCO's definition of a book: "a non-periodical printed publication of at least 49 pages" (UNESCO, 1964). Among the 10,866 items (i.e., books or chapters) in the CSV file, (1) for "Pages," 4,567 items were not available (i.e., their data were NULL), and (2) among the rest, 6,299, only 126 (i.e., 2.0%) were less than 49 pages in length. We regard 2.0% as sufficiently small, and the results concerning all 10,866 items provide a good image or approximation of OA books. We did not remove the 126 chapters from the 6,299 items because doing so would require us to remove chapters from the other 4,567 items for consistency. That would be very labor-intensive, and we think that the effect on our results by such a removal would be small. Henceforth we will refer to both books and chapters as "titles" and show the results for them. We regard the results for titles to be very close to the results for books, as we previously mentioned.

Aspects We Investigated

First, we investigated the 10,866 titles' subjects, languages, publishers, publication years, licensing patterns, and years when the titles were added on the DOAB (henceforth, the "added-on years"). These data were obtained from the columns "Subjects," "Languages," "Publisher," "Year of publication," "License," and "Added-on date," respectively. We also investigated any chronological changes and the distribution of combinations of subjects, languages, and publishers. Furthermore, we randomly selected 40 English titles and investigated (a) the affiliations and positions of the first authors/editors of the titles and (b) the availability of the contents as text format.

As for the subjects, we only used the first characters of the LCC subjects. For instance, if a book was assigned the LCC subject "JF20-2112," we regarded the subject of the book to be just "J" (Political Science). When multiple LCC subjects were assigned to one book, we adopted the first one as its LCC subject. For instance, if a book was assigned LCC subjects such as "HB1-3840; D1-2009," we regarded the subject of the book to be "H" (Social Sciences). The representations of the language of each title in the DOAB CSV file were somewhat noisy. We regarded the character sequences in the right-hand column in Table 1 to represent the language shown in the left-hand column.

RESULTS

In this section, we will show the results for (1) the number of titles, (2) distribution of subjects, (3) distribution of languages, (4) combination of subjects and languages, (5) combination of publication and added-on years, (6) distribution of publishers, (7) licensing patterns, (8) authors and editors, and (9) availability of contents as text format, in that order.

Number of Titles

As we previously mentioned, the number of titles available through the DOAB as of February 24, 2018, was 10,866. On the basis of the added-on years, the numbers of titles available through the DOAB as of 2011, 2012, 2013, 2014, 2015, 2016, and 2017 were estimated to be 485, 1,173, 1,529, 2,425, 3,719, 5,698, and 10,310, respectively. Figure 1 shows these numbers. We can see in Figure 1 that the number of titles available through DOAB increases at an accelerating rate.

Distribution of Subjects

The subject-wise numbers of titles available through the DOAB from 2011 to 2017 and those as of February 24, 2018, are shown in Table 2. In Table 2, the leftmost "A" to "Z" represent the LCC subjects.[4] The subjects that the letters represent are shown in Table 3. For instance, Table 2 and Table 3 show that the number of titles in Political Science ("J") available through the DOAB as of 2013 is 181.

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[2] https://www.doabooks.org/doab?func=search&uiLanguage=en
[3] https://www.doabooks.org/doab?func=about&uiLanguage=en
[4] https://www.loc.gov/catdir/cpso/lcco/

We can see in Table 2 that the most popular subject as of February 24, 2018 is Social Sciences ("H"), which accounts for 8.8% (952 titles) of OA books available through the DOAB. The second-most and the third-most popular subjects as of February 24, 2018, are Science ("Q") and World History and History of Europe, Asia, Africa, Australia, New Zealand, etc. ("D"), respectively.

The numbers of titles of subjects "A" to "K" and "L" to "Z" for 2011 to 2017 are shown in Figures 2 and 3, respectively. We can see in these figures that the number of titles in Social Sciences ("H") was the largest most of the time. The numbers of titles in Education ("L") and Medicine ("R") have increased sharply in recent years.

Distribution of Languages

The numbers and percentages of titles of each language available through the DOAB as of February 24, 2018 are shown in Table 4. We can see in Table 4 that the most

Table 1: Languages and Their Corresponding Character Sequences

English	en, eng, Eng, english, englisch (eng), Englilsh, Englisch, Inglese, ENGLISH
French	fr, fra, fre, Fr, Fre, französisch (fre), Francais, Francese
German	de, german, Deutsch, Deutsche, deutsch (ger)
Italian	it, ita, italian, italiano, Italiano, ITALIANO
Spanish	es, spa, ES, Espanol, Spagnolo
Portuguese	pt, por, Pt, PT, Portugese
Slovene	sl, slv, Slovenian
Latin	la, lat
Turkish	tr
Romansh	rm
Russian	ru
Arabic	ar
Greek	el
Bulgarian	bg
Church Slavic	cu
Catalan	ca
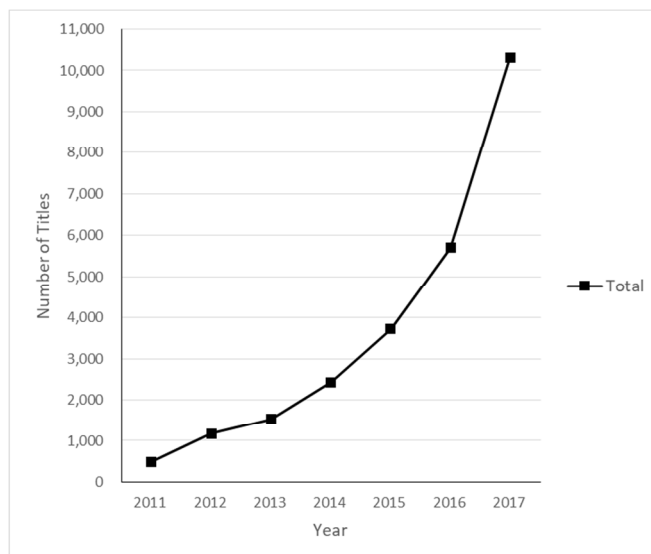
Figure 1: Changes in the Number of Titles Available through the DOAB

popular language was English, which accounts for 49.0% (5,416 titles) of titles available through the DOAB. French, German, Portuguese, and Spanish follow. These five languages account for 92.2% of titles available through the DOAB. The numbers of titles in English, French, German, Portuguese, Spanish, Italian, Dutch, and the rest ("Other") available through the DOAB during the period from 2011 to 2017 and those as of February 24, 2018, are shown in Table 5. We can see in Table 5 that, for instance, the number of titles written in French as of 2014 was 158. Figure 4 was generated on the basis of the numbers from Table 5. We can see in Figure 4 that the number of titles written in English was consistently the largest throughout

Table 2: Subject-wise Numbers of Titles

	2011	2012	2013	2014	2015	2016	2017	Feb. 2018	
A	0	0	0	15	17	20	21	21	(0.2)
B	35	73	95	159	259	424	561	591	(5.4)
C	3	12	21	35	43	56	84	86	(0.8)
D	65	120	194	282	380	668	825	849	(7.8)
E	1	28	29	34	40	45	62	62	(0.6)
F	0	1	1	5	9	10	11	11	(0.1)
G	6	63	72	104	151	221	380	393	(3.6)
H	106	213	263	345	458	641	887	952	(8.8)
J	76	162	181	248	368	433	525	574	(5.3)
K	41	61	89	138	167	229	293	297	(2.7)
L	6	23	29	47	106	151	244	258	(2.4)
M	3	6	13	20	28	39	52	53	(0.5)
N	17	31	58	92	119	163	203	209	(1.9)
P	58	155	203	278	399	550	769	834	(7.7)
Q	41	66	92	150	270	569	826	864	(8.0)
R	5	17	29	104	232	545	688	711	(6.5)
S	6	12	13	21	28	36	51	52	(0.5)
T	12	38	45	67	91	158	248	267	(2.5)
U	0	0	0	0	0	0	1	1	(0.0)
Z	4	15	23	30	32	47	56	57	(0.5)
N/A	0	77	79	251	522	693	3,523	3,724	(34.3)
Total	485	1,173	1,529	2,425	3,719	5,698	10,310	10,866	(100.0)

Table 3: LCC Codes

A	General Works
B	Philosophy. Psychology. Religion
C	Auxiliary Sciences of History
D	World History and History of Europe, Asia, Africa, Australia, New Zealand, etc.
E	History of the Americas
F	History of the Americas
G	Geography. Anthropology. Recreation
H	Social Sciences
J	Political Science
K	Law
L	Education
M	Music
N	Fine Arts
P	Language and Literature
Q	Science
R	Medicine
S	Agriculture
T	Technology
U	Military Science
V	Naval Science
Z	Bibliography. Library Science. Information Resources (General)

[4]Some figures in Table 4 correspond to the same titles. For instance, if a particular book has been published in English, French, and German, these editions were counted as three independent books written in English, French, and German. This is why the "Total" in Table 4 is 11,058, which is larger than 10,866 in Table 2.

[5]The DOAB CSV file said that two titles were literally written in an "Other" language. This "Other" is different from "Other" in Tables 4, 5, and 6 and Figure 4.

the period. The number of titles written in French increased sharply during from 2016 to 2017 and overtook those in German and Portuguese.

Combination of Subjects and Languages

The numbers and percentages of subjects for the titles written in English, French, German, Portuguese, Spanish, Italian, Dutch, and the rest ("Other") available through the DOAB as of February 24, 2018, are shown in Table 6. In Table 6, the leftmost "A" to "Z" represent the LCC subjects again. For instance, the number of titles in Social Sciences ("H") written in English and German are 606 and 132, respectively. They account for 63.5% and 13.8% of the titles in Social Sciences (the total number is 955,
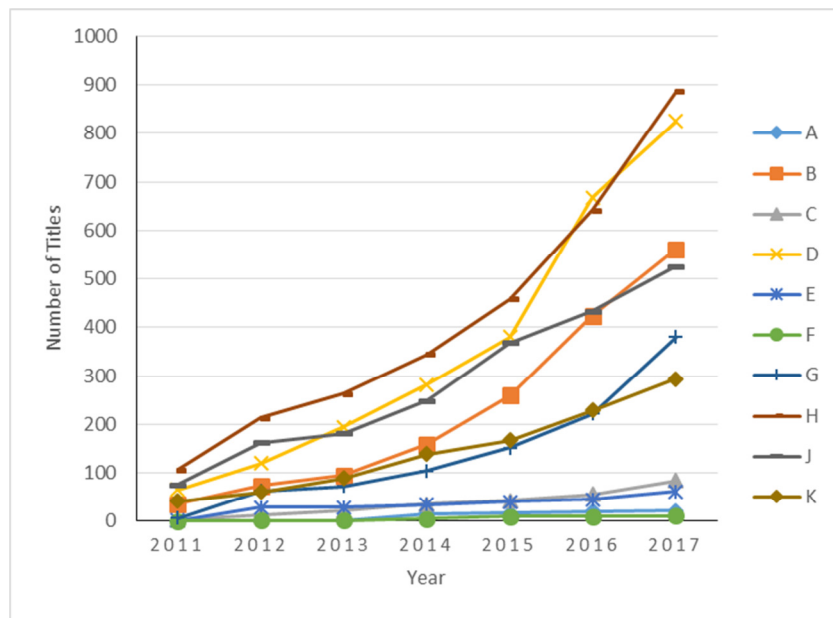
Figure 2: Changes in the Numbers of Titles of Subjects "A" to "K"
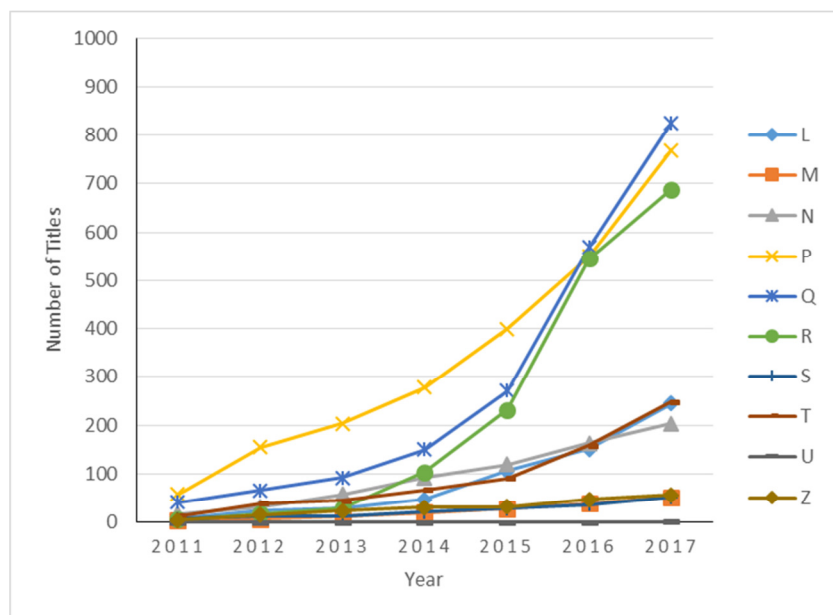
Figure 3: Changes in the Numbers of Titles of Subjects "L" to "Z"

which is shown in the rightmost column).

We can see in Table 6 that the subjects for which English is the most popular are Science ("Q"), Medicine ("R"), and Technology ("T"), which account for 85.3%, 79.2%, and 78.1%, respectively (except for minor subject "Z"). In the so-called STM (Science, Technology and Medicine) fields, English seems to be popular. The subject in which German is the most popular is Law ("K"), which accounts for 41.5%. German is relatively popular in the Fine Arts ("N") where it accounts for 31.8%, while English accounts for 41.4%. Unfortunately, many of the French books in the DOAB are not assigned LCC codes. More specifically, 2,526 French books do not have them. If they had been so assigned, we would have been able to analyze the tendency of OA French books' subjects more precisely.

Combination of Publication and Added-on Years

The year-wise publication and added-on numbers of titles are shown in Table 7. In Table 7, the leftmost column represents the publication years, and the top row represents the added-on years. For instance, the number of titles that were published during the period from 2005 to

Table 4: Numbers and Percentages of Titles in Each Language

English	5,416 (49.0)	Afrikaans	5 (0.0)
French	2,665 (24.1)	Arabic	5 (0.0)
German	1,062 (9.6)	Chinese	5 (0.0)
Portuguese	629 (5.7)	Greek	5 (0.0)
Spanish	429 (3.9)	Lithuanian	5 (0.0)
Italian	245 (2.2)	Albanian	4 (0.0)
Dutch	180 (1.6)	Czech	4 (0.0)
Finnish	31 (0.3)	Bulgarian	2 (0.0)
Norwegian	17 (0.2)	Church Slavic	2 (0.0)
Latin	10 (0.1)	Cree	2 (0.0)
Slovene	10 (0.1)	Catalan	1 (0.0)
Swedish	8 (0.1)	Michif	1 (0.0)
Turkish	8 (0.1)	Ukrainian	1 (0.0)
Romansh	7 (0.1)	Welsh	1 (0.0)
Old Nubian	6 (0.1)	"Other"	2 (0.0)
Russian	6 (0.1)	N/A	284 (2.6)
Total		11,058	(100.0)

Table 5: Changes in the Numbers of Titles in Each Language

	English	French	German	Portuguese	Spanish	Italian	Dutch	Other	N/A
2011	277	1	92	0	0	74	42	1	0
2012	783	9	152	0	0	75	58	8	99
2013	970	13	303	0	2	87	64	10	2
2014	1,412	158	393	123	71	106	72	19	12
2015	2,056	351	488	413	117	127	72	47	14
2016	3,414	489	753	529	163	150	121	70	22
2017	5,086	2,546	1,014	605	427	234	179	129	125
Feb. 2018	5,416	2,665	1,062	629	429	245	180	148	284

Figure 4: Changes in the Numbers of Titles in Each Language

Table 6: Numbers and Percentages of Subjects and Languages of the Titles

	English	French	German	Portuguese	Spanish	Italian	Dutch	Other	N/A	Total
A	4 (18.2)	1 (4.5)	1 (4.5)	0 (0.0)	15 (68.2)	1 (4.5)	0 (0.0)	0 (0.0)	0 (0.0)	22
B	370 (60.7)	5 (0.8)	99 (16.2)	78 (12.8)	14 (2.3)	11 (1.8)	4 (0.7)	18 (3.0)	11 (1.8)	610
C	56 (56.0)	5 (5.0)	32 (32.0)	0 (0.0)	4 (4.0)	3 (3.0)	0 (0.0)	0 (0.0)	0 (0.0)	100
D	449 (50.2)	41 (4.6)	242 (27.1)	12 (1.3)	43 (4.8)	36 (4.0)	49 (5.5)	13 (1.5)	9 (1.0)	894
E	21 (33.3)	0 (0.0)	1 (1.6)	3 (4.8)	3 (4.8)	1 (1.6)	0 (0.0)	0 (0.0)	34 (54.0)	63
F	0 (0.0)	0 (0.0)	0 (0.0)	2 (18.2)	8 (72.7)	0 (0.0)	0 (0.0)	0 (0.0)	1 (9.1)	11
G	249 (62.7)	8 (2.0)	30 (7.6)	5 (1.3)	1 (0.3)	4 (1.0)	0 (0.0)	4 (1.0)	96 (24.2)	397
H	606 (63.5)	18 (1.9)	132 (13.8)	86 (9.0)	24 (2.5)	19 (2.0)	31 (3.2)	22 (2.3)	17 (1.8)	955
J	432 (75.0)	6 (1.0)	26 (4.5)	67 (11.6)	7 (1.2)	12 (2.1)	14 (2.4)	8 (1.4)	4 (0.7)	576
K	91 (29.7)	2 (0.7)	127 (41.5)	11 (3.6)	49 (16.0)	15 (4.9)	4 (1.3)	4 (1.3)	3 (1.0)	306
L	119 (45.9)	3 (1.2)	21 (8.1)	62 (23.9)	15 (5.8)	17 (6.6)	2 (0.8)	11 (4.2)	9 (3.5)	259
M	23 (42.6)	0 (0.0)	16 (29.6)	10 (18.5)	0 (0.0)	0 (0.0)	2 (3.7)	1 (1.9)	2 (3.7)	54
N	91 (41.4)	2 (0.9)	70 (31.8)	16 (7.3)	1 (0.5)	9 (4.1)	23 (10.5)	5 (2.3)	3 (1.4)	220
P	526 (60.2)	21 (2.4)	115 (13.2)	80 (9.2)	11 (1.3)	43 (4.9)	4 (0.5)	23 (2.6)	51 (5.8)	874
Q	743 (85.3)	11 (1.3)	50 (5.7)	39 (4.5)	0 (0.0)	11 (1.3)	2 (0.2)	7 (0.8)	8 (0.9)	871
R	566 (79.2)	5 (0.7)	24 (3.4)	107 (15.0)	1 (0.1)	2 (0.3)	0 (0.0)	6 (0.8)	4 (0.6)	715
S	38 (73.1)	0 (0.0)	8 (15.4)	3 (5.8)	0 (0.0)	2 (3.8)	0 (0.0)	0 (0.0)	1 (1.9)	52
T	211 (78.1)	8 (3.0)	22 (8.1)	17 (6.3)	2 (0.7)	5 (1.9)	2 (0.7)	0 (0.0)	3 (1.1)	270
U	1 (100.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	1
Z	40 (64.5)	3 (4.8)	5 (8.1)	2 (3.2)	2 (3.2)	7 (11.3)	0 (0.0)	1 (1.6)	2 (3.2)	62
N/A	780 (20.8)	2,526 (67.4)	41 (1.1)	29 (0.8)	229 (6.1)	47 (1.3)	43 (1.1)	25 (0.7)	26 (0.7)	3,746

Table 7: Year-wise Publication and Added-on Numbers for Titles

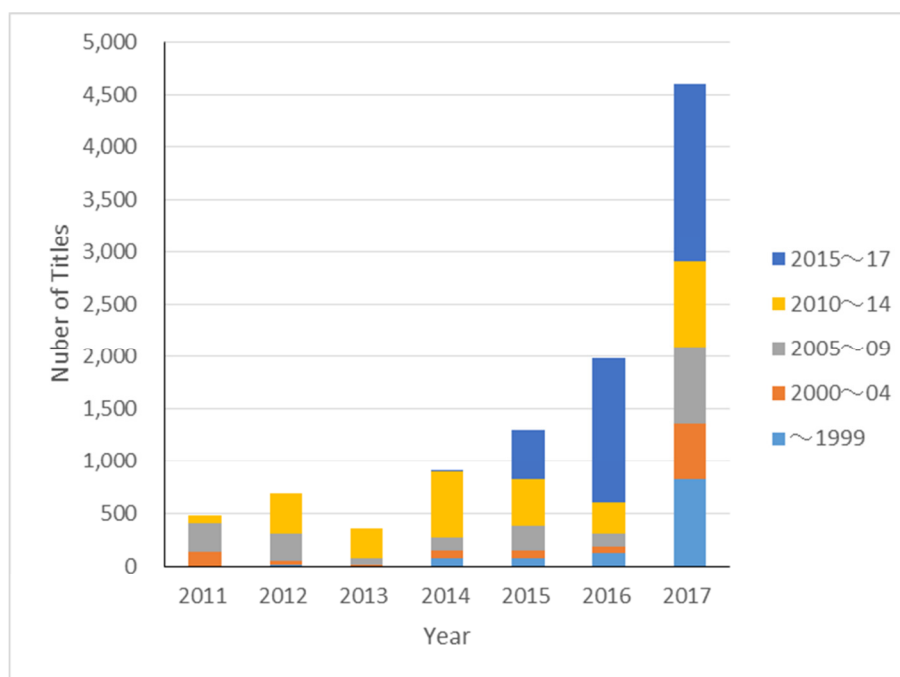|	2011	2012	2013	2014	2015	2016	2017	(2018)
～1999	5	23	5	82	76	129	829	43
2000～04	135	34	19	74	76	57	530	17
2005～09	264	254	50	113	228	123	737	37
2010～14	81	377	282	622	449	299	813	137
2015～17	0	0	0	5	465	1,371	1,697	227
(2018)	0	0	0	0	0	0	6	95

Figure 5: Numbers of Titles of Each Publication Year Added to the DOAB

2009 and that were added to the DOAB in 2012 is 254. Because our data is as of February 24, 2018, and the number of titles for 2018 is tentative (in the sense that 2018 has not ended), the numbers in the "(2018)" row and

Table 8: Numbers of Titles Added to the DOAB by Each Publisher

| Publisher	2011	2012	2013	2014	2015	2016	2017	(2018)	Total
Frontiers Media SA	0	0	1	0	176	542	208	0	927
Presses universitaires de Rennes	0	0	0	0	0	0	528	0	528
ANU Press	1	189	0	145	42	56	43	10	486
De Gruyter	0	17	11	33	40	176	108	52	437
Springer	0	10	17	26	25	64	207	1	350
MDPI AG – Multidisciplinary Digital Publishing Institute	0	0	0	2	50	92	134	53	331
Amsterdam University Press	136	42	26	9	13	33	46	9	314
Universitätsverlag Göttingen	101	40	39	25	1	57	30	3	296
Brill	24	21	1	4	0	136	51	0	237
Böhlau	0	0	86	49	34	18	34	1	222
punctum books	0	0	0	63	42	22	62	7	196
SciELO Books – Editora UNESP	0	0	0	2	95	63	11	4	175
Bloomsbury Academic	0	38	20	25	45	10	8	14	160
Graduate Institute Publications	0	0	0	0	0	0	147	0	147
Manchester University Press	90	1	0	2	0	12	34	8	147
Other	133	330	155	511	731	698	2,961	394	5,913
Total	485	688	356	896	1,294	1,979	4,612	556	10,866
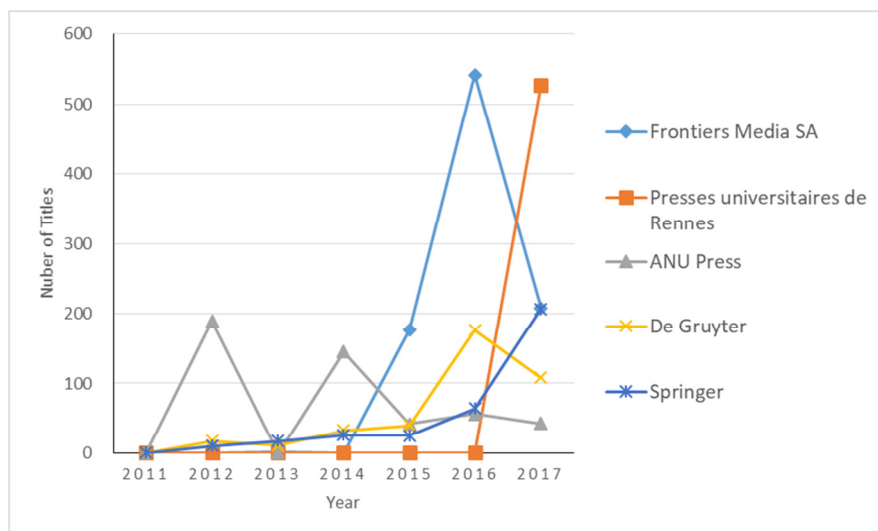
Figure 6: Numbers of Titles Added to the DOAB by the Top Five Publishers

column are generally smaller than those in the other rows and columns are.

We can see in Table 7 that some titles were added to the DOAB as OA books before being published. For instance, five titles that were published during the period from 2015 to 2017 had been added to the DOAB in 2014. It was found that 29 titles in total were published after they were added to the DOAB.[5]

The bar chart in Figure 5 shows the numbers of titles in Table 7. We can see in Figure 5 that while the ratios of titles that were added to the DOAB right after being published are high (for instance, the blue part, which represents the number of titles that were published during the period from 2015 to 2017, is the largest part of the bar representing those works that were added to the DOAB in 2017), the ratio of titles that were published in 1999 or before is on the increase, especially in 2017.

Table 9: Numbers and Percentages of Subjects for the Titles Added by the Top Five Publishers

	Frontiers Media SA		Presses universitaires de Rennes		ANU Press		De Gruyter		Springer	
A	0 (	0.0)	0 (	0.0)	0 (	0.0)	0 (	0.0)	0 (	0.0)
B	92 (	9.9)	0 (	0.0)	19 (	3.9)	82 (	18.8)	9 (	2.6)
C	0 (	0.0)	0 (	0.0)	16 (	3.3)	9 (	2.1)	0 (	0.0)
D	0 (	0.0)	0 (	0.0)	68 (	14.0)	117 (	26.8)	1 (	0.3)
E	0 (	0.0)	0 (	0.0)	1 (	0.2)	1 (	0.2)	0 (	0.0)
F	0 (	0.0)	0 (	0.0)	0 (	0.0)	0 (	0.0)	0 (	0.0)
G	11 (	1.2)	0 (	0.0)	45 (	9.3)	7 (	1.6)	41 (	11.7)
H	0 (	0.0)	0 (	0.0)	94 (	19.3)	16 (	3.7)	64 (	18.3)
J	0 (	0.0)	0 (	0.0)	100 (	20.6)	4 (	0.9)	9 (	2.6)
K	0 (	0.0)	0 (	0.0)	21 (	4.3)	25 (	5.7)	11 (	3.1)
L	0 (	0.0)	0 (	0.0)	6 (	1.2)	4 (	0.9)	47 (	13.4)
M	0 (	0.0)	0 (	0.0)	3 (	0.6)	1 (	0.2)	0 (	0.0)
N	0 (	0.0)	0 (	0.0)	8 (	1.6)	9 (	2.1)	0 (	0.0)
P	0 (	0.0)	0 (	0.0)	23 (	4.7)	56 (	12.8)	4 (	1.1)
Q	392 (	42.3)	0 (	0.0)	21 (	4.3)	35 (	8.0)	75 (	21.4)
R	406 (	43.8)	0 (	0.0)	39 (	8.0)	15 (	3.4)	35 (	10.0)
S	0 (	0.0)	0 (	0.0)	10 (	2.1)	2 (	0.5)	6 (	1.7)
T	26 (	2.8)	0 (	0.0)	7 (	1.4)	15 (	3.4)	48 (	13.7)
U	0 (	0.0)	0 (	0.0)	0 (	0.0)	0 (	0.0)	0 (	0.0)
Z	0 (	0.0)	0 (	0.0)	4 (	0.8)	21 (	4.8)	0 (	0.0)
N/A	0 (	0.0)	528 (	100.0)	1 (	0.2)	18 (	4.1)	0 (	0.0)
Total	927 (	100.0)	528 (	100.0)	486 (	100.0)	437 (	100.0)	350 (	100.0)

Table 10: Changes in the Percentages of Licensing Patterns

	2011	2012	2013	2014	2015	2016	2017	(2018)	Total
CC by	0.1	0.4	1.1	1.6	17.8	41.3	33.7	4.1	1,682
CC by-nc	14.4	4.0	2.8	7.6	10.2	27.6	22.6	10.9	935
CC by-nc-nd	8.6	12.3	7.7	8.4	7.4	16.4	32.7	6.5	3,139
CC by-nc-sa	0.0	0.0	2.9	20.9	36.4	7.2	30.4	2.1	994
CC by-nd	44.8	20.1	16.7	5.2	2.3	6.3	4.6	0.0	174
CC by-sa	0.0	3.5	3.5	11.9	4.4	34.4	28.2	14.1	227
N/A	0.0	5.8	0.1	7.8	7.8	9.4	65.5	3.5	3,715
Total	4.5	6.3	3.3	8.2	11.9	18.2	42.4	5.1	10,866

Distribution of Publishers

The publisher-wise numbers of titles added to the DOAB during the period from 2011 to 2017 (and from January 1 to February 24, 2018) are shown in Table 8. The leftmost column shows the publishers' names, sorted in descending order of the total number of titles shown in the rightmost column. We can see in Table 8 that the five publishers that added the most works to the DOAB are Frontiers Media SA, Presses universitaires de Rennes, ANU Press, De Gruyter, and Springer (henceforth, the "top five publishers"). While the total number of titles available through the DOAB increased at an accelerating rate (see Figure 1), the number of titles added to the DOAB by each publisher did not follow the same pattern. For instance, Presses universitaires de Rennes added all of its 528 titles in 2017, and ANU Press added 189 titles in 2012 and zero in 2013.

The numbers of titles added to the DOAB by the above-mentioned five publishers during the period from 2011 to 2017 are shown in Figure 6. We can see in Figure 6 that the numbers of titles added by Frontiers Media SA and De Gruyter decreased sharply in 2017. The number of titles added by ANU Press decreased a little. On the other hand, the number of titles added by Springer has increased constantly.

The numbers and percentages of subjects for the titles added by the top five publishers are shown in Table 9. We can see in Table 9 that more than 80% of the subjects for the titles added by Frontiers Media SA were "R" and "Q," i.e., Medicine and Science (43.8% and 42.3%, respectively). The top three subjects for the titles added by ANU Press were "J," "H," and "D," i.e., Political Science, the Social Sciences, and World History and History of Europe, Asia, Africa, Australia, New Zealand, etc. (20.6%, 19.3%, and 14.0%, respectively). As for De Gruyter, they were "D," "B," and "P," i.e., World History and History of Europe, Asia, Africa, Australia, New

Table 11: Percentages of Licensing Patterns of the Top 15 Publishers

	CC by	CC by-nc	CC by-nc-nd	CC by-nc-sa	CC by-nd	CC by-sa	N/A	Total
Frontiers Media SA	100.0	0.0	0.0	0.0	0.0	0.0	0.0	927
Presses universitaires de Rennes	0.0	0.0	0.0	0.0	0.0	0.0	100.0	528
ANU Press	0.0	0.0	0.0	0.2	0.0	0.0	99.8	486
De Gruyter	0.7	0.0	98.9	0.2	0.0	0.2	0.0	437
Springer	36.0	63.4	0.3	0.3	0.0	0.0	0.0	350
MDPI AG – Multidisciplinary Digital Publishing Institute	26.9	0.0	73.1	0.0	0.0	0.0	0.0	331
Amsterdam University Press	0.6	53.5	45.5	0.0	0.3	0.0	0.0	314
Universitätsverlag Göttingen	0.7	0.0	11.1	0.0	51.7	36.5	0.0	296
Brill	0.0	70.5	19.4	0.0	0.0	0.0	10.1	237
Böhlau	13.5	18.0	68.5	0.0	0.0	0.0	0.0	222
punctum books	0.0	0.0	0.0	100.0	0.0	0.0	0.0	196
SciELO Books – Editora UNESP	0.0	2.3	0.0	57.7	0.0	0.0	40.0	175
Bloomsbury Academic	0.0	8.1	91.3	0.0	0.0	0.0	0.6	160
Graduate Institute Publications	0.0	0.0	100.0	0.0	0.0	0.0	0.0	147
Manchester University Press	0.7	7.5	91.8	0.0	0.0	0.0	0.0	147
Other	8.5	5.2	28.1	11.7	0.3	2.0	44.1	5,913
Total	15.5	8.6	28.9	9.1	1.6	2.1	34.2	10,866

Zealand, etc.; Philosophy, Psychology, Religion; and Language and Literature (26.8%, 18.8%, and 12.8%, respectively). From this result, it can be said that Frontiers Media SA, ANU Press, and De Gruyter were mainly adding STM, Social Sciences, and Humanities titles, respectively. As for Springer, the top three subjects for its titles were "Q," "H," and "T," i.e., Science, Social Sciences, and Technology (21.4%, 18.3%, and 13.7%, respectively). Springer is adding both STM and Social Sciences titles.

Licensing Patterns

Chronological changes in the percentages of the licensing patterns are shown in Table 10.[5] We can see in Table 10 that the most popular pattern is "CC by-nc-nd" (3,139 titles), which increases from 2015 to 2017 (i.e., from 7.4% to 32.7%). The second-most popular pattern is "CC by" (1,682 titles), which increases from 2011 to 2016 (i.e., from 0.1% to 41.3%). Note that "CC by" is the most accommodating licensing pattern, which requires only attribution display and even allows commercial re-use.

The distribution of the licensing patterns of the top 15 publishers is shown in Table 11. We can see in Table 11 that the licensing pattern preferred by each publisher differs significantly. For instance, Frontiers Media SA prefers "CC by" (100% of their 927 titles belong to this pattern). De Gruyter and Springer prefer "CC by-nc-nd" and "CC by-nc," respectively (98.9% and 63.4% of their titles belong to these patterns). Quite a few publishers adopt more than one licensing pattern. For instance, Springer is adopting "CC by-nc" (63.4%) and "CC by" (36.0%), while AUP is adopting "CC by-nc" (53.5%) and "CC by-nc-nd" (45.5%). It would be interesting to pursue the criteria that are leading the publishers to adopt different patterns. The publishers other than these top 15 publishers (in the "Other" row) prefer "CC by-nc-nd" most of all (28.1% of 5,913 titles); their numbers account for more than half of all the 3,139 titles of "CC by-nc-nd" in Table 11.

Authors and Editors

Below, we will first describe the number of authors or editors shown in the front pages of 40 randomly selected English titles. Then, we will describe the affiliations and positions of their first author or editor.
Table 12 shows the number of authors or editors identified in the front pages. It was found that 15 titles (37.5%) were written by just one author. They did not have editors. By contrast, 24 titles (60.0%) had one or more editors. For instance, we can see in Table 12 that eight titles (20.0%) had three editors. Such titles often had many authors.
The affiliations and positions of the first authors or editors are shown in Table 13. We were unable to find affiliations for four (10.0%): J. H. M. C. Boelaars of *Head-Hunters about Themselves*, Christa Jungnickel of *Cavendish: The Experimental Life,* Joshua Rothe of *An Unspecific Dog: Artifacts of This Late Stage in History,* and Michael Munro of *Of Learned Ignorance: Idea of a Treatise in Philosophy*. Boelaars states in the preface of his book that the first summary of it appeared in 1958, i.e., 60 years ago. He may therefore have retired and may not have any affiliation. Jungnickel is presented in the preface to her book as the wife of the second author of the book. Because the second author was a professor emeritus, she may also be old enough not to have any institutional affiliation. As for Rothe and Munro, we could not find further information (it is thus possible that they have some affiliation). From these results, we can say that 35 individuals (i.e., 40 minus the above-mentioned four and one Ph.D. student in Table 13) out of 40 (87.5%) belong to so-called *sound* institutions, such as universities, as employees and thus that they are probably receiving salaries that are sufficient to live on. Only such people can make their works OA, and it is possible that only such people can conduct research.

Availability of Contents as Text Format

It was found that all 40 English titles we investigated were in PDF, HTML, or EPUB format and that the contents were available in text format. Such texts increase the opportunities for re-use, in line with the purpose of OA. Various applications are possible, such as use in book recommendation systems.

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[5] "by,""nc,""nd," and "sa" represent forms of Creative Commons licenses: "by" (you must give appropriate credit, provide a link to the license, and indicate if changes were made; you may do so in any reasonable manner, but not in any way that suggests the licensor endorses you or your use); "Non Commercial" or "nc" (you may not use the material for commercial purposes); "No Derivatives" or "nd" (if you remix, transform, or build upon the material, you may not distribute the modified material); and "Share Alike" or "sa" (if you remix, transform, or build upon the material, you must distribute your contributions under the same license as the original), respectively. <https://creativecommons.org/licenses/>

Table 12: Numbers of Authors or Editors

	1	2	3	4	Total
Author	15 (37.5)	1 (2.5)	0 (0.0)	0 (0.0)	16 (40.0)
Editor	4 (10.0)	9 (22.5)	8 (20.0)	3 (7.5)	24 (60.0)

Table 13: Affiliations of the First Authors or Editors

University Faculties	Professor	11 (27.5)
	Associate Professor	3 (7.5)
	Assistant Professor	2 (5.0)
	Reader	3 (7.5)
	Other	10 (25.0)
Institute Researchers		5 (12.5)
Museum Curator		1 (2.5)
Ph.D. Student		1 (2.5)
None		4 (10.0)
Total		40 (100.0)

DISCUSSION

As it can be seen in Figure 1, the number of OA books available through the DOAB is increasing at an accelerating rate. The DOAB is a representative directory of OA books. The results seem to indicate that the number of OA books in the world is increasing and such an approach to publishing is prevailing. Since many OA books are peer reviewed, and in that sense, reliable academic books, libraries should consider utilizing them. Adding the OA books to libraries' OPACs (or discovery services) and providing them in library collections are interesting directions.

As it can be seen in Table 7, some books became OA before being published. It would be interesting to determine whether publishers are making books public on the Web first, free of charge, and then deciding to publish (or not publish) as printed books depending on users' reactions. Ferwerda et al. (2013) reported that making books OA had no negative effects on their sales.

As it can be seen in Figure 5, the number and ratio of OA books that were originally published in 1999 or before are increasing. It would be interesting to explore whether these books are now out of print and publishers have decided to disseminate them again as OA books. Note that there are many valuable books that have unfortunately gone out of print (we leave it for future research to investigate whether they are actually out of print or not).

As it can be seen in Table 2, the three most popular subjects among OA books were Social Sciences (952 titles of LCC "H"), Science (864 titles of LCC "Q"), and World History and History of Europe, Asia, Africa, Australia, New Zealand, etc. (849 titles of LCC "D"). The most popular three languages in which the OA books were written were English (5,416 titles), French (2,665 titles), and German (1,062 titles) (see Table 4). However, this order may soon change because (1) the number of French titles was heavily influenced by Presses universitaires de Rennes, which abruptly made 928 French titles available in 2017 (French was the fourth most popular language in 2016; see Table 5); (2) no LCC categories were assigned to these 928 titles (i.e., they may be "H," "Q," "D," or other); and (3) Frontiers Media SA, the publisher that registered the most OA books in general[6] and as many as 392 OA books in the field of Science ("Q"), sharply reduced the number of OA books to be added in 2017 (down to 208 from 542 in 2016). If these publishers change their policies, the statistics on the languages and subjects of the DOAB might change.

CONCLUSION

In the present paper, OA books available through the DOAB were investigated and the number of titles, the distribution of subjects, languages, publishers, publication years, licensing patterns, etc., were clarified. Their chronological changes were also shown. The results showed that OA books were increasing at an accelerating rate. As for the distribution of subjects, Social Sciences ("H" in LCC), Science ("Q"), and World History and History of Europe, Asia, Africa, Australia,

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[6] Khanchandani and Kumar (2017) state that it was the most active OA book publisher.

New Zealand, etc. ("D") were the most popular. With regard to languages, English, French, and German were the most common. As for publishers, Frontiers Media SA, Presses universitaires de Rennes, and ANU Press had registered more books in the DOAB than any other publishers. Many books were newly published, but older books that had been published in 1999 or before have also begun to be available recently. As for the licensing patterns, "CC by-nc-nd" and "CC by" were the most popular. Considering these tendencies, libraries should begin to utilize OA books by, for instance, providing them as part of their collections.

As future research, we would like to investigate (1) the distribution of the levels of OA books (e.g., identifying how many books are suitable as textbooks for undergraduate students, how many are for expert researchers, and in which subjects) and (2) the business models adopted for each OA book (e.g., identifying who paid to publish it). Through these studies, better ways of utilizing and producing OA books will be clarified.

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Full Length Research

Awareness, Perception and Attitude towards Plagiarism by Distance Learners in University of Ibadan, Nigeria

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The issue of plagiarism by students in higher institutions all over the world continues to be a source of concern to stakeholders. Distance learners could be exposed to plagiarism as they might not have the on-campus academic guidance necessary to avoid plagiarism. Preliminary investigations have revealed that the focus of plagiarism studies in Nigeria has been on undergraduate and postgraduate students in the regular mode of learning. There seems to be a dearth of literature on the issues associated with plagiarism from the distance learners' point of view. This study examines the awareness, perception and attitude towards plagiarism by distance learning students in University of Ibadan, Nigeria. Descriptive survey research method was adopted and the study population consisted of 1762 distance learners in the University of Ibadan, Nigeria. The two-stage random sampling technique was used to select a sample size of 226 and the data collection instrument was the questionnaire. Findings revealed that most of the respondents had a high level of awareness of the various acts that constitute plagiarism (mean=26.53). Majority of the distance learners (89.6%) had a negative perception of plagiarism as they viewed it as a crime. Results also showed that a significant number of the distance learners had a negative attitude towards plagiarism as 90.1% indicated that they will ensure that they duly acknowledge their sources of information. Part of the recommendations was that the management of the distance learning and the university should develop a plagiarism policy that will be given to all the students.

Keywords: Awareness, perception, attitude, plagiarism, distance learners, Nigeria

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INTRODUCTION

Distance learners are students who acquire knowledge and skills in different disciplines outside the conventional school system where there is physical contact between the lecturers and the students and where learning is structured and rigid. Learners who get educated within the distance learning system have the opportunity to

learn from wherever they are, which gives them the opportunity to hold down jobs and study at the same time (Mabawonku, 2004). Distance learning brings flexibility into knowledge acquisition and ensures that individuals are not denied access to education. Most distance learners are matured individuals with family and work responsibilities, yet majority of them have the intrinsic motivation to succeed in their education (Ayorinde, 2001).

However, critical to the academic success of distance learners is the need for them to engage and excel in various academic activities like assignment completion, research, preparation for and writing of examination and also independent study. Distance learners would not be able to achieve all these without the use of information resources in different formats like print, audio-visual and electronic. In fact, Omoregie (2014) noted that distance education is arranged for students to learn at a distance with the use help of a variety of media. The trend presently is to use technology, especially the Internet to facilitate distance education. Otunla (2013) pointed out that the Internet has conquered the barriers of location and time in providing access to information. Through the Internet, distance learners can communicate with their instructors and also access myriads of electronic documents for academic use.

In as much as the Internet has the potential of assisting distance learners in retrieving electronic documents for research activities, it could also expose them to the trap of plagiarism. Oyewole (2017a) stated that the Internet is a useful tool and at the same time it could become detrimental if the ethics guiding the use of other people's words and ideas are jettisoned. Distance learners are especially at risk, because of not being on campus, they might not be familiar with plagiarism and its attendant consequences. In addition, their perceived busy activities in the face of deadlines for the submission of research reports and term papers could lure them into plagiarism. Park (2003) defined plagiarism as the act of stealing others' ideas and presenting them as one's own thought. Plagiarism is an unethical act that discards the concept of originality but embraces laziness of ideas through the claiming of other people's works and ideas. Hu and Lei (2015) noted that plagiarism is generally regarded as grave academic misconduct and is often associated with unethical acts that are condemnable like deception, cheating, academic crime, intellectual dishonesty and moral failing.

Distance learners could be exposed to various types of plagiarism. An example of this is the act of colluding or collaborating with friends by copying or downloading their papers from the Internet, after which the original names will be removed and replaced with the name of the plagiarists without modifications to the full text (Park, 2004; Roig, 2006). Other forms of plagiarism include copying from the Internet without paraphrasing and due acknowledgement, copying without reference, quoting without acknowledgement, paraphrasing without attribution, using fictitious citations and the act of duplicating one's work known as self plagiarism (Harris, 2001).

Cryptomnesia is another type of plagiarism that could be committed by distance learners. According to Roig (2015), this type of plagiarism is unintentional and could be committed unconsciously. A distance learning student would be guilty of cryptomnesia if he or she uses another person's idea without attribution based on the faulty impression or belief that the idea seems original as a result of frequent usage in different works. Moreover, because cryptomnesia is unintentional does not make the act less serious. This is because it is expected that after students complete the writing of an academic paper regardless of the type, they should be diligent enough to carefully crosscheck in order to submit a write up that is free of plagiarism. On the contrary, this seems not to be the case with some students as they fall victim of proper time management which makes them rush assignment and term papers, giving room for plagiarism so as to meet deadlines (Oyewole, 2017a).

The findings of the studies carried out by different scholars revealed that students' plagiarism in higher institutions seems be on the increase (Hosny and Fatima, 2014, Amiri and Razmjoo, 2015, Babalola, 2012, Maina, et al., 2014). This indicates that the issue of plagiarism is indeed a menace that stakeholders in distance learning education should be concerned about. Oyewole and Abioye (2016) noted that if drastic actions are not taken to address the issue of plagiarism, quality assurance of the education provided could be called into question. However, in order to assist the distance learners to avoid plagiarism, they need to be aware of what plagiarism is and thereafter, they need to display the ideal perception and attitude towards the act.

Awareness refers to the cognitive ability of a person to discern, decipher and judge a given phenomenon (Idiegbeyan-ose, et al., 2016). Reinhardt et al. (2015) noted that awareness refers to the knowledge about an object or event, the competences or skills as well as the methods of operation; it has to do with background knowledge about the object, event or any other phenomenon. It would be quite difficult for the distance learners to act in manner that depicts academic integrity if they are not aware of what constitutes plagiarism. Thus, if the distance learners are aware of the various forms of the unethical act of plagiarism, they might steer clear of them. On the other hand, if their level of awareness is low, they might engage in plagiarism even without knowing they have done so. In addition, the level of awareness of plagiarism could also assist in forming a perception of the act (Oyewole 2017b).

According to the Human Perception and Information Processing (2015), perception is viewed as the process of recognizing, organizing and interpreting sensory information. It deals with the human senses and generates signals from the environment through the five sense organs: sight, hearing, touch, smell and taste. Perception helps to create a mental picture about a phenomenon. Thus, the perception that distance learners have of plagiarism could create a

positive or negative mental picture which could determine whether they adhere to the ethics of academic writing or not. A distance learner with a perception that favors plagiarism might likely engage in plagiarism, while a student with a negative perception might abhor it. The perception displayed by distance learners towards plagiarism could influence their attitude towards it.

Bohner and Dickel (2011) were of the view that attitude can be defined as the evaluation of an object of thought by an individual. Such an object could be typified by anything a person may hold in mind, which could be mundane or abstract in nature like things, people, groups and ideas. This implies that attitude itself is not tangible, but its manifestations reveal the stance of an individual towards an object which could be tangible or intangible. Attitude towards an object of thought could be positive or negative. Thus, if a distance learner displays a positive attitude towards plagiarism, it means he or she favors the act. On the other hand, a negative attitude towards plagiarism reveals that a distance learner views plagiarism as an act that should be avoided. It is important to examine the attitude of distance learner towards plagiarism there is a nexus between attitude and actual behavior. This means that the attitude displayed by distance learners could determine whether they would plagiarize or not.

From the foregoing, it has become evident that the tide of plagiarism needs to be stemmed, because it is an act that could erode values like honesty and integrity associated with academic writing. In ensuring that distance learners are helped to steer clear of plagiarism, it is important to examine their level of awareness of the act and the type of perception and attitude they display towards it. This will provide insights into what should be done by stakeholders like the management of higher institutions that offer distance education, librarians and course facilitators in promoting academic integrity. It is based on this that this study is set to examine the awareness, perception and attitude towards plagiarism by distance learners in University of Ibadan, Nigeria.

STATEMENT OF THE PROBLEM

The issue of plagiarism by students in higher institutions all over the world continues to be a source of concern for lecturers and those in the position of management in these institutions. This is as a result of the seemingly prevalent rate of the practice of this unethical act by students in the ivory towers. Distance learners especially run the risk of engaging in plagiarism as they are on their own most of the time, and as such they might be without the needed academic guidance necessary to avoid plagiarism. Thus, it could be difficult for them to have a negative perception and attitude towards plagiarism, since they might not even be aware that they are committing an academic crime.

Even though the issue of plagiarism in Nigerian universities has been researched by some scholars, preliminary investigations revealed that much of the studies carried out focused on undergraduate and postgraduate students in the regular mode of learning. There seems to be a dearth of literature on the issues associated with plagiarism from the distance learners' point of view. It is based on this backdrop that this study examines the awareness, perception and attitude towards plagiarism by distance learning students in University of Ibadan, Nigeria.

RESEARCH QUESTIONS

This study will be guided by the following research questions:

1. What is the level of awareness of the various acts that constitute plagiarism by distance learning students of University of Ibadan?
2. What is the perception of plagiarism by distance learning students of University of Ibadan?
3. What is the attitude of distance learning students towards plagiarism in University of Ibadan?

LITERATURE REVIEW

The review of literature is aimed at providing empirical insights into the focus of the study. Due to the dearth of literature on distance learners and plagiarism, the literature review will adopt the funnel approach. With the use of this approach, the broad views of university students in general on issues associated with plagiarism will be considered and inferences drawn for distance learners. The literature review will be discussed in three subheadings. The first will focus on the awareness of plagiarism by university students. The second and third will review literature on the perception and attitude of university students towards plagiarism.

Awareness of plagiarism by university students

University students would find it difficult to avoid plagiarism if they are not aware of what constitutes plagiarism. Studies have provided insights into the level of awareness of undergraduates about plagiarism. Hosny and Fatima (2014) carried out a study on the attitude of students towards cheating and plagiarism in King Saud University, Riyadh, Saudi Arabia. The respondents included 115 undergraduate students and 25 Masters Students who anonymously answered the plagiarism survey. Results revealed that 72.17% of the respondents acknowledged that they were aware of what plagiarism is and 11.3% affirmed that they were not aware. In addition, 16.52% were uncertain. It is obvious from the results that the level of awareness of plagiarism by the respondents was high.

Guedes and Filho (2015) conducted a study on the perception of academic plagiarism among 199 undergraduates who were studying dentistry at the Universidade Estadual do Sudoeste da Bahia (UESB), Brazil. The questionnaire was used to collect data and subsequent analysis of the responses was done with the use of the Statistical Package for the Social Sciences (SPSS). From the findings, the researchers reported that all of the students (100%) stated that plagiarism is indeed a crime and that they were in full support of the Brazilian legislation provided to combat it. This is an indication that the undergraduates were fully aware of plagiarism.

Okere et al. (2016) studied the awareness of plagiarism as copyright violation with implications for intellectual property education in Babcock University, Ilishan-Remo, Ogun State, Nigeria and Redeemers University, Ede, Osun State, Nigeria. The study was cross-sectional in nature in which the researchers conducted four sessions of focus group discussion with eight final year students of mass communication. Results showed that every one of the discussants indicated that they were aware of what plagiarism is and what it stands for. They also acknowledged that plagiarism has really become a menace within academic institutions, and that most students plagiarize without even realizing the implications.

Louw (2017) did a survey that examined the perception of plagiarism by 2414 students of the North-West University Potchefstroom, South Africa. The questionnaire was used to collect data and from the findings, 98.7% of the students noted that they were fully aware that it would amount to plagiarism if a student copies directly from a source without due acknowledgement. Also, almost all the respondents (96.2%) pointed out that they were also aware that the act of buying a paper and submitting it as if it was originally written is plagiarism. These results showed a high level of plagiarism awareness by the students.

Some studies have also reported an average and low level of plagiarism awareness by university students. One of such is the one conducted by Idiegbeyan-Ose et al. (2016) that focused on the awareness and perception of plagiarism by 338 postgraduate students in federal, state and private universities in Ogun State Nigeria. The study was descriptive in nature and the questionnaire was the research instrument. Findings of the study showed that majority of the respondents 156 (46.2%) had an average level of plagiarism awareness. However, a little above two-fifths of the respondents 140 (41.44%) indicated that their awareness level of plagiarism was high and 42 (12.4%) noted that their awareness of plagiarism was low.

Also, Rhodes et al. (2011) were interested in whether business students in a university in the United States of America can recognize plagiarism or not. The study was exploratory in nature where 67 students with senior level standing who were enrolled in the College of Business capstone course, strategic management were asked to respond to the scenarios presented. Results showed that most of the respondents (46%) were not aware of what plagiarism is and an equally high percentage of students cannot recognize if a work has been plagiarized or not. This is an indication that the level of plagiarism awareness of this set of students was low.

From the review conducted, it is evident that the awareness of plagiarism by distance learners within the Nigerian environment could either be high, moderate or low. The level of awareness of plagiarism is very important as it could determine if they would commit the act or not.

Perception of plagiarism by university students

Some researchers who are interested in examining the perception of plagiarism by university students have carried out studies in this regard. Armstrong and Delbridge (2008) examined the perception of plagiarism by final year students in the Department of Information and Communications (DIC) at an unnamed university. The research instrument for the study was a self-completed questionnaire and results revealed that most of the students had a favorable perception of acts that constitute academic integrity rather than plagiarism. The students agreed with the positive statements that 'it is right to give authors credit for their work, that 'plagiarism is wrong' and that 'plagiarism undermines learning and creating their own ideas'. Expectedly, students disagreed with the negative statements like 'getting good grades is more important to me than citing materials and that 'there's no harm involved with plagiarism' and 'winning is more important than honesty'.

Fish and Hura (2013) researched into the perception of students on plagiarism in a large university in the United

States of America. The respondents were 334 with 194 undergraduates and 131 postgraduate students. Results showed that almost all of the respondents (96.4%) were of the view that the act of using an entire document by another author could be considered as very serious. In addition, close to four-fifths of the students (78.1%) also noted that the act of using another author's sentences/paragraphs is equally very serious. A little above half of the respondents (51.8%) also ranked the use of another author phrases as very serious. Therefore, it can be deduced that most of the students did not perceive plagiarism in a positive light.

Similarly, Oyewole (2017b) examined the awareness and perception of 251 undergraduates of the University of Ibadan, Nigeria on issues associated with computer ethics (plagiarism inclusive). The researcher adopted the descriptive research design with the questionnaire as the research instrument. Findings revealed that most of the respondents (mean=2.06) had a negative perception of plagiarism as they noted that it is unjust to copy so many works or ideas from electronic sources up to the point that the copied information makes up the majority of one's work whether due acknowledgment is given or not.

In contrast with the results of earlier studies, Okere et al. (2016) carried out a cross-sectional study in Babcock University, Ogun State Nigeria among final year undergraduate students where their perception of plagiarism was examined. Results from the focus group discussion that was conducted revealed that majority of discussants likened the issue of plagiarism to the garment transfer of Elijah to Elisha in the Bible, indicating that nothing is wrong with using the works of their colleagues in class assignment. This indicates that most of the final year students had a positive perception of plagiarism. In addition, the students were of the view that plagiarism was on the increase and that most students engage in the act without thinking of its implications.

Ayon (2017) also surveyed students' and instructors' perceptions of Turnitin as a deterrent to plagiarism at a private Lebanese English-speaking university. The students who were undergraduates (95 senior, 36 junior, 3 sophomore and 3 freshmen) were one hundred and thirty seven and data was collected both quantitatively with the use of questionnaire and qualitatively through interview. The quantitative result revealed that close to three-fifths of the students (56.8%) pointed out that they had intentionally plagiarized before or knew someone who had. Based on this the researcher noted that "quite a number of student participants seemed to be tolerant of plagiarizing behavior" (Ayon, 2017). The students during the interview identified lack of writing skills, academic pressure and the need to achieve higher grades as reasons why they engaged in plagiarism.

The review of literature has revealed a variation in the perception of plagiarism by university students. Thus, it is expected that the distance learners' perception of plagiarism could be one that favors plagiarism or one that repels it. Their perception could determine the attitude they will display towards plagiarism.

Attitude of university students towards plagiarism

Schrimsher et al. (2011) surveyed the attitudes of 557 undergraduate students towards the issue of plagiarism and academic misconduct at Samford University, Birmingham, Alabama, United States of America. From the findings, 96.9% of the undergraduates affirmed that the act of submitting a paper written by someone else in whole or in part is a grievous academic misconduct. In addition, almost all the undergraduates (97%) felt it was unacceptable for students to copy texts from the Internet and submit such as an original work for assignments and term papers without due acknowledgement. This reveals that most of the undergraduates had a negative attitude towards the unethical act of plagiarism.

Onuoha (2016) examined undergraduates' attitude to plagiarism and their personal information management behavior in Babcock University, Ogun State Nigeria. The population of students consisted of 214 students of the Department of Information Resource Management and the questionnaire was the data collection instrument. Results revealed that most of the respondents had a negative attitude towards plagiarism, as they rejected the statements which seemed to uphold plagiarism. Specifically, a significant number of the respondents (69.3%) rejected the idea that students who plagiarize are not doing the society any harm. In addition, (65.8%) of the respondents rejected the idea that the system of recycling information should be encouraged.

Contrary to the results of the two studies cited earlier, Ting (2013) also studied 169 second year undergraduates' attitude towards plagiarism in a university in Malaysia. Results showed that from the point of view of most of the students, plagiarism should not be considered as a serious academic offense that should attract heavy sanctions. In fact, a high number of respondents (89.94%) indicated that if a student plagiarizes, he or she should only be warned by the lecturers. Also, well over four-fifths (88.17%) submitted that plagiarists should be given another opportunity to resubmit a plagiarized assignment and 81.07% were of the view that any student who plagiarizes should be counseled. The responses of the students reveal their lax attitude towards plagiarism.

Walcott (2016) conducted a study that examined the attitudes of 90 second year computer science undergraduates towards plagiarism in Dominica, Grenada, St. Lucia, Trinidad and Tobago and St. Vincent, all in the Caribbean. The

questionnaire was used to collect data and findings revealed that a significant number of the undergraduates (80%) noted that they find it difficult to duly acknowledge other people's words. In the type of situation, the students seem to be incapacitated as regards how to give attribution to the ideas that are not theirs. This is an indication that this set of students might have an attitude that could be favorably disposed towards plagiarism.

It is quite clear that based on the review conducted in this subheading, distance learners could either have a positive attitude towards plagiarism or a negative one. This might ultimately have a bearing on their actual behavior as far as plagiarism is concerned.

THEORETICAL FRAMEWORK

Situation Awareness Theory and the Theory of Planned Behavior (TPB) are the theories that relate to the variables in the study. These theories will shed light and provide insights into the variables of study.

Situation Awareness Theory

The root of Situation Awareness could be traced to the early 20th century especially during the First World War when Oswald Boelke coined the construct as a result of the realization that gaining awareness before the enemies gained theirs is important (Winsen et al., 2015). However this theory was made popular by Mica Endsley who built on its earlier beginnings. According to Endsley (1995), situation awareness can be defined as "knowing what's going on…and the perception of the elements in the environment within a volume of time and space, the comprehension of their meaning and the projection of their status in the near future". Some scholars have applied this theory to the study of plagiarism (Idiegbeyan-Ose et al. 2016; Starovoytova and Namango 2017).

This theory is relevant to this study because it highlights the importance of the concepts of awareness and perception of a phenomenon like plagiarism. Thus, a distance learner that knows what is going on as far as academic writing is concerned cannot feign ignorance of plagiarism. He or she should be aware of the various acts that constitute plagiarism and the position of the management of the institution on them. In addition, after the distance learners are aware of plagiarism, they need to examine the perception of concerned stakeholders like lecturers and the management, as this will assist them to form their own informed perception. So, a distance learner who applies Situation Awareness Theory might display an attitude that abhors plagiarism.

Theory of Planned Behavior

The Theory of Planned Behavior (TPB) was propounded by Icek Ajzen. The constructs in TPB that predict intention and actual behavior are; attitude, subjective norm, perceived behavioral control, intention and actual behavior. According to Ajzen and Fishbein (2000), attitude has to do with an evaluation of an object or behavior with a view to establish how favorable and unfavorable it is. While subject norm refers to the pressure that is exerted by the society as far as a behavior is concerned and perceived behavioral control relates to the ease or difficulty associated with displaying a particular behavior based on previous experience and expected challenges.

This theory is relevant to the present study because it highlights the importance of attitude in developing an intention and the actual behavior. The theory reveals that the attitude displayed towards plagiarism by distance learners can go all the way to determine whether they would have the intention to plagiarize and eventually commit the offense or not. This means that if distance learners display a negative attitude towards plagiarism, it is expected that they will behave in a manner that depicts academic integrity. On the other hand, if the attitude is positive, there is a high tendency that they will engage in plagiarism.

METHODOLOGY

The population of this study consisted of distance learners (100 and 200 levels) who were undergoing undergraduate programs in the University of Ibadan, Nigeria. These students were in the six departments that got accreditation to run the various programs in the 2015/2016 academic session. According to the data collected personally from the Records Office of the Distance Learning Centre by the researchers, there were 1,762 undergraduate students who were offered admission at both 100 and 200 levels in these departments and this number forms the population for the study (Table 1). In order to get the sample size, the two stage random sampling technique was used. At the first stage, 60% of the accredited departments were randomly selected with the use of the balloting method (simple random sampling). With this, four departments were chosen. The second stage involved the selection of the sample size from the four

departments through the use of 20% sampling fraction. Thus, the total sample size for the study was 226 (Table 2).

The questionnaire was the instrument used for data collection and was developed based on the review of the relevant literature. The instrument was validated by subject experts in the Department of Library, Archival and Information Studies, University of Ibadan, before administration. Data was analyzed with the use of the Statistical Package for the Social Sciences (SPPS) version 20 and presented in form of descriptive statistics of frequency counts, percentages, mean and standard deviation.

Table 1. Population of the study

Departments	Number of distance learners
Philosophy	87
English	140
Social work	191
Economics	474
Political science	432
Psychology	438
Total	**1762**

Table 2. Sample size for the study

Departments	Number of distance learners	Sample size (20%)
Economics	474	95
English	140	28
Philosophy	87	17
Political science	432	86
Total	**1133**	**226**

Table 3. Questionnaire administration and return rate

Selected Departments	Distribution	Return
Economics	95	86
English Language	28	20
Philosophy	17	15
Political Science	86	81
Total	**226**	**202**

RESULTS

A total of 226 copies of the questionnaire were administered to the distance learners in the University of Ibadan across the four departments. However, 202 copies were returned and found useful for analysis giving a response rate of 89%. (Table 3).

Demographic characteristics of respondents

Table 4 revealed that majority of the distance learning undergraduate students 63 (31.2%) were between 26-30 years of age and only an individual 1 (0.5%) noted that his or her age fell between 46-50. There were more male distance learners 110 (54.5%) than their female counterparts 92 (45.5%). The respondents also included 141 (69.8%) who were Christians and 58 (28.7%) who practiced Islam. There were also individuals 3 (1.5%) who were adherents of the African Traditional Religion. Results on the marital status revealed that close of three-fifths of the respondents 119 (58.9%) were single, as 5 (2.5%) pointed out that they had undergone separation. Findings on the demographic information also showed that a significant number of respondents 61 (30.2%) noted that they were self-employed, while 39 (19.3%) indicated that they were employed in the private sector.

Table 4. Demographic information of respondents

Demographic characteristics	Frequency	Percentage
Age		
16 - 30	141	69.8
31 - 45	60	29.7
46 – 60	1	0.5
Gender		
Male	110	54.5
Female	92	45.5
Religion		
Christianity	141	69.8
Islam	58	28.7
African Traditional Religion	3	1.5
Marital Status		
Single	119	58.9
Married	78	38.6
Separated	5	2.5
Employment Status		
Employed by the government	53	26.2
Self employed	61	30.2
Employed in the private sector	39	19.3
Not employed	49	24.3

N=202

Table 5. Awareness of the various acts that constitute plagiarism by distance learners

Plagiarism acts	Highly Aware Freq %		Moderately Aware Freq %		Slightly Aware Freq %		Not Aware Freq %		Mean SD
Copying a paper from another student	86	42.6	57	28.2	36	17.8	23	11.4	3.02 1.03
Copying from the internet	101	50.0	58	28.7	35	17.3	8	4.0	3.25 0.88
Cutting and pasting from different sources	80	39.6	71	35.1	32	15.8	19	9.4	3.05 0.97
Quoting without acknowledgment	83	41.1	63	31.2	30	14.9	26	12.9	3.00 1.04
Quoting without paraphrasing and changing some words	68	33.7	69	34.2	44	21.8	21	10.4	2.91 0.98
Paraphrasing without attribution	71	35.1	57	28.2	53	26.2	21	10.4	2.88 1.01
Summary without attribution	62	30.7	64	31.7	53	26.2	23	11.4	2.82 0.99
Use of fake citation	53	26.2	60	29.7	49	24.3	40	19.8	2.62 1.08
Duplicating work for more than one submission without references	83	41.1	63	31.2	24	11.9	32	15.8	2.98 1.08
Overall mean score									**26.53**

Answers to research questions
Research question one: What is the level of awareness of the various acts that constitute plagiarism by distance learning students of University of Ibadan?

Table 5 presented the level of awareness of the various acts that constitute plagiarism by the respondents. In order to determine the level of plagiarism awareness, a test of norm of conducted (see appendix). The scale between 0-11 shows that the level of plagiarism awareness is low, the scale between 12-24 indicates that the awareness level of plagiarism is moderate and the scale between 25-36 shows that the level of plagiarism awareness is high. Thus, the overall mean for awareness of plagiarism acts as indicated by the responses of the distance learning undergraduate students is 26.53 which fall between the scale "25-36". Therefore it could be deduced that the level of awareness of plagiarism acts by most of the distance learners in University of Ibadan is high.

An indication of this high level of awareness can be seen from Table 5 as majority of the respondents clearly indicated that they were highly aware that copying from the Internet (mean=3.25), cutting and pasting from different sources (mean=3.05), copying a paper from another student (mean=3.02) and quoting without acknowledge (mean=3.00) all amount to plagiarism. This result further confirms that majority of the distance learning students are not ignorant of the various acts that could constitute plagiarism.

Research question two: What is the perception of plagiarism by distance learning students of University of Ibadan?

Table 6 presented result on the respondents' perception of plagiarism. For ease of presentation, strongly agree and agree were merged to become agree and strongly disagree and disagree were also merged to become disagree. Findings showed that majority of the distance learning undergraduate students had a positive perception about the need for them to become weary of plagiarism. This conclusion was arrived at because 181 (89.6%) of the respondents expressed that plagiarism is an academic crime, 168 (83.2%) agreed that plagiarism is an act that shows lack of integrity, 155 (76.7%) concurred that plagiarism shows lack of character and also 151 (74.7%) noted that plagiarism is a display of laziness.

Research question three: What is the attitude of distance learning students towards plagiarism in University of Ibadan?

Table 7 presented result on the attitude of distance learners towards plagiarism. For ease of presentation, strongly agree and agree were merged to become agree and strongly disagree and disagree were also merged to become disagree. Findings revealed a very high number of the distance learners 182 (90.1%) pledged that they will ensure that they give acknowledgement which is due at all times. In addition, a little above four-fifths of the respondents 168 (83.2%) affirmed that even though they had plagiarized before, they will not do it again. While, 169 (83.6%) agreed that they will not plagiarize because it is an academic crime. Thus, the results revealed that most of the distance learners had a negative attitude towards plagiarism.

DISCUSSION OF FINDINGS

Results showed that there was a high level of plagiarism awareness by majority of the distance learners in the University of Ibadan. This could be as a result of the efforts of some of the course facilitators who had drawn the attention of these students to what the meaning of plagiarism, its various forms and the dangers associated with plagiarizing. This aligns with the Situation Awareness Theory as the responses of the distance learners revealed that they were aware of what is going as far as plagiarism is concerned. This also agrees with findings of Hosny and Fatima (2014) among students in Saudi Arabia and that of Louw (2017) carried out in South Africa where they reported that most of their respondents had a high level of plagiarism awareness. On the contrary, results of the studies carried out by Idiegbeyan-Ose et al. (2016) in private universities in Ogun State, Nigeria and that of Rhodes et al. (2011) in the United States of America revealed that majority of the students had a low level of awareness of plagiarism.

Findings revealed that most of the respondents had a positive perception of the need to be conscious of plagiarism as an academic crime. The favorable perception could be as a result of their understanding of what plagiarism is. Since they had the knowledge that failure to abide by the ethical principles guiding scholarly writing comes with sanctions, they had to develop a positive perception towards its avoidance. This supports the results of the study done by Fish and Hura (2013) where most of the students in a United States university had a negative perception of plagiarism. Also, the

findings of the study conducted by Oyewole (2017b) among undergraduates of the University of Ibadan, Nigeria also corroborated the result of this study as a significant number of the respondents also had a negative perception of plagiarism as they considered it unjust. This has also validated the Situation Awareness Theory as perhaps one of the reasons why the distance learners were able to display a negative perception of plagiarism was because they took the views of the lecturers and management on plagiarism into consideration.

Most of the respondents had a negative attitude towards plagiarism. This implies that majority of the distance learners given the right circumstances and environment, would avoid plagiarism. This upholds the tenets of the Theory of Planned Behavior that consider attitude as an important construct in predicting actual behavior. A negative attitude towards plagiarism could lead to the avoidance of the act and vice versa. The result of the study is also in agreement with the findings of Onuoha (2016) who examined undergraduates' attitude towards plagiarism and their personal information management behavior in Babcock University, Nigeria. Results revealed that most of the respondents had a negative attitude towards plagiarism, as they rejected the statements which seemed to uphold plagiarism. Specifically, a significant number rejected the idea that students who plagiarize are not doing the society any harm. In addition, majority of the respondents rejected the idea that the system of recycling information should be encouraged. On the other hand, the findings of the studies on undergraduates' attitude towards plagiarism carried out by Ting (2013) in Malaysia and Walcott (2016) in the Caribbean were different from that of this study, as most of their respondents had an attitude that favored plagiarism.

Table 6. Perception of plagiarism by the distance learners

Statement	SA		A		D		SD		Mean	SD
	Freq	%	Freq	%	Freq	%	Freq	%		
Plagiarism is an academic crime	107	53.0	74	36.6	13	6.4	8	4.0	3.39	0.78
Plagiarism is an act of lack of integrity	106	52.5	62	30.7	21	10.4	13	6.4	3.29	0.90
Plagiarism is an act that shows lack of character	95	47.0	60	29.7	41	20.3	6	3.0	3.21	0.87
Plagiarism is a display of laziness	96	47.5	55	27.2	47	23.3	4	2.0	3.20	0.87
There is nothing wrong with plagiarism	19	9.4	36	17.8	78	38.6	69	34.2	2.02	0.95
If you plagiarize, then you are smart	16	7.9	48	23.8	76	37.6	62	30.7	2.09	0.93
Almost everybody engages in plagiarism, so it is not wrong	31	15.3	35	17.3	68	33.7	68	33.7	2.14	1.05
Plagiarism has nothing to do with morals	22	10.9	63	31.2	56	27.7	61	30.2	2.23	1.00

Table 7. Attitude of distance learners towards plagiarism

Statement	SA		A		D		SD		Mean	SD
	Freq	%	Freq	%	Freq	%	Freq	%		
I will not plagiarize because it is an academic crime	115	56.9	54	26.7	24	11.9	9	4.5	3.36	0.79
Even though I had done it before, I will not do it again	78	38.6	90	44.6	26	12.9	8	4.0	3.18	0.80
I will make sure I give acknowledgment which is due at all times	103	51.0	79	39.1	10	5.0	10	5.0	3.16	0.79
I do not see individuals who plagiarize as serious minded people	81	40.1	55	27.2	52	25.7	14	6.9	3.00	0.97
I resent the idea of plagiarism	63	31.2	81	40.1	49	24.3	9	4.5	2.98	0.86

CONCLUSION

Plagiarism is an issue that is on the front burner in the world of academics due to its prevalent rate among students and researchers. This has led to the resurgence in the intensity of plagiarism awareness creation by relevant stakeholders. The high level of awareness of plagiarism by the distance learning students indicates that success is being recorded in this regard. This is also revealed in the positive perception and attitude displayed towards plagiarism avoidance by the distance learners. The more the present level of awareness is sustained, the more the perception of and the attitude towards plagiarism becomes more favorable. This could lead to better appreciation for novel work by the students and an improvement in the quality of research at that level. Plagiarism like any other deviant behavior in the society might be difficult to eradicate, but with increased awareness creation and favorable perception and attitude, it can be deduced to the barest minimum.

RECOMMENDATIONS

1. In order to sustain the level of awareness of the various acts that constitute plagiarism by the distance learners, there is a need for the management of the distance learning centre to liaise with the management of the university to develop a plagiarism policy that will be given to all the students. The plagiarism policy will succinctly identify what plagiarism is and also detail the consequences that will result if a student plagiarizes. This policy will help to institutionalize the process of awareness creation and also could induce the distance learners to have a favorable perception and attitude towards plagiarism.
2. The negative perception of plagiarism displayed by the distance learners can be strengthened if the librarians in the university library use different electronic platforms that are accessible to the students in providing instructions on how to write without plagiarizing. This could enhance the capacity of the distance learners in academic writing and also assist them to have a negative mental image of plagiarism.
3. The negative attitude towards plagiarism by the distance learners can be sustained if the academic advisors and course facilitators emphasize the need to eschew plagiarism and embrace hard work to the students whenever they have the opportunity.

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APPENDIX

Test of norm for level of awareness of plagiarism acts
   The scale that was used to measure the level of awareness of plagiarism has nine items and four measures (Highly aware, moderately aware, slightly aware and not aware). The maximum score obtainable is (4 x 9)= 36. Test of norm is divided into three that is high, moderate and low. Thus, 36 /3=12

Interval table for level of plagiarism awareness of the respondents

Interval	Overall mean score image	Remark
0 - 11	-	Low
12–24	-	Moderate
25–36	26.53	High

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Full Length Research

The Role of Librarians in Resolving Conflict in Nigeria: Case Study of University Of Agriculture Makurdi Library

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This study examined the role of librarians in resolving conflict in Nigeria with particular reference to University of Agriculture Makurdi library. Three objectives were achieved and three research questions were answered. Population for this study was 120 subjects comprising of professional and para-professional librarians and was used as sample for the study. Instrument used for this study was constructed questionnaire title 'Role of Librarians in Resolving Conflict in Nigeria Questionnaire (RLRCNQ)' and it was validated and tested by lecturers in department of library and information science of Benue State University Makurdi. Data was collected and analysed using mean. Findings revealed that there are services available for librarians in conflict resolution in University of Agriculture Makurdi. Also use of electronic mobile technologies and social media tools were the media through which librarians offer their services. The study concluded that there are problems encountered by librarian in rendering conflict resolution service. Library staff play vital role in resolving conflict. It was recommended that the identified strategies for conflict resolution should be used by agency for conflict management to resolve conflict among people in Nigeria, University management should ensure proper implementation of established library policy on conflict management information services and technological infrastructures like internet facilities for enhancing information dissemination should be established.

Key words: Librarians, Resolution and Conflict

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INTRODUCTION

The prevalence of conflict in the country has become a major concern for the well-meaning Nigerians considering the impact on the peace, security as well as the economy of the nation. Destruction of lives and properties has almost become an everyday affair. These happenings have created a fearful atmosphere that discourages investors both domestic and foreign. By and large the economy of the nation is threatened. In explaining the political situation in the country; three terms need to be clarified. They include: crisis, conflict and violence. Crisis is the aftermath of conflict and violence.

The high level of insecurity occasioned by armed robbery, kidnapping, the agitation for the sovereign state of Biafra, militancy in the Niger-Delta, the menace of Fulani's herdsmen, *Miytti Allah* and Boko Haram terrorists activities necessitated the need more than ever before to interrogate the concept of governance. This is because it is believed that governance has a role to play in ensuring security and sustainable peace in Nigeria and elsewhere. It is against this

backdrop that Section 14(2)(b) of the 1999 Constitution of the Federal Republic of Nigeria as amended regards security and welfare of the citizens as job number one of government (Blench,2010).

Resolution is a collaborative problem-solving, a cooperative taking together process that leads to choosing a plan of action that both of you can feel good about. (Heitler, 2011) There are undoubtedly serious security issues challenging the peace and national security of the nation. Security is crucial to a nation's sustainable development. Production and industrial activities can only strife in an enabling environment. Challenging issues currently facing the country include: Political Violence, Extremism (Boko Haram) or insurgency, Communal violence, kidnapping, the Niger Delta, Maritime insecurity among others. If these issues are considered critically, irreconcilable differences and struggle between individuals and groups over access to power, opportunities and privileges that go with it are not farfetched. (Fred-Mensah, 2008) provides a broad definition of the term conflict resolution, to embrace conflict management and social control. This involves the principles, methods and skills that are employed to prevent, reduce, or resolve conflict. Thus, Conflict resolution includes post conflict activities such as reconciliation, reinsertion, reintegration, and rehabilitation of ex-combatants and war-affected persons, plus the design and implementation of early warning systems.

Libraries are part of the community. They are more than four walls and shelves of books. A library is a place where all walks of life may be present; a place where people can gather to meet new people, discuss books read or articles discovered even get together with others is a valuable component of successful community life and increase people's confidence and self-esteem. According to Zickuhr, Rainie & Purcell (2013), library is a place where community-building connections are happening. Library provides the opportunities for people to interact and connect with others and foster a sense of belonging to a community. People may go to the library looking mainly for information, but they find each other and discuss current and pressing events in the community. The roles of librarians are crucial in this era of fading service personnel. They provide help and ensure the library functions effectively; they are also a part of the community who utilizes available resources within the four walls and outside in the whole world in meeting the information needs of the community. Librarians know their communities firsthand, and are often the first to recognize a pressing local need, owing to their interaction on a daily basis with patrons from all walks of life. They are in the best position not only to bring local issues to municipal governments and social agencies, but also to partner with local governments and agencies to address the needs of a community.

Social responsibility is a part of librarianship (Kagan, 2005). The issue of national security is therefore core value of librarianship. Since no meaningful learning, education and development can take place in a context of insecurity and brazen destruction of lives and properties, the onus lies on the library for responsible librarianship through dissemination of information that can contribute to peace and national security in Nigeria by helping the citizens to understand their role in national security. The library as a storehouse of information has positively altered its scope of influence across time to become not only a place that houses books but a gateway through which information can be conveyed to people irrespective of location.

Threat to Conflict

For a long time after African countries gained their independence; there is a growing recognition among Africans themselves that the continent must look beyond its colonial past for the causes of current conflicts. The major factors identified are political, external, economic motive, and ethnic and religious in nature.

Political Factors

The nature of political power in many African nations, together with the real and perceived consequences of capturing and maintaining power, is a key source of conflict across the continent. It is frequently the case that political victory assumes a winner-takes- all form with respect to wealth and resources patronage, and prestige and prerogatives of office (Blench &Denodo, 2003). Anatolii Karpou, President, Informational Peace Foundation said that "The cause of conflicts in the commonwealth of independent states was, for the most part, not ethnicity but political power. For example, while there was no personal hostility between the people of Georgia and Azerbaijan, they struggled for authority to govern territory" (Fiki& Lee, 2005).

External Factors

During the cold war, external efforts to bolster or undermine African governments were a familiar feature of super-power competition. With the end of the cold war, external intervention has diminished but has not disappeared. In the competition for oil and other precious resources in Africa, interests external to Africa continue to play a large and sometimes decisive role, both in suppressing conflict and in sustaining it. Foreign

interventions are not limited, however, to sources beyond Africa.

For example, during Sierra Leone civil war, Charles Taylor was interfering by supplying arms and fighters to rebels in exchange for diamond. Likewise, Britain supplied arms to Nigeria against the Biafran rebels during the Nigerian-Biafra crisis (Adewuyi, 2009).

Economic Factors

Despite the devastation that armed conflicts bring, there are many who profit from chaos and lack of accountability, and who may have little or no interest in stopping a conflict and much interest in prolonging it. Very high on the list of those who profit from conflict in Africa are international arms merchants. Also high on the list, usually are the protagonists themselves (Ani, 2009). In Liberia for instance, the control and exploitation of diamonds, timber, and other raw materials was one of the principal objectives of the warring factions. Control over these resources financed the various factors and gave them means to sustain the conflict. In addition to the broader sources of conflict that have been identified, a number of other factors are especially important in particular situations and sub regions which include government policies, development patterns, ethnic/religious factors, and inadequate information dissemination.

Government Policy

The first root cause of war was that most governments used models of economic development that hurt the poor. Such polices had been implemented in countries such as Zimbabwe and the United States, widening the income gap between the rich and the poor. Another important cause of war was the growing intolerance for diversity, especially by people in power. For example, Echezona (2007) explained that the policy of redistributing white owned-lands in Zimbabwe could be a political game play by Robert Mugabe to get rural farmers on his side and, at the same time, a pragmatic policy to "right the wrongs of the past". Whichever way it is, the success of such a venture has been hinged on international goodwill, which has, however, allied itself to popular opposition forces against Mugabe.

Zimbabwe has since been mired in economic cornucopia, a situation that has arisen due to possible incorrect approaches to development and pressures from donors and foreign concerns. Another example is the transition to civil rule policy of the Babangida regime in Nigeria, which came to an impasse with the annulment of the June 12, 1993 election, that the SDP (Social Democratic party).

Presidential candidate, MKO Abiola, was poised to win. Consequently, there was conflict on the street, and eventual loss of lives.

Consequences of Conflict

Africans have witnessed many civil wars to date: the Liberian internal crisis, the Angolan civil war, the Sierra-Leone political internal strife under Mobutu, in the former Zaire (now Democratic of Republic of Congo –DRC), and the Nigeria-Biafra war, among others. These countries have witnessed negative consequences such as poverty and displacement of people in Benue, Taraba, Rivers and in Ekiti state as a result of herds men killing. A former defunct OAU

Secretary General has this to say:

> Conflicts have cast a dark shadow over the prospects for a united, secure and prosperous Africa which we seek to create--- conflicts have caused immense suffering to our people, and in the worst case, death. Men, women and children have been uprooted, dispossessed, deprived of their means of livelihood and thrown into exile as refugees as a result of conflicts…. Conflicts have engendered hate and division among our people and undermined the prospects of the long term stability and unity of our countries and Africa as a whole." Quoted in (Deng, et al. 1996).

Conflict and poverty are intricately interrelated. It retards economic and social developments and may be conceptualised as "development in reverse" (World Bank, 2005).

Information Dissemination: The Role of librarians in Conflict Resolution

Historically, libraries have always been a key contributor to national development and it is appropriate that they take a leadership role in the current movement on national security.

Recent studies have noted that lack of adequate or balanced information was the most significant cause of most of the

violent conflicts. This seems to be true because without knowledge and information, there is likely to be a conflict. The African continent, witnessed the introduction of "genocide" in the African lexicon in Rwanda in 1994, and evidence points to the negative role of the mass media, especially Radio Miles Colines, in preparing the minds of Hutus against Tutsis. As the apparatus of the Hutu State, the radio station tried to portray Tutsis as demons that must be exterminated from the face of the earth, and in an attempt to wipe the Tutsis out, Hutus themselves suffered one of the worst refugee crises on the African continent (Haruna, 2009).

Information dissemination or communication has been described as a need comparable with other basic human needs. Free flow of information is a right of the people which enables them to participate effectively in the process of economic, social and political activities in the society, and enhances education, knowledge and learning (Laloo, 2002). Therefore, for any nation to make meaningful impact in conflict prevention, peace promotion and conflict resolution, early warning information is needed. Timely alert to potential conflicts is central to an early warning system which, in order to be meaningful, must be complemented by early political action. Such alertness underlines the predictive capability of any early warning system. To that extent, therefore, early warning should not be seen as an end in itself, but rather, as a tool for preparedness, prevention and mitigation of conflicts, the efficiency of which is predicated upon a clear methodology for data collection, analysis and information exchange (Laloo, 2002).

Early warning information should be facts on the matter. Some of this early warning information, which could include internet, community radio, television, video conferencing and voice over of Internet protocol (Volp), email, print media, and reference services, are important, in order for people to know the implications of embarking on the conflict. This information can be given first to those who can take constructive action. This generally means government and groups likely to be immediately involved in efforts to prevent the crisis such as the United Nations, UN Security Council, religious and media organizations.

Libraries, information centers, and librarians have a strategic position in taking the role of information dissemination through the library resource and programs which include: talk show, symposium, library week, book exhibition, book fair, mobile library in rural areas. It is believed that some of these conflicts could be avoided, if there were adequate communication among the warring communities and peace makers before they broke out. In other words, if there were information channels that are open to everybody, then the conflict would have been contained. Timely alert to potential conflicts is central to an early warning system which in order to be meaningful, must be complemented by early political action (Echezona, 2007). For any nation to make meaningful impact in conflict prevention, peace promotion and conflict resolution, early warning information is needed. Free flow of information in any society is also very important because absence of it brings about conflict (Laloo, 2002). (Echezona, Ozioko, & Ugwuanyi, 2011) stressed that Library and information service is a key player in providing unhindered access to essential information resources for economics and cultural advancement. Effective information dissemination through libraries and internet will put the leaders and the people at alert on facts of potential and conflict, including their causes, evolution, consequences and solutions (Echezona, 2007). Services that could be rendered and the collection of an academic library determine its involvement in conflict resolution. (Haruna, 2009) included in his study current awareness services, selective dissemination of information and organizing seminars, conference, workshops and symposia as services that could be rendered by academic libraries for conflict resolution. (Adewuyi, 2009) considered government publications such as gazettes, constitutions, government bulletins and materials of cultural heritages as veritable tools in conflict resolution that should be included in the library collection. Research has revealed the efficacy of libraries and information centers in conflict resolution. The World Bank Report (World Bank Report, 2005) states that countries such as Ethiopia, Namibia, Uganda, Somalia and Liberia had mobilized library community resources in innovative ways, such as organizing seminars, conferences and workshop on conflict resolution, creating access to free information, providing links with non-governmental organizations, extension services and indigenous knowledge systems, repackaging information in a way that illiterate ones would be able to comprehend it, creating a web site on conflict resolution where the target users can access and discuss matters relating to conflict resolution.

Library has potentials to work with any of the media e.g.TV, radio for propaganda through which the ideology and beliefs of a group is expressed to effect a timely intervention in conflict periods. Some early information media through which library can create awareness of the imminent conflict include internet, community radio, television video conferencing, email, print media and reference services.(Ahiazu, 2007) stated that the need for libraries and information in the developmental efforts of any society is basically that of survival. Libraries have the capacity to work with non-governmental organizations to organize out-reach programmes for distribution of information materials, delivering lectures and talks which would stimulate discussion among the participants to encourage them to embrace simple steps to promote peace and resolve conflicts. Essentially, public and academic libraries are equipped to function in this capacity. However, the realization of the potential roles of the academic libraries in offering services for conflict resolution has prompted some universities to introduce the course "Peace and conflict resolution" as general studies course as it is the Nigerian University where peace and conflict resolution studies is taught as one of the general studies. (Ani, 2009) also agitated for the learning of inter-religious socialization as a peace education subject for lifelong

education that would promote peace in the country.

OBJECTIVES OF THE PAPER

The main objective of this paper is to examine the role of librarians in resolving conflict. Specifically, the study seeks to:
5.   examine the services available for librarians in conflict resolution;
6.   identify the media through which librarians offer their services;
7.   identify the problems encountered by librarian in rendering conflict resolution service.

RESEARCH QUESTIONS

The following questions guide the study:

 i.   What are the services by Liberian in conflict resolution?
 ii.   What are the media through which librarians offer their services?
 iii.   What are the problems encountered by librarian in rendering conflict resolution service?
 iv.   What are the roles of Liberians in resolving conflict?

METHODOLOGY

The area of the study is Benue State. This study employed a survey research design. The population for this study was 120 subjects comprising 31Professionalsand 89Para-Professionals from University of Agriculture Makurdi library. There was no sampling for the study. The entire population was used for the study as sample because the population size could be handled effectively by the researcher.

   The instrument for the study was a structured questionnaire titled "Role of Librarians in Resolving Conflict in Nigeria Questionnaire (RLRCNQ). The instrument which was developed by the researcher was divided six sections based on the research objectives. The questionnaire had restricted response options of strongly agree (SA), agree (A), disagree (D) and strongly disagree (SD) with corresponding values of 4, 3, 2 and 1 respectively. The data for this study will be collected by the researcher and 3 research assistants.

   Data collected was analysed using descriptive statistics. Mean was used to answer the research questions. The bench mark for this was 2.50 (4+3+2+1=10/4=2.50). The decision rule was: any item with a mean value of 2.50 or above was regarded as agree while any item with a mean value of less than 2.50 was regarded as disagreement.

RESULTS AND DISCUSSION

Research Questions 1

What are the services available for librarians in conflict resolution?
Data for answering research question 1 is presented in Table 1.

Results in Table 1 shows that all the 8 items had mean values ranged from 2.86 to 3.22 and were above the bench mark of 2.50 while the standard deviation of the respondents ranged from 0.97 to 1.33 which was an indication that the respondents were not too far from the mean and from one another in their responses on the services available for librarians in conflict resolution. This implies that the items are services available for librarians in conflict resolution in University of Agriculture Makurdi.

Research Question 2

What are the media through which librarians offer their services?
Data for answering research question 2 is presented in Table 2.

Results in Table 2 shows that all the 9 items had mean values ranged from 2.68 to 3.43 and were above the bench mark of 2.50 while the standard deviation of the respondents ranged from 0.57 to 0.98which was an indication that the respondents were not too far from the mean and from one another in their responses on the media through which

librarians offer their services. This implies that the items are the media through which librarians offer their services in University of Agriculture Makurdi.

Research Question 3

What are the problems encountered by librarian in rendering conflict resolution service?
Data for answering research question 3 is presented in Table 3.

Results in Table 3 shows that all the 9 items had mean values ranged from 2.59 to 3.38 and were above the bench mark of 2.50 while the standard deviation of the respondents ranged from 0.79 to 1.36 which was an indication that the respondents were not too far from the mean and from one another in their responses on the problems encountered by librarian in rendering conflict resolution service. This implies that the items are the problems encountered by librarian in rendering conflict resolution service in University of Agriculture Makurdi.

Table 1: Mean and Standard Deviation of Respondents on the services available for librarians in conflict resolution

S/N	Item Statement	SD	D	A	SA	N	Mean	Std. Dev	Remarks
1	Organization of workshops on conflict resolution	26	16	10	68	120	3.00	1.26	Agree
2	Display of topical issues concerning conflict resolution	13	40	18	49	120	2.86	1.08	Agree
3	Dissemination of information resources on security issues	4	50	17	49	120	2.93	0.98	Agree
4	Organization of lectures	13	14	46	47	120	3.06	0.97	Agree
5	Organization of conferences	2	23	42	53	120	3.22	0.81	Agree
6	Library week activities	7	41	14	58	120	3.03	1.03	Agree
7	Organization of seminars on conflict resolution	6	44	14	56	120	3.00	1.02	Agree
8	Radio/TV partnership programs	5	26	34	55	120	3.16	0.91	Agree

Source: Field study, 2018

Table 2: Mean and Standard Deviation of Respondents on the media through which librarians offer their services

S/N	Item Statement	SD	D	A	SA	N	Mean	Std. Dev	Remarks
	Use of electronic mobile technologies								
9	IPads	12	10	33	65	120	3.26	0.98	Agree
10	Kindles	11	15	90	4	120	2.73	0.67	Agree
11	Smartphones	9	9	61	41	120	3.12	0.84	Agree
12	other mobile devices	3	7	90	20	120	3.06	0.57	Agree
	Use of social media tools					120	2.93	0.63	
13	Facebook	4	49	48	19	120	2.68	0.78	Agree
14	Google	6	24	24	66	120	3.25	0.95	Agree
15	Twitter	12	2	29	77	120	3.43	0.94	Agree
16	LinkedIn	8	17	27	68	120	3.29	0.95	Agree
17	Academia.edu	5	28	12	75	120	3.31	0.97	Agree

Source: Field study, 2018

DISCUSSION OF FINDINGS

Research question one was on the services available for librarians in conflict resolution. Findings revealed that organization of workshops on conflict resolution, display of topical issues concerning conflict resolution, dissemination of information resources on security issues, organization of lectures, organization of conferences, library week activities, organization of seminars on conflict resolution and Radio/TV partnership programs are services available for librarians in conflict resolution in University of Agriculture Makurdi. This finding support the study of Laloo (2002) who found out that free flow of information is a right of the people which enables them to participate effectively in the process of economic, social and political activities in the society, and enhances education, knowledge and learning. Therefore, for any nation to make meaningful impact in conflict prevention, peace promotion and conflict resolution, early warning information is needed. Timely alert to potential conflicts is central to an early warning system which, in order to be meaningful, must be complemented by early political action. Such alertness underlines the predictive capability of any early warning system.

   Research question two was on the media through which librarians offer their services. Findings revealed that use of electronic mobile technologies such as iPads, Kindles, Smart phones and use of social media tools,

Table 3: Mean and Standard Deviation of Respondents on the problems encountered by librarian in rendering conflict resolution service

S/N	Item Statement	SD	D	A	SA	N	Mean	Std. Dev	Remarks
18	Lack of established library policy on conflict management information services.	30	11	3	76	120	3.04	1.32	Agree
19	Lack of funds for rendering the right information services for conflict resolution.	37	13	6	64	120	2.81	1.36	Agree
20	Lack of technological infrastructure e.g. Internet facilities for enhancing information dissemination.	6	5	46	63	120	3.38	0.79	Agree
21	Breakdown in communication due to lack of literacy skills of community members	22	33	29	36	120	2.66	1.09	Agree
22	Librarians' lack of skills in organizing and disseminating vital information for conflict resolution.	34	16	11	59	120	2.79	1.32	Agree
23	Lack of government support in generating vital information for conflict resolution.	28	40	5	47	120	2.59	1.23	Agree

Source: Field study, 2018

Facebook, Google, Twitter, LinkedIn as well as Academia.edu were the media through which librarians offer their services. The finding affirms a study by (Ahiazu, 2007) who found out that Library has potentials to work with any of the media e.g.TV, radio for propaganda through which the ideology and beliefs of a group is expressed to effect a timely intervention in conflict periods. Some early information media through which library can create awareness of the imminent conflict include internet, community radio, television video conferencing, email, print media and reference services.

   Research question three was on the problems encountered by librarian in rendering conflict resolution service. Findings revealed that lack of established library policy on conflict management information services, lack of funds for rendering the right information services for conflict resolution, lack of technological infrastructure e.g. internet facilities for enhancing information dissemination, breakdown in communication due to lack of literacy skills of community members, librarians' lack of skills in organizing and disseminating vital information for conflict resolution and lack of government support in generating vital information for conflict resolution were the problems encountered by librarian in rendering conflict resolution service.

CONCLUSION

This study examined the role of librarians in resolving conflict in Nigeria with particular reference to University of Agriculture Makurdi library. The study found out that there are services available for librarians in conflict resolution in University of Agriculture Makurdi. Also use of electronic mobile technologies and social media tools were the media through which librarians offer their services. However, there are problems encountered by librarian in rendering conflict resolution service. Library staff play vital role in resolving conflict.

SUGGESTIONS

Based on the findings of the study, the following suggestions are made:

i.   The identified strategies for conflict resolution should be used by agency for conflict management to resolve conflict among people in Nigeria
ii.   University management should ensure proper implementation of established library policy on conflict management information services
iii.   Technological infrastructures like internet facilities for enhancing information dissemination should be established
iv.   Library staff should be given proper training on skills organization and dissemination of vital information for conflict resolution.

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Full Length Research

Challenges of full implementation of Koha In University of Jos Library

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This paper appraised the implementation of Koha in University of Jos Library and went further to enumerate and discuss the challenges faced in the implementation of Koha and provided solutions to some of the challenges faced. This research work is based on personal experiences gotten in the course of the researcher's daily work. It was discovered that the library has adopted and used Koha for online library management and dissemination of library services as a means to improving service delivery. The major challenges found, that hinders the full implementation of KOHA in University of Jos Library includes: Poor Internet Connectivity, Lack of Technical Know-How, Un-acceptance of the Library Management system in use, Unwillingness to embrace change, Different Locations of the Library, Non-use of all the Modules. The findings of this study will serve a very useful purpose for University of Jos Library in particular and other libraries across Nigeria.

KEY WORDS: Library Management software, Implementation, Software, Librarians

INTRODUCTION

Libraries of today must differ in operations and services from those of yesterday as users' needs have changed. The most prominent technological tool used for the management of information resources is the Library Management Software (LMS) which is also called Integrated Library System (ILS). The University of Jos library is a leading light in the use of ICT to deliver services on campus. The library's use of ICT –computers, development and up loading of materials on the Intranet, attracted curiosity by lecturers and students (Akintunde, 2004). The use of library management system has brought about changes in the library scene and has improved library service delivery today. Library Management Software has interfaces for both staff and users where they can search for records as well as where staff can work. Library management systems encompass all the functions of the library including the manual operations of the library which have been better improved today and aimed at meeting the needs of users.

OBJECTIVES OF THE STUDY

This study tries to achieve the following objectives

1. Enumerate the experience of University of Jos library in the implementation of KOHA
2. List and examine the challenges faced in the utilization and implementation of KOHA
3. Suggest ways to improving the use and implantation of KOHA

LITERATURE REVIEW

According to (kumar et.al, 2014) Library Management System is an application which refers to library systems which are generally small or medium in size. It is used by librarians to manage the library using a computerized system where he/she can record various transactions like issue of books, return of books, addition of new books, addition of new students etc. Furthermore, Library Management System is a computerized system which helps users (librarian) to manage the library daily activity in electronic format. It reduces the risk of paper work such as file lost, file damaged and time consuming. It can help users to manage the transaction or record more effectively and time-saving.

Library Management Systems can either be Proprietary or Open Source. Koha is an open source software that is increasingly been adopted in University Libraries, Public Libraries and schools today in Nigeria.

(Pankaja and Mukund, 2013) define Open source software is a computer software with its source code made available and licensed with an open-source license in which the copyright holder provides the rights to study, change and distribute the software for free to anyone and for any purpose. Open-source software is very often developed in a public, collaborative manner. Open-source software is the most prominent example of open-source development and often compared to (technically defined) user-generated content or (legally defined) open-content movements while they also define Proprietary software- The term proprietary is derived from the Latin word proprietas meaning property. Proprietary Software is computer software licensed under the exclusive legal rights of the copyright holder. Proprietary software is developed by a person or firm who has rights of using existing or developing new tools to create new software. A proprietary software developer sells or provides his creation under some concrete conditions which should be followed in order to avoid any legal issues. In general, these concrete conditions involves usage using software with a purchased license, within the permitted boundaries, no modification allowed, no further re-distributions and no reverse engineering to applied.

KOHA Library Management System

Koha, the first open source integrated library system Originated in New Zealand by Katipo Communications Ltd. and maintained by a team of volunteers from around the globe, the Koha system is a full catalogue, OPAC, circulation and acquisitions system. Koha is a full integrated library system - managing your catalogue, circulation, patrons, acquisitions and providing public access to your library via the internet. Koha is used by public libraries, private collectors, university faculties, not-for-profit organisations, churches, schools and corporations from around the world (Katipo, 2013)

BRIEF HISTORY OF LIBRARY MANAGEMENT SYSTEM IN UNIVERSITY OF JOS

University of Jos library came into inception in 1972 and currently has three (3) branches:

- Bauchi Road Campus Library
- Law Library
- Lamingo Medical Library

University of Jos began the use of Library management system in order to meet up with changes in the library scene and to also promote efficiency and effectiveness in its service delivery. The library has used different Library management systems in the past such as Virtua and Integrated Technical Service (ITS) for windows. Currently University of Jos library uses open source Library Management software called KOHA. University of Jos Library installed Koha Library Management System on the 28th of September, 2013. Currently, we have 44,919 records in the system. The modules in use by the University of Jos Library are the Circulation and Cataloguing Modules. KOHA library management system has been modified by the library and runs on the cloud (library.unijos.edu.ng) and on a Local Area Network (LAN) (196.220.224.10:8000). Following the installation of KOHA Library Management system, University of Jos Library has been able to train its staff on the use of some of the Modules e.g. Cataloguing and Circulation Module, Register library patrons, Migration of Library records from VTLS to KOHA, Itemization of Library Records, and most Importantly save funds which was formerly spent by the University on ITS licensing.

Presently, Cataloguing of books is done on the local server with only the books that were migrated from the former system on the cloud. Books that are currently
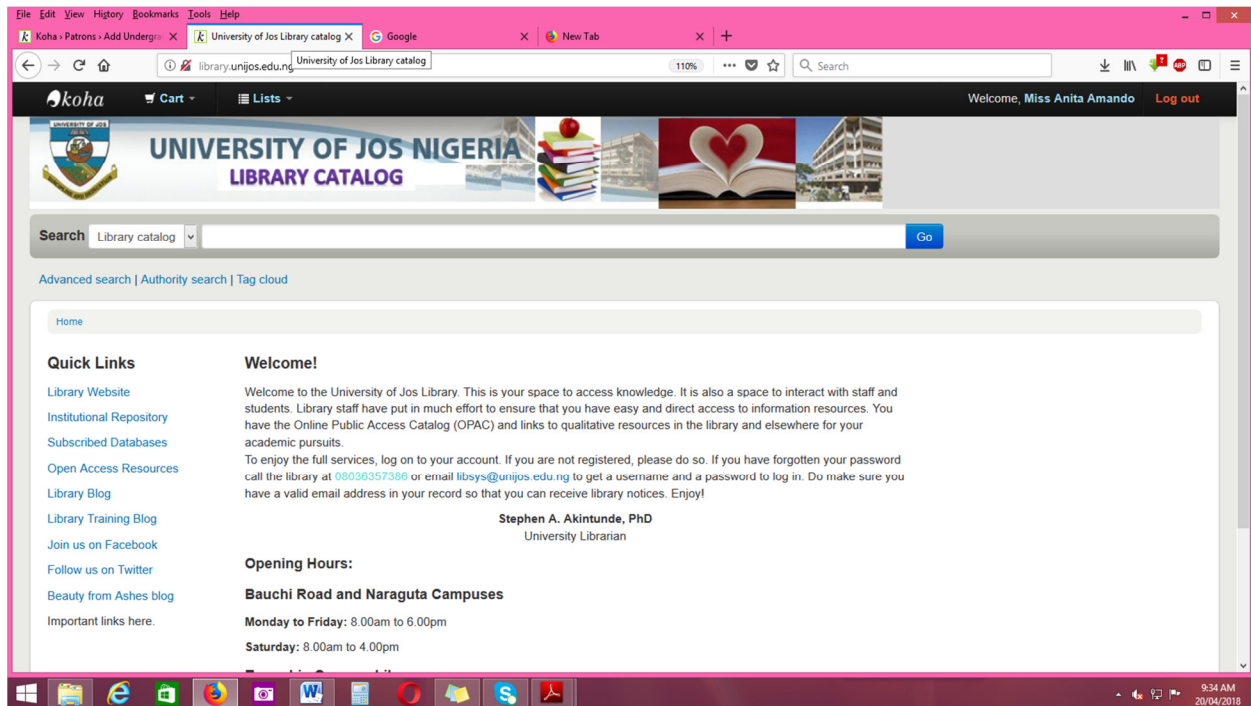
Figure 1. Picture showing University of Jos Online Koha interface

catalogued can only be accessed through the local server. For the circulation Module, only patron's module is been used with majority of the patron's details on the local server and some on the cloud.

In 2015, University of Jos library hosted its library management system (koha) on the cloud and migration of its records was done which included library patron details and library collections. During the migration, half of the patron's details were lost and had to be input manually by staff of the systems unit. For that academic year, most students who came for library validation had to be re-registered or searched for on the local server. Also, library records that had been catalogued and itemized could not be migrated and a lot of records where lost.

Even though the Url was circulated for use, it proved to be inefficient as most of the library patrons could not access it because of low internet bandwidth problems, some patrons claimed to not know about the fact that the library had a library management system in use and as such work continued on the local server. (See Figure 1 & 2)

CHALLENGES FACED BY UNIVERSITY OF JOS LIBRARY

The installation of KOHA brought a sigh of relief for the library as it eliminated the thousands of Naira that was been spent annually on the previous Library management system in use, reduced the waiting time spent in the struggle to renew its subscription, and offered more modules for use. However, the library encountered and is still encountering challenges in the use of KOHA library management system which include but are not limited to the following:

- **INTERNET CONNECTIVITY**- this presents as one of the main challenges to the full implementation of KOHA library management system. The library gets it connectivity from the University ICT directorate who also supplies the rest of the institution. The bandwidth been shared is quite low and as such access to KOHA installed on the cloud is really slow and nearly impossible most of the time. This has made the library depend mostly on its local server to get work done on the Library management system with the local server installed in only one branch of the library and the static IP address known to only a few.

- **TECHNICAL KNOW-HOW**- Technical know-how was needed for Installation, customization, migration of records and use of KOHA. This proved problematic as most of the library staff had never heard of KOHA, leading to errors, duplication of work, loss of records etc.
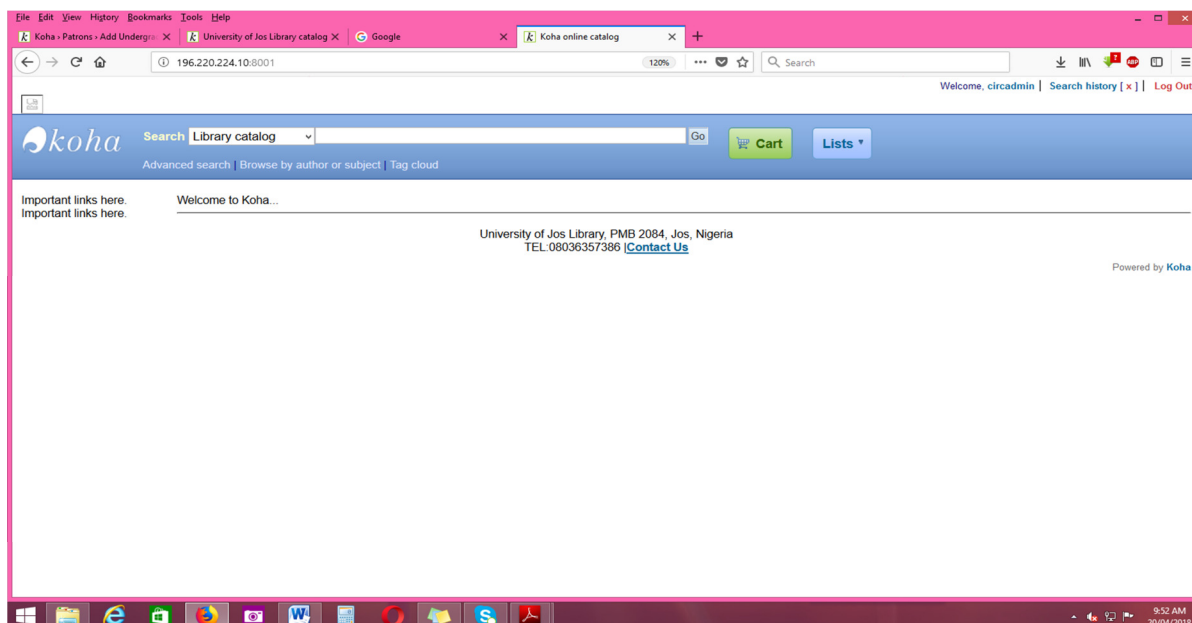
Figure 2. Picture showing University of Jos Koha interface on the Intranet

- **UNACCEPTANCE OF THE LIBRARY MANAGEMENT SYSTEM IN USE**- this manifested as competition among some library staff, with some providing alternative systems even after the installation of KOHA.

- **UNWILLINGNESS TO EMBRACE CHANGE**- KOHA requires the use of computers and more modules than the previous library management system in use. Library staff who are not computer literate, protested the use of this system as well as the changes from traditional ways such as manual patron registration to computerized patron registration.

- **DIFFERENT LOCATIONS OF THE LIBRARY**- the library currently has three branches at different locations. With the local server in use, only one branch library currently has full access to KOHA. As such, patron registration, OPAC use is done only in one branch library.

- **NON-USE OF ALL THE MODULES**- currently only two modules are being used by the library and this has hindered the full implementation of Koha

- **LACK OF TRAINING (FOR BOTH LIBRARY STAFF AND USERS)-** training and re-training of library staff is not done frequently and this should be done to improve the skills of staff and students who need to access KOHA.

- **CUSTOMIZATION-** customization of KOHA is somewhat difficult owing to the fact that there is little or no knowledge of computer programming.

- Lack Of Infrastructure

SOLUTIONS

- Workshops should be organized for members of staff to sensitize them on the importance of Library management system
- The library should be encouraged to form a koha user group to intercept problems as they arise.
- **Internet Access**- the library should be able to provide its own internet access domiciled in the library and independent of what it gets from the ICT directorate.
- Library staff should be encouraged to explore new technologies.
- All modules of KOHA should be in use.
- Training and re-training of library staff and users should be done regularly.

● Awareness creation should be carried out on a regular basis to sensitize library patrons as well as staff of the library on the presence and functionality of Koha.

CONCLUSION

KOHA is a software that is cost-effective and designed to meet the diverse needs of users and is today widely accepted for use in different libraries especially in Nigeria. The Implementation of KOHA in University of Jos Library is expected to improve its service delivery to its patrons as soon as successful implementation is fully met. The paper therefore recommends that the solutions as enumerated above should be implemented.

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Full Length Research

Social Learning theory as a Theoretical Framework for Understanding Non-use of Clinical Information Resources among Medical Doctors in Resource Constrain Settings

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Universities library have invested in medical library and provide clinical and pre-clinical information resources and services to encourage quality teaching, learning and research. Unfortunately, the university library are losing huge sum of money due to the non-use of medical library. Using Vygotsky's theory of social development and his perspective on social interaction and MKO. Therefore, this study explored the reasons for non-use of medical library among medical doctors in Brau Dikko Teaching Hospital, Kaduna State University (BDTH-KASU). A qualitative research methodology was adopted. Data were collected using in-depth interview with eleven (11) medical doctors, whom were selected through purposive sampling, particularly criterion sampling. Data from respondents were analyzed using thematic analysis. Findings revealed that, Lack of Time Compliance, Lack of Internet Connectivity, Inadequate Reading Space, and More Knowledgeable Others, are the major reasons for non-use of medical library. Therefore, this study posit that for the medical doctors to make use of the library there is need for the library management to provide good internet network, this will allow medical doctors to utilize the library so as to exploit the advantage of the medical library data network for their learning, teaching and researches as well as benefit from the rich databases subscribed by the university library to download current and up-to-date clinical information resources. It is also recommended that, the library management of KASU should create or provide conducive reading section for consultant doctors so as to avoid non-use of medical library. There is also need for the library management to extend the time of closing hour from 8:00am to 9:00pm so that the medical doctors can have time to utilize the library after working hours.

 Keywords: Medical Library, Non-use of Clinical Information Resources, Medical Doctors

INTRODUCTION

Medical libraries provide physicians and medical students with clinical information resources and services in their duties related to patient care, education, research and management. Medical libraries of today are operating in the age of electronic and remote access to clinical information. They are involved in the twin purpose of providing learning

resources and evidence based practice resources to help medical doctors and other health professional make good decisions in their clinical practice (Rathnakara 2011). However, university libraries have also invested a huge sum of money in providing clinical and pre-clinical information resources for the medical doctors to make use of it and improve their learning, teaching and research (Shah 2010). Despite the importance of clinical information resources in medical libraries and the huge sum of money invested in providing both the clinical and pre-clinical information resources, the problem of low or non-use still persist (lal 1999; Geer 2006, Chatterjee 2006; Prout, 2009). To improve the low or non-use of clinical information resources particularly in medical libraries, scholars have explored the problem from different perspectives: lack of internet connectivity (Olanlokun 2005; Omehia 2008) inadequate health information resources (Afebende 2008; Wales 2000), lack of quality services (Torma 2004; Tenopir 2003) lack of awareness and problem of accessibility (Asemi 2007). While these studies have helped in understanding issues of low or non-use of clinical information resources in medical libraries, very few studies (Chatterjee 2006; Aziegbe 2006; Adetoro 2011) approach the problem of low or non-use of clinical information resources in medical libraries and none of these studies approach the problem using theoretical perspective.

Therefore, to have a better understanding of low or non-use of clinical information resources in medical library this study explored the problem using theoretical perspective. This study will adopt two constructs of Vygotsky's theory of social development (social interaction and More Knowledgeable other) to investigate the reasons for non-use of clinical information resources in medical library among medical doctors in Barau Dikko Teaching Hospital of Kaduna State University (BDTH-KASU) and their perception on librarians.

Non-use of Clinical Information Resources in Medical Library

According to Mohammed (2017) non-use is difficult to define without answering the question non-use of what? In the context of the present study, non- use of clinical information resources in medical library is defined as a concept. Non-use of clinical information resources in medical library is having the right to use the medical library and consult clinical information resources and services but not doing so over a specific period/or for a specific sample of collection. Medical library allow users (medical doctors) to have access to different kind of clinical information resources and services in both print and non-print. Similarly, Wyatt (2003) categorized non-use of clinical information resources in medical library into resisters, rejectors, excluded, and expelled. Rejecters and expelled are those who have use the clinical information resources in medical library before and are now non-users (not using the library) while resisters and excluded are those who never used the clinical information resources in medical library. In the same vein, Sridhar (1994) categorized non-use of clinical information resources in medical library into absolute and marginal. Absolute non-use of clinical information resources in medical library is those who do not use the library or clinical information resources and services at all. A substantial number of users who make marginal use of clinical information resources in library are called marginal users. The result of absolute non-users and marginal users makes the clinical information resources in library underused. This is important in the study of non-use and non-user of clinical information resources in medical library

Medical Library Resources and Services in Barau Dikko Teaching Hospital of Kaduna State University

The library established in 2011 and began its operations in February, 2014 at Barau Dikko Teaching hospital of Kaduna state university (BDTH-KASU) which is formally well-known as Barau Dikko specialist hospital with a seating capacity for twenty four (24) users and nucleus collections of clinical and some of pre-clinical textbooks and digital books. Over the years, university library have invested huge sum of money for medical library to operate hybrid system which combines printed and electronic books, e-journals, online and offline databases and other health information resources. Its main purpose is to serve the entire Barau Dikko teaching hospital community by playing a major role in selecting, acquiring, processing, lending library materials and responding to patron's enquiries. The library provides the following services.

➢   Reference and Referral Services
➢   Book Loan Services
➢   Photocopy, Printing and Scanning Services
➢   Internet Services
➢   Online Computer Catalogue (DigiMax – Library Management Software)
➢   Access to Offline and Online Electronic Journals and Books
➢   Training and Consultation in the Use of Medical Online Databases Searching
➢   Other Health related information services is available upon request.

STATEMENT OF PROBLEM

University library have invested in medical library and provide clinical and pre-clinical information resources and services to encourage quality teaching, learning and research. Unfortunately, the university library are losing huge sum of money due to the non-use of clinical information resources in medical library (Juith 1995; McCreadie, 2013; Hasin 2013; catalina 2014) However, several studies have found out that there is generally low or non-use of clinical information resources in medical libraries by medical doctors (Oduwole et, al. 1999; Pamela 2004; Alper 2006; Daniel 2007; Shah 2010) To improve the low and non-use of clinical information resources in medical libraries, these scholars have explored the problem from different perspectives, lack of ICT equipment and facilities (Pamela 2004; Alper 2006) inadequate clinical information resources and services (Daniel 2007; Shah 2010) lack of awareness and professional librarians (Oduwole et, al 1999). However, these studies are presented in isolation without the use of any theoretical framework. While the studies have helped to better understand issues of low and non-use of clinical information resources in medical library, they did not approach the problem from the perspective of how medical doctors perceived librarians as scaffolding in providing access to clinical information resources using theoretical framework. Therefore, this study set out to understand and find out the reason for the non-use of clinical information resources in medical library among medical doctors in BDTH-KASU and their perceptions on librarians using two constructs (social interaction and MKO) of Vygotsky's theory of social development.

Research Questions

1. What are the reasons for non-use of Clinical Information Resources in Medical Library in BDTH-KASU?
2. How do Medical Doctors in BDTH-KASU Perceive Librarians in the Provision of Library and Information Services?
3. How does Vygotsky's Theory of Social Development and his Perspective on Social Interaction and MKO explains Perceptions of Medical Doctors in BDTH-KASU on Librarians?

Vygotsky Theory of social development

Vygotsky development theory explains the relationship between a more experienced individual (professional) with a person that is less knowledgeable. The theory was first developed as a learning theory explaining the relationship between learning and development. The theory emphasizes the roles of social interaction and cultural participation to the understanding of human cognition and learning (Kozulin, Gindin, Ageyev & Miller, 2003). The main basis of the theory is that higher order function develops out of social interaction, and the interaction occurs between a learner and an expert. Hence, to fully understand Vygotsky theory, it is important to note that the theory was built around three basic constructs but for the purpose of this study only two constructs are used. These constructs are discussed below:

Social Interaction

It is the manner in which people talk to and interact with one another. It is the process by which we act and react to those around us, includes those acts people perform towards each and the responses they give in return (Blanton, 1998; Kearsley, 2005). According to Vygotskys' theory, much important learning by the individuals occurs through social interaction with a skillful tutor or More Knowledgeable Other (MKO).

More Knowledgeable Other (MKO)

According to Vygotsky (1978) the MKO is someone who is perceived to have a better skill or understanding of a task, process or concept which could be a peer, partners, teacher, tutor or another person. The key to MKO is that they must have more knowledge about the topic or task being learned than the learner does. The MKO can raise the learner's competence through the Zone of intervention (Vygotsky, 1984).

   Several scholars from different disciplines have used Vygotsky theory of social development as theoretical framework guiding their studies. The next paragraph discussed some of the previous studies that adopted Vygotsky theory of social development.

Previous Studies that Adopted Vygotsky Theory of social development

This section discussed some of the previous studies that adopted Vygotsky Theory of social development by different scholars.

Zahide (2013) conducted a study using vygotsky theory to examine the pre-school teacher's experiences and perceptions of tablet use and how the implementation of the tablets benefits the school activities, using qualitative research methodology. Findings from the study showed that the teacher who went on a further education in tablet use was more knowledgeable in tablet use than the teacher who didn't use, the study also showed that the average of using digital tools among the Swedish people is down to a very young age that need to be supported when using digital tools.

Mlay (2010) studied the impacts of using English as the language of instruction on students' academic performance in secondary schools particularly contrasting urban and rural schools in Tania, using two constructs (MKO and social intraction) in Vygotsky theory of social development as guide. The objective of the study is to determine the extent of the language instruction and performance of students in urban and rural secondary school. The study used qualitative methodology. Findings from the study revealed that students performed by more knowledgeable other intervention. Further findings also revealed that, the use of similar coping strategies and lack of interaction in class discussion were observed in both schools.

Another study conducted by Dale (2012) used one construct (zone of proximal development) in Vygotsky theory of social development to studied students perceptions in teaching ESL using peer-to-peer ESL Text Chart. The study asked the following question what are the students' experiences and perceptions of the use peer-to-peer ESL text chart? The study use qualitative methodology. The finding revealed that all students have enjoyment of the text chat experience and they experienced a reduction in anxiety and fear due to less stress. The findings also revealed that ZPD is a powerful paradigm that enables those who participation in it to realize learning they could never accomplish alone.

Furthermore, Sadiq (2013) studied the implementation of an apprenticeship training program in the Addis Ababa technical vocational educational training (TVET) colleges and enterprises, using two constructs (ZPD and MKO) in Vygotsky theory of social development. The study asked the following question: what are the causes of apprenticeship training program's challenges in the Addis Ababa Administrative Region? To what extent did professional qualities of supervisors of apprentices? The study used qualitative research methodology. Finding from the study revealed that the application of ZPD indicate that the difference between what the apprentice can accomplish independently and what he/she can do with the assistance of supervisor (MKO) on a given task.

RESEARCH METHODOLOGY

This research adopted qualitative research methodology. According to musa (2013) qualitative research methodology refers to the method of inquiry employed to gather an in depth understanding of phenomenon and human behavior especially feelings, perceptions or opinions, and the reason that governs behavior. Qualitative research is appropriate for this study. This is because the study aimed at understanding medical doctor's reasons for non-use of clinical information resources in medical library and their perceptions on librarians as scaffolding in providing access to clinical information resources. Therefore it's appropriate for this study.

A case study research design was also adopted in this study. A case study method selects a small geographical area or a very limited number of individuals as the subjects of study (Acker 2007) Therefore, a case study method is known to be best suited for studies whose purpose is to select limited number of individuals as a subject of the study. In this case 11 respondents (7 male and 4 female) were select out of 251 medical doctors through purposive sampling technique particularly, criterion sampling. Therefore, respondents for this study must meet the following criteria: (1) must be a medical doctor in BDTH-KASU. (2) Must be consultant and specialist doctor who doesn't consult clinical information resources in medical library for any academic matters. (3) Must be consultant and specialist doctor who doesn't consult librarians when seeking for clinical information resources.

Data collection

The data from this study was collected using in-depth interview. The interview session began with administration of informed consent form. The consent form solicited participants' permission to voluntarily participate in the interview and it sought authorization to record the conversations. More so, respondents were assured of privacy and confidentiality concerning their responses. The interview was conducted at the medical doctors' offices in their respective departments. Questions were asked on the reasons for non-use of clinical information resources in medical library and their perceptions on librarians. The total duration of all the initial interviews amounted to 12 hours of conversations. During the interviews the researchers used probing technique to solicit for in-depth information and/or to build on their responses. This provided the researchers with rich in-depth information. By the time 11 participants were interviewed, the data was saturated. Marshal (2006) explains data saturation as the point when there are no new categories, themes, or explanations emerging. The data were transcribed for analysis.

Data Analysis

Data in form of narratives about the non-use of clinical information resources in medical library among medical doctors and their perceptions on librarians were collected from 11 respondents. The collected data was transcribed verbatim. The transcribed narratives were read and examined severally using inductive approach described by Thomas (2003) as a process that "begins with close readings of text and consideration of the meanings that
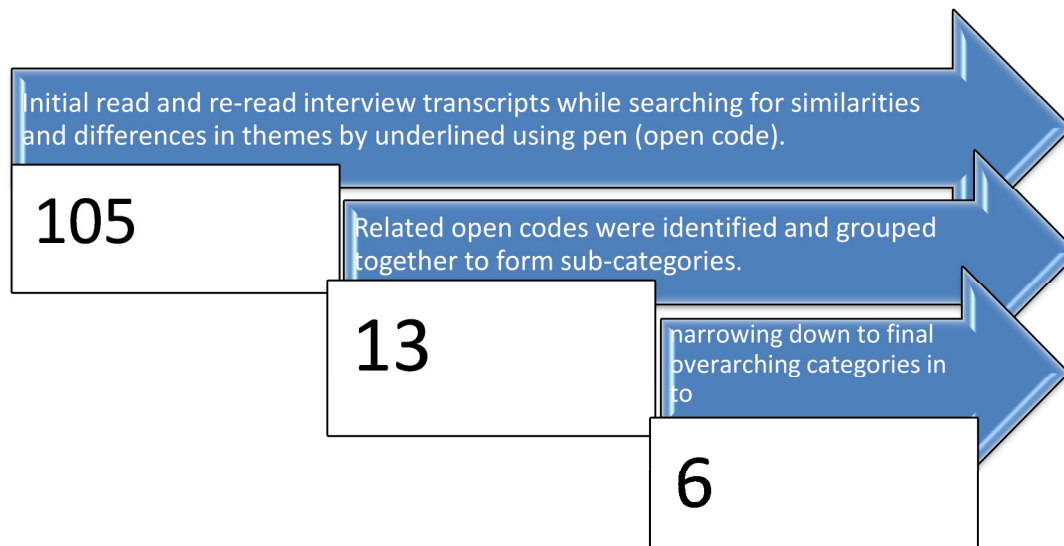

Initial read and re-read interview transcripts while searching for similarities and differences in themes by underlined using pen (open code).

105

Related open codes were identified and grouped together to form sub-categories.

13

narrowing down to final overarching categories in to

6

Figure 1.

are inherent in the text". Using this inductive analysis coding process the narratives where read thoroughly to identify variance and relationships. The narratives were coded into 105 open codes (meaning derived directly) recoded in the spreadsheet. The 105 open codes were condensed into 13 lower categories and identified as classification subcategories. The classification sub-categories were then further collapsed into 6 emergent categories. The next paragraph illustrates the data analysis steps as adopted in this study from Thomas (2003) p11. (See Figure 1)

   The next section described the findings of the study. The five main categories and quotations from the participants are written to some extent in everyday vernacular and were arranged properly based on questions asked in the process of data collection. They are presented in this style to allow the reader an opportunity to draw on the reflection of thought given to the participants' responses.

FINDINGS

Reports indicated based on the findings regarding the reasons for non-use of clinical information resources in medical library and their perceptions on librarians were grouped into six major categories as described below.

Lack of Time Compliance: This category explains lack of time as one of the reason expressed by medical doctors for non-use of clinical information resources in medical library as explain by the following respondents: "*I don't have time to visit the library am always occupied and busy attending patients from morning to evening and by that time I was tired and wanted to rest*" other respondents affirmed that: "*I only have time around 4:30pm and by then the library is locked*" this respondent expressed that: "*I only have time during the weekend and the library is always closed during the weekend*"

Lack of Internet Connectivity: This category provides some explanations quotes from the participants' responses on the issue of internet connection or poor network as expressed by these respondents: "*sometimes when am thinking of going to the library and i remembered that there is no internet i will then change my mine to remain at office and read*" similarly, other respondents further confirmed this fact by stating that: "*Because there is no internet to browse*" in the same vein this respondent stated that: "*there is no network connection in the library*"

Lack of up-to-date Clinical e-resources: this category also explains quotes from the participants' responses on the issue of non-existing or non-current of clinical offline and online information resources as other reason for non-use of clinical information resources in medical library, as explain by the following respondents: "*it's because there is no current offline and online clinical books and journals*" similarly these respondents expressed that: "*most of the e-resources are not updated, you know we are dealing with human being so we need current clinical video and other non-print information resources*"

Inadequate Reading Space: This category provides some explanations quotes from the participants' responses on the issue of consultant reading section like postgraduate section in the main library, as describe by these respondents: "*it's because there is no enough seating capacity and section for consultants like PG section in the main library, because seating with students is not computable and their always making noise*" apart from inadequate reading space another respondent also expressed that: "*I observed that hot is too much in the library especially when there is no light*"

Librarians are user assistant: This category provides some explanations on the perceptions of medical doctors on librarians. They revealed that librarians assist users especially when the want borrow out a book and also informed (awareness) them about the online subscribe databases as explained by the following respondents: "*I believed that librarians help users by lend out a books for specific period of time*" other respondents expressed that: "*I only contact librarian when i need a particular book to read and nothing more*" other respondents revealed that: "*I believed librarians assist users by making awareness about the online subscribe databases*" this respondent confirmed how librarian assist him by stating that: "*I believed librarian assist users by notifying them about the subscribed online scholarly databases*"

More Knowledgeable Others (MKO's): This category contains narratives revealing who medical doctors contact when they need any clinical information resources for their learning, teaching and research as explains by these respondents: "*whenever i need clinical materials I use to contact my colleagues*" Furthermore, another respondent expressed that: "*if i need clinical materials for research use to ask my HOD*" in addition this respondent stated that: "*actually, i use to ask my colleagues first about the kind of research to conduct, if they will tell me the king of materials to look for, i can then contact librarian*" this respondent indicated that: "*yes, I use to conduct librarians but my colleagues first before librarians*" another respondent complained about the shortage staff: "*I simply contact my colleagues due to inadequate staff in the library, the librarians are not available some time, if you call them they said they have a meeting to attend and they closed the library*"

DISCUSSION OF FINDINGS

This section discussed the research findings under the six major categories emerged including pertinent quotes from the respondents. The findings were arranged in line with the research question asked in the study, in a convincing manner in order to archive the stated objectives of the study.

Reasons for non-use of clinical information resources in medical library among medical doctors in BDTH-KASU

   Findings from this study indicated that, medical doctors are aware and interested to use the clinical information resources in medical library of BDTH-KASU but due to lack of time which appears from this study that it affects the medical doctors negatively to use the clinical information resources in medical library. Finding from this study also indicated that medicals doctors were only have time in the evening and night but the library is already closed within that specific period of time, adding that the library also remain closed during weekend. Another findings from this study also indicated that, lack of internet also contributed to non-use of clinical information resources in medical library, even though medical doctors are interested and willing to clinical information resources in the library but if the remembered or realized that there is no network to browse, they will change their mind and refuse to visit the library.

   Apart from lack of internet connection, medical doctors also reported the issue of non-existing or non-current of clinical offline and online information resources as among the reasons for not using clinical information resources in medical library. This is because medical doctors need current and up-to-date clinical information resources to read and make their self-prepared for learning, teaching, research and manage patients care. Further findings from this study also indicated that, insufficient reading section for consultants medical doctors like postgraduate section in the main library also is cited as one of the reasons for non-use of clinical information resources in the library. This is because the library has no reading section and medical doctors specifically consultant were not comfortable seating with the students close to them, revealing that some time students use to make noise or discussing in the library, complaining that this interrupt their reading.

Perceptions of medical doctors in BDTH-KASU on librarian in the provision of library and information services

Findings from this study indicated that, medical doctors believe and perceived librarian as helper or assistant, by assisted them especially when they want borrow out a book and this belief by medical doctors on librarians as helper or assistant is partially linked to another perception that, librarians are databases manager or provider. This is because librarian uses to provide them and update them about the new subscribed online databases and follow them to their offices to show them how to search clinical information resources. Further findings of the study revealed that, medical doctors seek help from librarian simply because they believe that librarian are person whom were trusted in assisting users when they want to borrow out a particular book read.

Explanation of the two constructs of Vygotsky social development theory about the perceptions of medical doctors in BDTH-KASU on librarian

Social Interaction: It is evident, findings from this study indicated that librarians do have personal conversation with medical doctors as uncovered from the study expressing hospitality from librarian whenever they needed help. This indicated that, the librarians render assistance to medical doctors by means of making awareness about the online subscribed databases and followed them to their offices and asked them how far they are going through on the databases and also teach them on how search information resources on the databases. Furthermore, findings from this study revealed that, librarians assist users when they need a particular book to read and also help them to borrow books for a specific period of time.

More Knowledgeable other: Another findings from this study indicated that, medical doctors believe librarians can help them but after contacting their colleagues. They rely mostly on their colleagues (medical doctors) for help than seeking help from the librarians. This is because they think that their colleagues are in the right position to assist them. Further findings from this study shows that, this believe is far from the medical doctors' negative perception that librarian help users only when they want to borrow a particular book to read or informing them about the online subscribed databases. Further findings also revealed that medical doctors rely more on their fellow colleagues for help since the librarians are not available sometime and the library is closed when the librarians are not available, while their fellow colleagues are always available and easily accessible.

CONCLUSION AND RECOMMENDATIONS

From the findings of this study conducted using Vygotsky social development theory as theoretical mirror to investigate the reasons non-use of clinical information resources in medical library and explains the medical doctor's perceptions on librarians. A number of conclusion and recommendations can be offered for practical intervention as well as for future researches. It is observed from the study that, lack of internet connectivity and lack of up-to-date clinical information resources are among the reason for non-use of clinical information resources in medical library. It is recommended that, the library management should provide good internet network, this will allow medical doctors to utilize the clinical information resources in library so as to exploit the advantage of the medical library data network for their teaching, learning and research as well as benefit from the rich databases subscribed by the university library to download current and up-to-date clinical information resources. Inadequate reading space for consultant doctors, are also one of the reason for non-use of clinical information resources in medical library. It is recommended that, the library management of KASU should create or provide conducive reading section for consultant doctors so as to avoid non-use of clinical information resources in medical library. It is also discovered that lack of time is among the reason for non-use of clinical information resources in medical library, it is recommended that there is need for the library management to increase or extend the time of closing the library from 8:00am to 10:00pm so that the medical doctors can have time to utilize the clinical information resources in the library after working hours.

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Full Length Research

Professional Codes of Ethics for Librarians in Nigeria: An Appraisal for Effective Use in Libraries

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The Librarian's Registration Council of Nigeria (LRCN) code of ethics for Librarians is to incorporate values, principles and standards for professionalism. But, apparently the code is not being used professionally. A study overview of code of ethics was conducted to revalidate its professional importance for adoption in libraries. The study adopted a semi-structured interviews with open ended questions to gather focused, qualitative textual data. The study population consisted of 110 professionals librarians in Oyo State. The interview responses and observational data were reviewed for insights of librarians to the codes of ethics and pattern of practice. Findings from the study show inter-alia that there are no objective benchmarks for assessing librarians conduct and discharge of professional duties, rather, assumed and subjective moral rules were guiding the library operations and practices. Therefore, the need as a matter to set up a code of ethics implementation task force is recommended.

Keywords: ethics for librarians, code of ethics, standards for professionalism, ethical promotion, Oyo State, Nigeria

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BACKGROUND TO THE STUDY

Librarians and Information Scientists in Nigeria are imbued to serve people through the provision and access to quality information resources in either print or electronic formats through which people's standard of living are improved, dreams are actualized, education is sustained, sound decisions are made and executed, freedom of expression is enhanced and information resources are preserved for posterity. The proliferation of information in different formats and complexity in retrieval processes have promoted and sustained the need for society to share resources, work, ideas and information. This provides the rationale for library and information practice. The belief in the need to share information and ideas implies the recognition of information rights as expressed in the United Nations Universal Declaration of Human Rights (1948), Article 19 which sets out the right to freedom of opinion, expression and access to information for all and the right to seek, receive and impart information and ideas in any media, regardless of frontiers (IFLA, 2011).

Interestingly, there are two school of thoughts just gathering momentum about an additional role of a Librarian in the information society. One is proposing that librarians should just be a web-browser (surfer, a human search engine), that will be creating awareness and be disseminating information via the ICT to the information seeking society.

One the other hand, the librarians should be a webmaster that will not only surf the web but will be a Master of the web or the one who controls the web. That, the world is waiting for the librarians to control the web and spring out as an Information Super power for all other professionals in the whole world. We are to take control and be in custody of the

electronic resources as it were the print!

Traditionally, libraries are institutions concerned with the collection, processing, documentation, storage and dissemination of information to their respective users. The important roles played by libraries in the society marks the beginning of librarianship and its growth globally. The advent of professional librarianship into Nigeria was dated back to the pre- independence days. Hence, it is one of the foremost professional Associations in Nigeria. Since this period, professional librarianship in Nigeria has really witnessed tremendous improvement. Among these developments is the establishment of the first public library in Nigeria, situated in Lagos in 1932, setting up of the first library school in West Africa in Ibadan, Nigeria in 1959, establishment of the Nigerian Library Association (NLA) which currently has over 4000 members and the establishment of the Librarians Registration Council of Nigeria (LRCN) 1997.

The goal of this research therefore is to review the use of Librarianship codes of ethics in Oyo State libraries.

STATEMENT OF THE PROBLEM

In March 2013, a draft of the guiding principle for effective social responsibility for Librarian is provided by the Librarian Registration Council of Nigeria on its websites for members, to guide the behavior of professional librarian, make best professional decisions and confront professional challenges for strong library and strong society. But, it was observed in practice that most librarians are not being guided by the drafted ethical codes neither was it enforced in Libraries. This supports Ofre (2012); Igbeka & Okoroma (2013), Onoyeyan, Ajayi, Adesina & Bamidele (2014) whose studies focused on Nigerian situation, the awareness and practicability of Librarianship ethics amongst librarians. Their studies reveals that majority of librarians do not have a copy of the Librarians' Registration Council of Nigeria Code of Ethics. Nigerian Librarians and the awareness of the ethical values is quite low, the degree of practicability of many of the ethical codes is very questionable and that there has not been any case of confrontation and sanction in connection to the violation of the ethical values. Moreover, the strict adherence as a panacea to the confronting professional challenges is elusive. The critical concern of this study therefore, is to re-appraise and elucidate the aforementioned claims. Hitherto, the study employs a pragmatic approach to conduct a semi-structured interview using Nigerian Library Association Oyo State chapter members as a case study.

OBJECTIVES OF THE STUDY

The objectives of this study are to assess:

a. the code of ethics for librarian in maintaining standards in libraries.
b. the application level of the code of ethics for Librarian as a guide daily discharge of duties in libraries
c. the objective benchmarks for assessing librarians conduct and discharge of professional duties.
e. the sense of self-esteem, dignity, honour, service and moral rectitude of the librarian via the code of ethics.

LITERATURE REVIEW

Professional Codes of Ethics policy for Librarians in Nigeria is available in electronic form as its contemporaries. Such documentation was noted by Sturges (2009) while suggesting the need to look at other formal policy documentation described by such names as 'declaration', 'charter' or 'manifesto'. He mentioned for instance the African Conference on Information Ethics, held at Pretoria in 2007, issued a 'Tshwane Declaration on Information Ethics in Africa' (http://www.africaininfoethics.org/tshwanedeclaration.html). The exception in Nigerian, context is the non-availability of the print copy and its ready circulation to all librarians, denoting its availability just in principle and usefulness yet un-adopted in practice.

Hoffman (2005) retrospectively amplifying the importance of professional ethics and librarianship, posited that professional ethics are the principles of conduct that govern an individual or a group. And that the American Library Association formally adopted its first code of ethics in 1939. The code he said underwent several revisions, the last in 1981, with adoption by ALA Council in 1995. In 2002, TLA Council adopted the ALA Code of Ethics as its professional code of ethics. It is doubtful if we have same written records of awareness, adoption and conscious application in Nigeria.

Sturges (2009), while discussing the code of ethics practice, manifestoes and charters he noted that in a code, the profession tells its members what they should consider when faced with an ethical dilemma, whilst demonstrating to a wider audience that the profession does not leave its members devoid of good guidance.

Else, in the end a professional makes a decision that may, or may not derive directly from the principles laid

down in a code. Because the nature of the dilemmas experienced by members of different professions varies, the codes vary too, but a brief look at a sample will indicate that there is commonality as well as singularity. He further reiterated the fairly recent codes for librarians as practiced internationally on (www.ifla.org/faife/ethics/codes.htm) from (France, 2003; Italy,1997; the Netherlands,1993; Portugal,1999; and Switzerland,1998), which suggests that a user/profession/collection approach can be identified as a common method of organising the content of a code.

The Library as an institution exists for the benefit of any given constituency, whether it is the citizens of a community, members of an educational institution or some larger or more specialized group. Those who enter the library profession assume an obligation to maintain ethical standards of behaviour in relation to the governing authority, under which they work, to the library constituency, to the library as an institution, to fellow workers, to colleagues and to society in general. IFLA (2011, 2012, 2013) posits that the core mission of library and information professionals is to facilitate access to information for all for personal development, education, cultural enrichment, economic activity and informed participation in and enhancement of democracy. Librarians do have a social responsibility and a guiding principle to work with; they do not encourage censorship, denial and restriction of information to anybody by any person or groups of persons and use the most efficient and effective methods and standards to serve their clientele. The general purpose of the code therefore is to set guidelines for the ethical conduct expected of all librarians in Nigeria, and they are to adhere by it in Libraries.

In Nigeria, to legally practice as a librarian, such a person is required to register with the Librarians' Registration Council of Nigeria (LRCN). The LRCN Act, Section 9 states that such a person must:

a. Possess the requisite qualifications approved by the Council
b. Not being a Nigerian, hold a qualification granted outside Nigeria which for the time being is accepted by the Council and is by law entitled to practice for all purposes as a librarian in the country in which the qualification was granted; provided that the other country accords Nigerian professional librarians the same reciprocal treatment and that he/she satisfies the Council that he/she has sufficient practical experience as a librarian.
c. Be of good character
d. Not have been convicted in Nigeria or elsewhere of an offence involving fraud or dishonesty.
Contrarily, there are many practicing Librarians that are not registered and no one is saddle with the responsibility to enforce or monitor the efficiency of the code of ethics. Moreover, the specified roles of Librarians are:

1.   Provision of information to the Nigerian citizens:

Professional librarians can be regarded as "Information experts in the information age". Professional librarians provide accurate, timely and relevant information to Nigerians. This is ensured through the various information-oriented services offered by libraries to their clients. This accounts for the reason why libraries are found in private institutions, corporate organizations, schools, government agencies, ministries and parastatals.

When this information is made available for the citizenry, it increases their knowledge, reduces their level of uncertainty and enables them to make rational decisions in their daily activities.

2.   Promotion of education and educational activities:

Based on their training and experience, professional librarians support educational activities and contribute immensely to the advancement of teaching and learning in Nigeria. This is done through academic and school libraries attached to tertiary institutions, and school libraries respectively.

According to Aina (2004), "academic libraries are libraries attached to post-secondary institutions such as university, polytechnics and colleges of education. School libraries are libraries attached to schools: pre-primary, primary and secondary schools".

This function of professional librarians has been captured in the view of Hall (1986), who gave the roles of libraries in schools as follows:

• Provision of information services that respond to the information needs of teachers and students and which also foster their professional and personal development.
• Serves as a learning laboratory that provides opportunities for the students to develop information skills and other relevant skills.
• Serves as a ground for identifying the innate potentials and talents of students and developing them.
• Provides opportunities for the students to become self-directed learners and develop a commitment to lifelong learning.

3.   Preservation of the societal culture:

Culture has been defined as the way of life of human being which embodies everything we do. As custodians of knowledge, professional librarians in Nigeria play the active roles of preserving vital elements of the societal culture.

Professional librarians preserve elements of societal culture such as artifacts, relics, arts and crafts, realia, poetry, poems, folklore, paintings, sculpture etc. thereby preventing them from going into extinction.

In addition to that, professional librarians ensure that vital documents, records and monuments are kept in favourable conditions for future purposes.

4.   Promotion of reading culture among children, youths and adults in Nigeria:

Over 70% of the Nigeria populations are illiterates. This ugly trend is really affecting the development of Nigeria. In order to combat this problem, professional librarians in Nigeria have launched a massive campaign aimed at reviving and promoting reading culture among the Nigeria citizens.

As a result of this, professional librarians in Nigeria have embarked on the following:

• Facilitating and promoting book reading clubs.
• Suggesting appropriate books ("readers' advisory") for children of different reading levels, and recommending novels for recreational reading.
• Develop in pupils the ability to learn from books without teachers.

5.   Sensitizing people on the relevance of library through seminars, conferences and related programmes:

Professional librarians in Nigeria play the important roles of making people to understand and appreciate the germane roles performed by libraries in the development of the society. They do this by organizing seminars, conferences, workshops and other programmes aimed at increasing people awareness about library and their services.

The Nigeria Library Association (NLA) organizes seminars and conferences regularly for librarians, student-librarians and members of the public. All these are aimed toward increasing people awareness about professional librarianship.

METHODOLOGY

The study adopted a semi-structured interviews with open ended questions to gather focused, qualitative textual data. The study population consisted of 110 professionals librarians in Oyo State libraries. The interview responses and observational data were reviewed for insights of librarians to the codes of ethics and pattern of practice. The study assumed a pragmatic approach of the awareness level, use and influence of the professional codes of ethics by Librarians in Nigerian Libraries. A purposive sampling technique was used to interview the professionals on ground during the routine visit to the libraries in Oyo State. It was envisaged that it will contribute new knowledge on the policies, practices and promotion of the professional codes of ethics by Librarians in libraries.

Challenges of Professional Librarianship In Nigeria

The professional and societal expectation of the ethical codes for conscious librarians is right application for a common societal good and never to harm by dis-use. But, the important roles played by professional librarians in Nigeria are being confronted by some challenges which are:

1.   Lack of proper recognition of professional librarians in Nigeria:

Most Nigerians are yet to know the important role played by professional librarians in Nigeria. As a result the profession is seen as "the work of the idle ones" and librarians as the quiet lots which cannot be associated with. This is even worsened by the fact that many primary, secondary school students and young people have never heard of professional librarianship, it is not seen nor listed as a career choice. It is not in the school curriculum and they do not know what it entails. Very unfortunate to know that most people that are in the professional till date gate-crashed into it, they get to know what the profession is all about in the library school!

2.   Government apathy to professional librarianship:

The Nigerian government shows a lackadaisical attitude toward professional librarianship in the country and the Libraries. They do not fund the Library nor are ready to purchase books for the National Library and its branches all over the country. What a strong indication of apathy, in spite of the 'bring back the book' propaganda project of the government. Up till date no special allowance or salary scales for Librarians. The established registration council members are yet to be constituted. Furthermore, at the ongoing national Confab, compared to other professional bodies, no delegate representation for the Nigerian Library Association or that of the Registration Council. This is contrary to section 18.1 of the Librarians code of ethics. As a result of this, the Nigerian government has relegated professional librarianship in Nigeria.

3.   Refusal of some professional librarians to adapt to the information age librarianship:

Some professional librarians are reluctant to give up their old and crude ways of library practice as they as comfortable with it. They do not embrace new technologies, new ideas and innovations. No doubt, this kind of professional librarians cannot keep in touch with the information age librarianship. In the 21st century is nauseating to still see an information professional having phobia for the Information technologies medias. The traditional era is over the need to quickly adapt and embrace the new era skill for relevance, performance and productivity.

4.   Inadequate funding of libraries in Nigeria:

Emphasis on this phenomenon is a critical issue that must be urgently addressed. Most libraries in Nigeria are not funded and as a result of this, professional librarians are constrained to carry out their services effectively or at the mercy of the managers of their respective institution.

5.   Non-political leadership

(Adedokun, O.O. & Olorunsaye, J.O. article accepted for publication) noted that most Library managers are not politically inclined; they are not good at office politics rather were straight arrow managers on the overall. This has become a serious professional and library development challenge. The more political oriented a librarian the more accessible the library will be to the anticipated development and professional advancement. He posited that the managers must acquire the good office politics skills and using it to influence their institution's Chief Executive is imperative. Of necessity, the development of a collaborative relationship at all levels of their organization; finding out what would make them important; persuasively give support or contribute to situations where everybody gets to win. This will bring the needed recognition and accolades for winning administrative styles. The end to recluse life in the four walls of the offices for socialization must be a thing of the past. In essence, Librarians must be on the same team with all in the work environment

Adoption and practice of Policies

It is noted in the codes that to be registered as a librarian one should have his/her name retained in the register, a person is required to comply with other requirements as stated in the LRCN Act regarding:

a. Taking a course of training which is intended for persons who are seeking to become members of the profession and the Council considers is designed to confer on persons completing the sufficient knowledge and skill for the practice of the profession
b. Licensing
c. Mandatory Continuing Professional Development
d. Annual subscription.
e. Certificate of Experience
f. Any other requirements that may be made from time to time

It is being observed that the officials of the Librarians Registration Council of Nigeria are committed to the accomplishment of these other requirements but the Librarians negative response to oblige shows their degree of perception or non-awareness of the codes of ethics, the operational and binding effect. Librarianship in Nigeria adopts universal trends in education and practice. By implication, the Nigerian Library Association and or the Librarians

registration Council of Nigeria are encouraged to accept to become members of IFLA and also adopt the international code of ethics for librarians and other information workers subject to modification to reflect internal national dictates Ike-Mbofung (2015).

The context of the codes

The codes contain the obligations of librarians, such as:
a. Professional Standards
b. Professional Commitment
c. Efficiency and Effectiveness
d. Arbitration

Also, there are stipulated provisions for adherence in Libraries. The librarians should avail themselves of regular consult of the codes to guide its adherence and application in the library. Operationally, the code of ethics should be well promoted in libraries.

DISCUSSION OF FINDINGS

The study reveals that despite the availability of the drafted Codes of Ethics in electronic format, majority of the information professionals were neither aware nor interested in having the code. This supports Igbeka and Okoroma (2013); Ike-Mbofung (2015). It also shows inter-alia that majority of the librarian do not have a copy of the Librarians' Registration Council of Nigeria Code of Ethics; Supporting Onoyeyan, Ajayi, Adesina and Bamidele (2014). The finding also depicts that the sense of self-esteem, dignity, honour, service and moral rectitude of the librarians via the code of ethics if low. The implication of this would negatively contribute to information delivery service and there would be demonstrative subjective benchmarks for librarians' conduct in daily discharge of professional duties. Affective sense of esteem, poor library standards maintenance will be poor and subjective moral rules were guiding the library operations and practices.

Proposition for further study

Being mindful of the persistent unusual apathy of the government to the library development, societal derogatory perception of librarianship and the docility of the Librarian in the country, it now is imperative in the nearest future that the Professional members' study be conducted to examine the members' view and knowledge of professional ethics, members' agreement or disagreement with various provisions of the code and to explore the types of ethical situations encountered by Librarians. This will be used to identify areas for professional development related to ethics training for Association members. It is also become necessary so as to examine if there will be the need to set up a Task Force on Library Professionalism in Nigeria especially in the areas of Professional ethics, advocacy and leadership. Since the current Nigerian Library Association (NLA) and the Librarian Regulatory Council of Nigeria (LRCN) are not a force to be reckoned with as a pressure group. Nonetheless, since this paper is a pre-proposition, the reader is asked to accept the evidence of titles for the reason of clear suggestion, but, in principle it will enhance future major literature search for confirmation.

CONCLUSION AND RECOMMENDATION

Apparently, the poor awareness level of the codes of ethics to the Nigerian Librarians and libraries is the bane of its practice and promotion in libraries. The prompt attendants of the Librarians to the Professional codes will substantially improve the society. Nigerians are waiting to see Librarians facilitate access to information for all personal development, education, cultural enrichment, economic activity and informed participation in and enhancement of democracy. Mobile, hybrid and virtual libraries will have to be development in the rural areas, in the cities, in all privately owned outfits, company's, Political party offices, Professional Association offices, government parastatals, in all local governments, in all primary and secondary schools for the promotion of reading culture and information access.

The popularity of the codes of ethics will help maintain a moral course of our chaotic times. Fundamental changes are needed at this critical time, ritual killings, Boko-haram set massacres, mass unemployment, fall in standard of education, financial insolvency untimely death, bad governance, corruption, suicide bombings, etc. There must be a moral compass to guide leaders through the complex conflicts about how to act right. This will cultivate the spirit of competitive intelligence for performance and productivity.

It is imperative therefore that the librarians' code of ethics be widely circulated in print and electronic format to all librarians in Nigeria for its effective application professionally, as noted by Yahal and Adeeko (2015). Also, the need to set up librarians' code of ethics implementation task force is recommended to the Librarians Registration Council of Nigeria as the regulatory body for effective monitoring and adherence. Finally, the wide circulation of the print and electronic copy of code of ethics to all librarians in Nigeria for its effective application professionally and the need to set up librarians' code of ethics implementation task force are recommended to the Librarians Registration Council of Nigeria as a matter of urgency. The Librarians Registration Council of Nigeria must proactively work together with librarian and orientate them on need to indispensably employ the adoption of the drafted Codes of ethics for effective library standard maintenance.

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Full Length Research

The Library and Accreditation of Nigerian Universities: the Case of the University of Nigeria, Nsukka, Enugu State

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Accreditation of universities in Nigerian is of utmost importance. Without it, most Nigerian Universities would definitely be substandard, and at best be glorified secondary schools. This paper examines the role of the library in accreditation in Nigerian universities with particular focus on University of Nigeria, Nsukka Library. It highlights the legal backing of the National Universities Commission (NUC) in regulating institutions of higher learning in Nigeria. The paper founds that University Libraries face a lot of challenges during accreditation exercises. These include lateness in getting information about upcoming accreditation exercises, inadequacy of funds for collection development and delays in accessing approved funds. To solve these problems, the paper recommends that funds meant for the University Library should be released on time; the NUC should monitor compliance with the policy which stipulates that universities in Nigeria should set aside 10% of their budget for library development; sanctions should be imposed on universities that divert library allocation and finally accreditation of university libraries should go beyond simply assessing the quantity and quality of collections. In addition, the NUC should also assess the adequacy and competence of librarians, the sitting capacity of libraries in relation to the user population and the extent to which libraries collaborate with faculties in the general university education.

Keywords: Accreditation, Library, University, Nigeria, National Universities Commission and Law.

INTRODUCTION

Universities are institutions of higher learning established for teaching, research and learning. The over-riding objective of universities in any country is to provide the right environment in which qualified and competent manpower needed to occupy different developmental and policy making positions of the society would be produced. To ensure that universities meet this enormous responsibility thrust upon them, a system of quality assurance and validation is put in place. This is called accreditation.

Accreditation standards are set by a peer revie2Ebelechukwu Lawretta Okiche (Ph.D.)w board made up of members of faculties from various accredited colleges and universities (Accreditation, 2014).

During an accreditation exercise, the following areas are usually assessed: philosophy and objective of the programme; curriculum; quantity and quality of teaching staff; student admission; standard of examination; physical facilities, financial support and the library (Okojie, 2012), (Akinfolarin, 2003). In every accreditation exercise, the university library which is the general "laboratory" that provides both the information resources and enabling

environment necessary for the pursuit of academic programmes plays a very critical role. This is because failure to meet the standards required from the library in terms of quantity of stock and quality of content brings a negative outcome to the accreditation of the university in question. Thus, accreditation of universities provides a veritable opportunity for university libraries to increase their stock of resources. It however, also creates anxiety among librarians and faculties in the university concerned.

As a result of the pride of place accreditation and library occupy in the development and academic life of every nation, both concepts have generated a lot of literature most of which helped to enrich our paper. However, none of the literature reviewed is on all fours with our study. Odukoya et al (2015) and Agbetuyi et al (2017) are interested in accreditation (quality assurance) as it concerns private Nigerian universities. Our work is entirely on a Federal Government owned University which has a different funding structure from that of private universities. Nkiko and Yusuf (2007) discussed accreditation and library extensively but their main concern is the role professional or statutory library organisations such as the Nigerian Library Association (NLA) and the Librarian Registration Council of Nigeria (LRCN) should play in the accreditation of libraries and not on the role of libraries in accreditation per se.

Peter Materu (2007) in a study commissioned by the World Bank thoroughly examined the issue of accreditation of tertiary institutions in the whole of African continent. It says nothing about the library. Nwabueze et al (2010) looks at the indispensability of libraries in learning and research but has nothing on the role of the library in accreditation which is the main thrust of our research.

Olaleye and Kolade (2016) study is on the NUC and the challenges it faces in carrying out its statutory duty of accrediting universities in Nigeria. Of all the works reviewed, Joseph and Urhiewhu (2016) is the closest to our topic but our paper goes much further to explore the legal backing of NUC. Furthermore, using both literature sources and examples arising from the researchers' experiences, our study seeks to demonstrate some practical roles which the Nnamdi Azikiwe Library system, University of Nigeria, plays in accreditation in the university. The objective is to provide some practical tips that other librarians and libraries could adopt to increase their chances of succeeding in the accreditation process, as the University of Nigeria has done over the years.

Conceptual Clarifications

Programme accreditation by the NUC generally means a system of evaluating academic programmes in Nigerian universities as having met the provisions of minimum academic standard document (Okoji, 2012). It is the validation of an institution of higher learning and its academic programmes.   Obadara and Akinfolarin (2014), see it as a process of self-study and external quality review used in higher education to scrutinise an institution and/or its programmes for quality standards and need for quality improvement. Oladosu (2011), on his part, brings out three interpretations of the concept: it can signify the official approval given to an institution at the end of an accreditation exercise by an accrediting agency which implies that it has met the conditions for existence; the process by which the quality and standard of education institutions are assessed, and the assessment usually set up by the government through the Ministry of Education or by professional organisations. However, for purposes of this study, the term refers to a quality assurance (QA) programme of the NUC which serves to assess available resources and their effectiveness on teaching, learning and research in Nigerian universities with emphasis on the library (Ahmed, 2011).

QA, for Obadara and Alaka (2013) simply means consistently meeting product specification or getting things right the first time, and every time. Ajayi and Akindutire (cited in Obadara and Alaka, 2013) see QA in the light of the university system as ensuring that universities meet the expectations of the users of manpower in relation to the quality of skills acquired by their outputs or graduates. The NUC, on its own part, defines QA as the systematic review of educational programmes to ensure that acceptable standards of education, scholarship and infrastructure are being maintained (NUC, 2006).

Accreditation can either be institutional or specialised. As the names suggest, institutional accreditation focuses on the institution as a whole while specialised accreditation specifically targets professional programmes at the unit or programme level. The NUC is the body charged with the responsibility of carrying out institutional accreditation in Nigerian universities be they federal, state or private universities. Specialised accreditation are done by such professional bodies as the Nigerian Medical and Dental Council (Medicine); the Council of Legal Education (Law); the Council for Registration of Engineering in Nigeria (Engineering), the Institute of Chartered Accountants of Nigeria (Accountancy) and other agencies that may come from outside the universities (Oladosu, 2011). It should be noted that specialised accreditation is done in addition to the NUC accreditation where a professional course is involved.

The aim of accreditation is to establish whether requirements for continuing existence are met or if improvements need to be made (Okojie, 2012, Nikko & Yusuf, 2007). The importance of the exercise can never be over emphasised for even though universities should periodically embark on self-study, external validation is necessary for a more objective assessment to ensure that universities comply with established standards.

Library is a collection of sources of information and similar resources made available for a defined community for reference and borrowing (Edoka, 2000). It could be set up, organised or maintained by a public body, an institution of learning, a corporate body or a private individual (Omekwu, 2015). It provides physical and digital access to reading materials. In addition to this, libraries also provide services of librarians who are expert at finding, organizing and interpreting information. Librarians are the intermediaries between the library and the members of the academic community. It is their responsibility to ensure that academic programmes of faculties and colleges are not only supported with relevant information resources but that the university community has access to these resources.

The Legal Backing of the Nigerian Universities Commission (NUC) The NUC was established in 1962 as an arm of the office of the Prime Minister. In 1974, it became a parastatal in the Federal Ministry of Education and was given the statutory responsibility for regulating academic, administrative and financial activities of Nigerian Universities (Okojie cited in Oladosu, 2011). The NUC gets its legal backing from the National Universities Commissions Act of 1974.

Section 1 of the Act establishes the NUC as a body corporate with perpetual succession and common seal, capable of suing or being sued in its own name. The Act charges the NUC with the omnibus responsibility of advising the Federal and State governments on all aspects of university education and the general development of universities in Nigeria.

To ensure that there is sufficient expertise in developing and regulating the academic activities of Nigerian universities, section 2 of the Act provides that the membership of the Commission must include persons with sufficient knowledge in various academic disciplines including agriculture and veterinary sciences, education, environmental sciences, humanities, social and management sciences, health sciences, engineering sciences and technology, earth, mineral and natural sciences and law.

More pertinent to this paper is the inquiry into the legal powers of the NUC to accredit universities or otherwise refuse to do so. Such powers can be deduced from some functions of the Commission stated in section 4 of the NUC Act. Particularly, section 4(I)(b) of the Act mandates the Commission to 'prepare, after consultation with the State Governors, the universities, the national manpower boards and such other bodies as it considers appropriate, periodic master plans for the balanced and coordinated development of all universities in Nigeria.' This shall include periodic master plans to review the general programmes to be studied in universities to make sure they meet the needs and objectives of the national interest. (Section 4(I)(b)(i))

Legal backing to carry out accreditation can also be inferred by section 4(I)(c) of the Act which gives the Commission the power to carry out other investigations relating to higher education as it may deem necessary keeping in mind national interest objectives. The NUC can also make recommendations for 'the establishment of new academic units in existing universities or the approval or disapproval of proposals to establish such academic units.' (Section 4(b)(iii))

In addition to the above, the power to carry out accreditation lay down minimum standards and to ensure quality assurance of Nigeria universities is vested in the NUC in line with the Education (National Minimum Standards and Establishment of Institutions) Act, Cap. E3, Laws of the Federation, 2010 (formerly Section 10 of Act No. 16 of 1985). Section 10 of the Act provides that The power to lay down minimum standards for all universities and other institutions of higher learning in the Federation and the accreditation of their degrees and other academic awards is hereby vested in the National Universities Commission in formal consultation with the universities for that purpose, after obtaining prior approval therefore through the Minister, from the President.

In excising this power, the Act mandates the NUC in section 11 to develop such standards in view of the need to promote and encourage scholarship and research. This is another legal reason why an effective and efficient library (should) constitute a significant score for accreditation of courses in Nigerian universities. This Education Minimum Standards Act vests far reaching powers on the NUC as it relates to supervision of Nigerian universities. Section 15 empowers the NUC as the 'appropriate authority' to appoint inspectors to ascertain the adequacy of the instruction given at approved institutions to persons attending courses of training; and the examinations as a result of which approved qualifications are attained and appropriate certificates are awarded.

Under section 15(2), it shall be the duty of an inspector appointed by the appropriate authority to give a report on;

(a) the sufficiency or otherwise of the instruction given to persons attending courses of training at the institution inspected by him;
(b) the sufficiency or otherwise of the examinations overseen by him; and (c) any other matter relating to the institutions or examinations on which the appropriate authority may, either generally or in a particular case, request their inspector to report,

Section 15(3) provides that the inspector appointed under the Act may inspect any book or register or document or remove any such document or book which will enable him/her discharge his duties effectively under the Act. He/she may require the authorities of any university or their employee to provide any information which in the opinion of the inspector would assist in the inspection and ascertainment of compliance with the standards prescribed by or pursuant to this Act.

Finally, this section empowers him/her to enter the premises of any university upon which he/she has a reason to believe that there is a contravention of this Act or any other subsidiary legislation made in pursuant to this Act or in relation to the NUC.

This Act also makes provision for sanctions including the power to punish universities or university employees who disrupts the activities of the inspectors duly appointed by the appropriate authority and in some cases close down erring institutions established otherwise than compliance of the Act. Pursuant to the above stated powers, including the power to issue guidelines on various aspects of university education under s 24 of the Act, the NUC issued the Minimum Academic Standard (MAS) for academic programmes taught in Nigerian universities in 1989 and this provided the basis for accreditation of degree programmes including professional disciplines in Nigerian universities. In 2004, the Benchmarks Minimum Academic Standards (BMAS) was introduced and this still forms the basis of accreditation exercises in Nigerian universities.

Functions of the National Universities Commission

Aside the powers discussed above, the Commission is also vested with the following functions;

a.   To make such other investigations relating to higher education as the Commission may consider necessary in the national interest;

b.   To inquire into and advise the Federal Government on the financial needs, both recurrent and capital, of universities research and to ensure that adequate provision is made for this in the universities,

c.   To take into account in advising the Federal and State Governors on universities financial needs, such grants as may be made to the universities by the Federal and State Governments, private proprietors and by persons and institutions in and outside Nigeria;

d.   To undertake periodic reviews of the terms and conditions of service of personnel engaged in the universities and to make recommendations thereon to the Federal Government where appropriate;

e   To recommend to the Visitor of a university that a visitation be made to such university as and when it considers it necessary;

f.   To act as the agency for channeling all external aid to the universities in Nigeria;

 g. To receive block grants from the Federal Government and allocate them to the federal universities in accordance with such formula as may be laid down by the National Council of Ministers.

The foregoing shows that the powers of the NUC are all encompassing.

The overriding objective is to ensure that higher education institutions in Nigeria can maintain standards which would give their graduates the ability to compete internationally.

The Role of the Library in Accreditation

The library plays a very critical role not only in the academic life of members of educational institutions, but also in their moral development (Oladosu, 2011) Zhang (2004) points out that the library has always been the intellectual heart of the university, as it has the responsibility of acquiring and providing access to recorded documents that represent the knowledge and wisdom of centuries of civilisation. This important role has led to the library being variously described as the academic engine house, centre of university education and the university intellectual powerhouse. In fact, Kwanpong (cited in Aguolu 1978) describes the university library as "the aorta and life blood of the university", while Foote (cited in Smith 2008) makes bold to say that "the university is a group of buildings gathered around a library." All these because of the perceived centrality of the library in the academic endeavour given that it has the responsibility of collecting, organising and retrieving information and information resources and making all

these accessible to users.

To this end, the academic success of any university depends so much on the state and health of its library as no university can boast of academic excellence if it does not have a good and functional library to back up its teaching, learning and research functions. It can safely be said that the extent of the success of the university in achieving its objectives can be measured by the extent to which its library resources and services are able to meet the needs of the academic community (Gates cited in Chaudhary, 2001). It can also be argued that the understanding of the role of the library in academics was central to the decision in many countries to accord academic status to librarians in academic institutions.

From the foregoing, one can easily understand the reason why the library is evaluated during accreditation.

On this the Southern Association of Colleges and Schools (SACS, 1988) notes that library resources are essential to learning. Simmons (1989) observes that it is in the interest of academic institutions to show their effectiveness in graduating students who are information literate.

They further state that ensuring that the general education programmes are supported with library based resources must be seen as a joint responsibility between librarians and faculties. In effect any accrediting body that does not include a strong component on the value of library support for all programmes will certainly be deficient (Simmons, 1991).

The NUC (2012) outlines the following as criteria for evaluation and scoring of programmes in accreditation exercises in Nigeria: staffing (32%); academic content (18%); physical facilities (27%); library (18%); funding (3%) and employer's rating (2%). This clearly shows that library holding is one of the four core areas in programme accreditation. The NUC affirms that a full programme accreditation status requires a total overall score of 70% and above in addition to the university concerned scoring 70% in each of the four core areas (NUC, 2012). This lends credence to Oladosu's view that institutional accreditation is a holistic assessment of the performance of a university in terms of clearly identified criteria, sub-criteria and relevant minimum standards (Oladosu, 2011). Ahmed (2011) contends that although the percentage allotted to the library may not be considered substantial, the fact that it is recognised at all in the scoring is worthy of note especially as most universities in Nigeria have been known to have failed accreditation because of the inadequacy of their libraries.

However, while it is expected that university libraries in Nigeria contribute to their university's success in the accreditation exercise, sadly this is not matched with commensurate provision of funds; no wonder some library administrators have been known to get into a state of confusion at the mention of accreditation. Funds, if at all released, have been known to come so late as not to make much impact. This is why some advocates contend that accreditation should be done more frequently to compel university administrators to pay more attention to the development of libraries. All the same, libraries must device means to ensure that the library component of accreditation is not seen as the 'Achilles heel' in their universities' accreditation exercises. This entails that some survival strategies are necessary and this is where the University of Nigeria displays its ingenuity which other university libraries could borrow from.

The University of Nigeria Library and It's Role in the University's Accreditation

The University of Nigeria is among the first-generation universities in Nigeria. It came into existence in October 1960 as the very first indigenous university in Nigeria. It runs a multi-campus system. The main campus is situated at Nsukka town in Enugu State, Nigeria. Another campus of the university is situated in the city of Enugu, about 49.88 kilometres from the main campus. The Enugu Campus of the university houses the professional faculties, and such includes a teaching hospital at Ituku-Ozalla, about 15 kilometres away from the city of Enugu. The campus is administratively under the Deputy Vice Chancellor at the Enugu campus.

The University Library started with 12,000 books, some journals and pamphlets on various subjects donated by Right Honourable Nnamdi Azikiwe in 1960 (UNN Portal). It is made up of the mother library;

Nnamdi Azikiwe Library at the main campus of the university at Nsukka and the divisional library at Enugu Campus comprising the Main Library, the Medical Library and the Law Library. Although these libraries are separated by distance, they are administratively under the supervision of the University Librarian at Nsukka. However, the day to day running of the libraries at Enugu Campus is carried out by a Deputy Librarian, (in the absence of one, a Principal Librarian is assigned to take charge). For purposes of this work, Nnamdi Azikiwe Library, Nsukka will be used as the umbrella term to refer to all the libraries in the campuses.

The Nnamdi Azikiwe Library has collections of over 5,741,300 books and non-book materials in addition to online

public access catalogue (OPAC) and C D Rom services, Institutional Repository, EBSCO Host e-content, Research gate presences, Online Resources, ICT e-Education Library, Turnitin etc (UNN Portal). Library holdings can, however, never be enough. It is not a secret that many educational institutions especially those in the developing countries are experiencing inadequate funding. This situation affects the internal running of the various arms of universities including the library.

   Collection development especially in journal subscription is seriously affected demanding that libraries devise some strategies to ensure that accreditation exercises are successful from the angle of the library. The Nnamdi Azikiwe Library system is seriously committed to this and this has always paid off. All the fifteen faculties and over fifty departments institutes and centres are all accredited (UNN Portal).

   The strategy is that the Nnamdi Azikiwe Library has in place a system wherein librarians are assigned to various faculties as Library/Faculty Liaison Officers. These assignments are made based on the subject area specialization of the librarians. The Library/Faculty Liaison Officers are drawn from the ranks of Deputy Librarians to Senior Librarians, with librarians from the ranks of Librarian I, Librarian II and Assistant librarian assisting them. The Liaison officers are expected to attend the Faculty Board meetings of the faculties assigned to them to know their information needs and how the library can help meet these needs. The Liaison Officer keeps the University Librarian informed on matters emanating from his/her faculty. During accreditation exercises the Liaison Officer with his/her assistants do the following:

   Collection/Compilation of Required Materials: The Liaison Officer makes concerted efforts to collect lists of recommended information materials such as books, journals, and electronic resources from each lecturer in the faculty. The lists are submitted to the Acquisitions Librarian who compiles them by subject areas and forwards same to the University Librarian. The Acquisition Librarian also contacts relevant book publishers and vendors for their price lists. These are compiled based on the need as articulated by the faculties and request for approval and release of funds is made by the University Librarian to the Vice-Chancellor. As soon as the funds are released, the Librarian ensures that the materials are acquired and processed.

   Compilation of Library Holdings: The Library is expected to submit to the accreditation team compiled list of the library holdings in the different disciplines offered in the university giving the bibliographic details of each. The aim is for the accreditation team to have a clearer view of the stock, with attention paid to relevance, quantity and currency. It is the responsibility of the Liaison to see to it that the library holding of his/her faculty is compiled and bound for submission to the accreditation team.

   The Liaison also ensures that the list is continually updated with each new addition to the collection.

   Online Search for Useful Websites and Articles: Since it is not possible for any library to acquire all the materials it needs, most libraries in Nigeria depend on online resources as a complement to their collection. It is also not possible for a library to subscribe to every fee-based educational database and so in many cases free ones are used. It is the responsibility of the Librarians to search out open access sites and link them to the university library website. In some cases, relevant open access articles are downloaded for use by faculties. These are merged with the library collection.

   Relevant websites in relevant subject disciplines are bookmarked, organised and printed. Titles of open access journals in relevant subject disciplines are also downloaded and compiled. These are organised, printed and bound. During accreditation visits to the library, websites are visited to prove to the team that the library has internet connectivity and that both students and staff have access to these sites. The library in partnership with the University Information and Communication Technology (ICT) centre ensures that internet connection stays on. The library also makes provision for an alternative source of electricity in the case of power outage.

   Exhibition/Display: As a method of ensuring that the library puts its best foot out, an exhibition of most of the core materials is mounted in an exhibition space. The accreditation team is taken to this area where they inspect the materials on display. The library has found this method very useful over the years as it allows the accreditation team to do on the spot check of some titles which the library claims to possess. Leaving them on the shelf may not provide enough visibility.

Organisation of Faculty and Departmental Libraries:

Faculty Libraries at the main library at Nsukka are run by Librarians from the Nnamdi Azikiwe Library who report to the

University Librarian. These Librarians ensure that Faculty libraries are prepared for accreditation exercises. However, the Library at Enugu does not provide librarians to run faculty or departmental libraries. The staffing situation makes this rather difficult. To ensure that accreditation is successful in the Enugu Campus, the Liaison Officer together with his/her assistants ensures that the Faculty libraries are well organised. They help in whatever form the faculty requests.

Accreditation Challenges

Generally, accreditation exercises come with some anxiety as the library struggles to ensure that it meets expectations. Over the years the library has had the following challenges:

Late Communication of Accreditation Date to the Library:

Preparing for accreditation requires enough time. However, on many occasions, the library does not get timely information of impending accreditation from faculties. Because of the finance the libraries do not acquire materials as regularly as they should. Since no university administration would like its school to fail accreditation, the accreditation period provides an opportunity to update and upgrade stock. Obara and Abayomi (2013) reveal in their study that there is a significant relationship between accreditation and resource input in Nigerian universities. If information comes late, the planning process is shortened, and the library may not get as much as it would have wanted.

Inadequacy of Funds: Collection development is a capital-intensive project. Because of the general poor funding situation faced by institutions of higher learning in Nigeria, subscriptions to journals have literally been put on hold. The library relies heavily on journal donations from foreign organisations and agencies. These do not always meet the needs of the library or academic programmes. Accreditation teams usually raise questions on the scarcity of journals hence the need to complement with online resources. Ahmed and Nwalo 2013; Tunde and Issa (2013) also identify inadequacy of funds as a major challenge in collection development in Nigerian university libraries.

Delays in Assessing Approved Funds: The library also experiences some bureaucratic bottlenecks in assessing approved funds. It is important that the process of acquisitions be started early because a lot of things is involved; moreover only few vendors or publishers are comfortable with releasing their materials to the libraries on trust.

Where funds are accessed late, and materials brought in late, the staff have been known to work overtime to ensure that the materials are processed and made ready for the accreditation and mistakes are never ruled out in such situations.

RECOMMENDATIONS

Accreditation must be approached with the seriousness and attention it deserves. Planning for accreditation should begin quite early to avoid anxiety and confusion which the exercise tends to generate. Also, the university administration and government should be more committed to funding the library and to ensuring that constant review of stocks and facilities are carried out for quality assurance.

It is instructive that the NUC regulation stipulates that 10% of universities' budget should be set aside for library development. This should be adhered to as this is not the case in many universities. The NUC must put in place a system that monitors compliance and sanctions erring universities. By so doing, acquisitions by libraries would be on a continuing basis and not ad-hoc as is the reality on the ground presently.

Finally, the basis for accreditation of libraries should go beyond the superficial level of assessing quantity and stock to include assessment of the capacity of the library building viz a viz the population of users, adequacy and competence of librarians in library service delivery and assessment of the extent of collaboration between the library and faculties in the general university education.

CONCLUSION

Accreditation is a necessary exercise for assessment of universities and their academic programmes to ensure that quality is maintained.

This is especially important in Nigeria at this time when there seems to be questions raised about the quality of graduates turned out by universities in Nigeria. The Nnamdi Azikiwe Library system as the arm of the university charged with the responsibility to ensure that information resources needed to support academic programmes are acquired, organised and disseminated is also evaluated during accreditation as it rightly should.

As we have seen the library plays a very important role in seeing that the university succeeds in the accreditation process. As a matter of fact the first and only time a faculty of the University failed an accreditation exercise was in 2008 during the specialized accreditation of the Law programme by Council of Legal Education (CLE). Part of the reason was that the Faculty of Law Library was not separated from the Main Library at Enugu Campus in line with the requirement of the for CLE that a separate building be designated as Law Library. However, accreditation was restored in 2009 after a re-organisation of the Library. This clearly underscores the indispensability of the Library in accreditation. Thus even though the Nnamdi Azikiwe Library faces daunting challenges in its bid to play its role in accreditation, it has always stood up to the challenges by seeing to it that it does all it could to meet expectations.

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Full Length Research

Library Resources Development for Social Services and Information Management in Public Libraries of Nasarawa State

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This paper examined the impacts of library resources development for social services and information management in public libraries of Nasarawa State. The descriptive survey method was used in carrying out the research. Two hundred and sixty five were returned out of the 267 questionnaires randomly distributed to library users in the selected Public Libraries in Nasarawa State. The data collected was analyzed using frequency distribution tables and percentages. The result from the study revealed that information resources available for public libraries are reference materials, text books which information resources like audio visual, electronic information resources and foreign publications are not much available in the public libraries. Challenges of public libraries are lack of funding by state government, inadequate resources, lake of trained security, lack of internet services and lack of resource management.

Key Words: Library Resources, Developments, Social Services, Information Management

INTRODUCTION

Public libraries are worldwide phenomena. They exist in different societies, in different forms, in different cultures and at different stages of development. All the Public libraries have some commonalities that they shared in characteristics in the world. According to IFLA/UNESCO, Public Library Manifestor (1997) that public libraries are the life gateway to knowledge development and its provides a basic condition for lifelong learning, independent decision making and cultural development of the individuals and social groups in the society. They provide access to knowledge, information and work of the imagination through a range of resources and services to it esteem users in the society. The services of public libraries are meant equally and available to all users regardless of their race, nationality, age, religion, educational attainment and so on. Libraries resources and its information management develop, humanities especially it users through its social services that they

renders in the society.

Reitz (2004) stated that, the roles and effectiveness of public libraries in nation building especially in Nigeria are very great, but it found that Nigeria public libraries perform poorly below expectation in almost all aspects due to limited resources allocated to the library's agencies. In the same vein, Usherwood and Linley (1999) viewed public library's roles in information management, delivery, and changing society values on information they offers on educationally and economic impact. The use of the library resources and services enhances on the new technological development in the society. Which invariably have the potential to change the perception of the users of public libraries in Nigeria towards a better future towards positive development of mankind and public libraries help to empower the users through enrichment and development of their lives and that of their communities for better future.

STATEMENT OF THE PROBLEM

Public Libraries in Nigeria have been noted for adopting foreign model with little or no adaptation to the local content for the need of it users. Over the years, public libraries are characterized by low patronages that are attributed to the inappropriateness in the library collections and lack of consultation between the library officers and the existing potential users. Public libraries in Nigeria were established without prior examination of the information needs of those who were the users of their services.

The challenges of findings innovative approaches in harnessing public library data or materials to make its services more useful for the users and to be more accessible for the public users is still not accessible to all its users. And also lack of non-adequate and current library materials and information services to its users. Most of the materials in the public library in Nigeria are not current, which discourage it users for patronizing their services in Nigeria.

OBJECTIVES OF THE STUDY

The general objectives of the study are to find out the effectiveness of library resources and services that public library render to their users.

The specific objectives are:

i.   To identify Information resources available for users in public libraries
ii.   To identify the adequacy of information resources in public libraries for resources management and social services.
iii.   To identify the effectiveness of library resources and services that public libraries render to their users.
iv.   To identify the problem of Resources management and social services in public libraries
v.   To suggest ways that public libraries can have available resources for effective social   services and information management.

RESEARCH QUESTIONS

This study aims at study the following questions

1.   What are the information resources available for user in public libraries?
2.   What are the adequacy of information resources in public libraries for resources management and social services?
3.   What are the effectiveness of library resources and services that public libraries render to their users?
4.   What are the problems of Resources management in effective services provision to the users?
5.   What are the ways that public libraries can have available resources for effective social services and information management?

LITERATURE REVIEW

Public libraries in under-developed and developing countries should be regarded as an agency among other agencies that promote education and eliminate illiteracy among people. According to Onwubiko & Uzoigwe (2014) stated that, public libraries have been noted to improve literary through various information and educational services they render overtime through their resources such as books, journals, newspapers, internet services to mention but few to their users and the entire members of the community.

Adimorah (1990) and Okiy (2003) examines the challenges of public libraries in Nigeria and discovered that the tempo of public libraries development in the country in the years immediately after independence and after the Nigerian Civil war could not be sustained due to inadequate supports by the establishing authorities, demoralized and inadequate workforce and inadequate accommodations. All the listed variables affect the functioning of public libraries negatively especially the public libraries. However, the concern authorities give no attention to the development and maintenances of public library resources.

The public library is the avenue through which the overall information resources are made freely available to all the communities. The IFLA/UNESCO public library manifesto issued in 1949, revised in 1972, 1994 and 1997 declared.

"The public library is the local centre of information sources of all kinds and it provides information for knowledge and made information readily available to its users. The services of the public libraries are provided on the basis of equal access for all, the needed information resources to all its users, regardless of age, race, sex, religion, nationality, language or social status. Specific services and materials are provided for those users who cannot, access needed information for their professions and personal guide for their well beings. Whatever reason, the regular services and materials, provided by public libraries for example, those of linguistic minorities, people with diabetes or people in hospital or prison" and so on.

Public libraries are designed to provide information on agriculture, building, trade, health care, and other aspects of human activities which are required mostly by the rural dwellers because the lack access to other sources of assistance. Ebiwolate (2010) noted that Nigeria information services are still elitist, serving only 20% of the educated elite group while the 80% illiterate rural dweller wallow in information deprivation. Edom (2012) collaborated this when he observed that in the rural communities there is lack of telecommunication infrastructures, electricity and reluctance on the part of internet services providers (ISPS), such as cybercafé operators and other stakeholders to extend their internet services. Hence, the information environment of this silent majority is yet to record any marked improvement in this period of information explosion (Ejedafiru 2015).

UNESCO (2010) and National Library of Malaysia (2011), outlined the following functions of Public Libraries as:

1.   Supporting both individual and self-conducted education as well as formal education at all level to its users.
2.   Providing opportunities for personal creative development for its users
3.   Promoting awareness of cultural heritage, appreciation of scientific achievement and innovation
4.   Providing access to cultural expression of all performing arts
5.   Supporting the oral tradition
6.   Ensuring access for citizens to all sorts of community information
7.   Providing adequate information services to local enterprises, association and interest groups to its users
8.   Facilitating the development of information and computer literacy skills
9.   Supporting and participating in literacy activities and programmed for all age groups and initiating such activities if necessary
10.   To provide for educational development of all people in the community.

On the other hand, information management is the process of storing and safe guarding and retrieving of information for the benefit of the users and that of the community. That is keeping records for future use for the benefit of the users. In spite of the importance of information in all human activities and development, it preservation has not be given needed attentions. It is a term that is difficult to define because it has several dimensions. Information means many things to different people. To some people, information is news, while others sees it as facts. Librarians' associate information with records knowledge and the microbiologist consider information as the genes in DNA, which are transmitted from one generation to the other (IFLA 1997).

METHODOLOGY

Methods of data collection; questionnaire is employed as methods of data collection survey designed was used. The Population of the study; the total population of the study is 2667 registered users of the three public libraries. However, the sample size that represented the entire population of the study was 10 percent that is 267. The questionnaire was administered on 267 randomly selected registered library users, representing 10 percent of users' population. Finally 265 completed questionnaires were returned. Method of data analysis; Data was analyzed using frequency distribution tables and percentages.

ANALYSIS

Table 1: What are the information resources available for users in public libraries?

Table 1: Information resources available for use

Items	Frequency	Percentage %
Text Books	251	95%
Reference Materials	265	100%
Serial/Journals	210	79%
Audio Visuals	65	25%
Government Publications	262	99%
Electronic Information Resources	58	22%
Foreign Publication	89	34%

Sources: Field survey August, 2017.

Table 1 Shows that the respondent indicated 100% for reference materials are provided for users, 99% agree that government publication are provided, 95% chose text books, 79% serial/Journal, 34% foreign publication, 25% Audio Visual information resources, while, 22% indicated electronic information resources. The findings revealed that information resources available for users in public libraries are text books, reference materials, serial, Journals and government publication as supported by majority 100%, 99%, 95%, 79% of the respondents, based on data collected in the fields.

Table 2: What are the adequacy of information resources in public libraries for resources management and social services?

Table 2: Adequacy of Information Resources

Information Resources	Frequency	Percentage %
Text Books	220	83%
Reference Materials	159	60%
Serial/Journals	120	45%
Audio Visuals	40	15%
Government Publications	188	69%
Electronic Information Resources	45	17%
Foreign Publication	32	12%

Source: Field Survey August, 2017.

Table 2 shows that, the respondents indicated that text books 83%, while, government publications are 69%, reference materials are 60%. 45% of respondents indicated the serials/Journals, 15% of the respondents indicated audio visuals, 17% indicated electronic information resources, while 12% of the respondents indicated foreign publication. However, respondents did not respond to audio visual, electronic information resource and for foreign publication. It clearly shows that, the information resources are not available in those public libraries especially in those area mentions as supported by the respondent on data collected in the field.

Table 3: What are the effectiveness of library resources and services those public libraries renders to their users.

Respondents were asked of the effectiveness of library resources and services provided in the public library. From the analysis above, majority of the respandance on references services shows very high effects 232 (88%) and also extension services indicated very high effects 170 (64%) while the respondents indicate high effects on the lending services 148 (56%). However, there are some major members of respondents that indicate low effects on reprographic services 140 (53%). Again the majority of the responds from the respondents shows that there is very low effects on mobile library services 202 (76%), internet services 201 (76%) and user education 161 (61%) these shows that library resources and services are not effectively impacting on the library users.

The data above revealed that the highest respondents are, lack of internet service operators 100%, lack of funding by the government 98%, government neglect 95%, the respondent indicated inadequate resources/ story facilities are 89%, again, Lack of train Librarians 86%, lack of train security personnel are 85%. The findings revealed that all the variables mention are

Table 4: What are the problems of Resources management in effective services provision to the users?

Table 3: effectiveness of library resources and services

Library Resource Services	VHE	HE	LE	VLE
User education		44 (17%)	61 (23%)	160(61%)
Mobile library services	-	-	-	255(100%)
Inter library loan services	-	23 (9%)	40 (15%)	202 (76%)
Lending	84 (32%)	148(55%)	21(9%)	10(4%)
Internet services	-	-	64 (24%)	201 (76%)
Reprographic services	-	114(43%)	140(53%)	11 (4%)
References services	233(88%)	20 (8%)	13 (5%)	-
Extension services	170(64%)	61 (23%)	22(8%)	12 (5%)

Where VHE = very high effects, HE = high effects, LE= low effects, VLE= very low effects.

Table 4: Problems of Resources Management

Problems of Resources Management	Frequency	Percentage %
Lack of funding by the government	249	98%
Inadequate resource/ Story facilities	236	89%
Lack of Train Security personnel	225	85%
Lack of Internet Services Operators	265	100%
Lack of train Librarians	228	86%
Government Neglect	253	95%

Source: Field Survey August, 2017.

Table 5: Solution to public libraries availability of resources

Solutions to availability of resources	Frequency	Percentages %
Mass literacy programme	227	86%
Training of Libraries Staff	243	94%
Provision of Library Resources	236	89%
Government should be Funding Public Libraries	26	99%
Inclusion of More Services	232	88%
Automation of library	*236*	*89%*

Sources: Field Survey August, 2017.

problems of resources management of public libraries as supported by up to 85% and above of the majority asked in the field.

Table 5: What are the solutions to public libraries availability of resources for effective social services and information management?

The researcher soughs to find out the solution to availability of resources in public libraries in Nasarawa State. Table 4 shows the analysis of data on the way forward for availability of resources in public libraries. It is evident that government should be funding public libraries 99%, training of library staff 94%, provision of library resources and Automation of library 89%, Inclusion of more services 88%, and Mass literacy programme 86%. The findings revealed

that all the above mention variables are ways or solution to public libraries availability of resources for effective social services and information management as supported by up to 85% and above in each of the variables based on the data collected from the respondents in the field.

DISCUSSION OF FINDINGS

Findings of the study as analyzed in table 1 shows that the area of respondents for resources available for use in public libraries are reference materials, text books, serials/journals and government publication, most of the respondents have not seen audio visual, electronic information resources, and foreign publication. This is supported by Ifidon (2006). Who opines that services in a library could be said to be excellent and appreciative if only there are books and other library resources available in the library.

The result of table 2 on the adequacy of information resources, in the public libraries shows that text books, government publication, reference materials and serial/journals are provided for the users. On the need for provision these resource. Onwubiko (2014) suggest that public library provide materials in wide range of subject to cater for all levels of demands. It could be noted that at this period of information and communication technology public libraries in Nasarawa state are yet to embrace it fully.

Analysis of data in table 3 shows that the main challenges hampered the use of social services in public libraries, lack of funding by the government, inadequate resources, lack of trained security, lack of internet services, lack of resource management, and government neglect. This finding agrees with Nwokeocha (1998) who opined that there is government neglect on the role of public library to the society. There is also lack of recognition of the state libraries by the government decision makers. That is why most public libraries in Nigeria are at the mercy of God.

The respondent agreed that mass literacy program, training of library staff, provision of adequate resources, funds of public libraries by the government, inclusion of more services and automation of public libraries. Diso (1994) in his study that Nigeria and other developing countries of the word begin to use information and communication technology (ICT) to show the multi-dimensional problems of the public libraries and the community at large.

CONCLUTION

public libraries should be encouraged and supported by the state government in other to alleviate problem of lack of information resources in public libraries therefore, there is needs for the state government and non-governmental organization to help fund the public libraries were electronic information resources should be made available, like in internet and digital resources, connection of information data based regionally and locally to ease access to information that will enhance personal and community development. On the whole adequate budgetary allocation should be approved for public libraries to make the libraries functional and attractive to users that are in desperate need of information for human capacity development.

RECOMMENDATIONS

Arising from this research are the following findings and recommendation are made:

- There should be awareness on the type of services which the public libraries provides to their users
- The state government should provide subvention to public libraries for effective information resources management of public libraries
- There should be internet connectivity to help the public libraries staff and users to join millions of the world population in the global village
- Recognizing the vital role played by public libraries in the area of information, education , economic, politics, culture and other social activities
- Mobile library services should be revitalized to ensure effective service delivery of public libraries.

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Full Length Research

CONNECTING THE INDIVIDUAL TO LIFELONG AND LIFE-WIDE READING CULTURE IN NIGERIA: THE IMPERATIVES OF THE UNITED NATIONS SUSTAINABLE DEVELOPMENT GOAL 4

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This is an off-shoot of a paper presented at the National Library of Nigeria Readership Promotion Campaign programme. It highlights the connection between the individual, lifelong learning and lifelong reading culture against the imperatives of the United Nation's Sustainable Development Goal 4. Goal 4 talks about an "Effective Learning in a safe environment" and how that affects the individual's capacity to sustain a lifelong learning and the promotion of a sustained reading culture. The paper is theoretical and reviews the relevant literature on the variables. It concludes that there is a nexus between a reading culture and the characteristics of a safe environment comprising the actions or inactions of the key stakeholders which includes Government, parents, the schools, teachers, authors, publishers and others. It recommends, amongst others, that it is majorly the responsibility of Government to make the environment safe and inclusive for all by providing functional public libraries in all the Local Government Headquarters, support writers, publishers, guarantee security, economic and guarantee empowerment opportunities.

Keywords: individual, lifelong learning and lifelong reading culture, United Nation's Sustainable Development Goal 4, Effective Learning

INTRODUCTION

The Readership Promotion Campaign was organized by the National Library of Nigeria and held in Rivers State in May 2018. The theme was "Sustaining Lifelong Reading for Positive Change". Ten (10) Secondary Schools represented by Seventeen (17) students each participated. Parents, teachers, authors, publishers,

government functionaries and Librarians were present. The schools performed drama sketches; songs, poetry, quizzes and reading competition. Prizes were won. Each participating school went home with sets of books for their libraries, donated by authors and publishers. At the end it was a huge success with a Communiqué issued and sent to media houses as well as to the State Government through the Ministry of Education and was aired by the Nigerian Television Authority.

The title of this paper: *Connecting the individual to Lifelong and Life-wide Reading Culture: The imperatives of the United Nations' Sustainable Development Goal 4(SDG)* is a choice premised on the importance of the United Nations SDG 4 in achieving a lifelong learning, life-wide learning and a sustained reading culture.

The key-words are: Sustainability, Lifelong learning, Life-wide learning and sustained Reading Culture. Simple definitions of these key-words were provided to guide and direct the presentation and discussion. This approach was taken because the mixed audience comprised authors, publishers, parents, school children and their teachers. The paper provides insight into what it means to sustain an activity, in this case, a reading culture, and what all the stakeholders in that activity ought to be doing to sustain it as a lifelong and life-wide activity for a positive change.

The Epistemology of the term "Sustainability"

The term "sustainability" originates from the concept of sustainable development of the environment. It became very popular by the end of the 20th Century because of the need to conserve the environment by creating awareness of the future impact of the activities of the present generation on the environment. Thus, from the environment point of view, sustainability means meeting the needs of the present generation without compromising the ability of future generations to meet their own needs (Brundtland Report, 1987). In simple terms and for our purpose here, to 'sustain' an activity means to keep up with an action and progressing in that particular direction for a period as long as possible that will affect the individual positively without compromising the comfort and ability of others and future generations to meet their own needs along the same or similar direction. Here, it means the kind of reading habits we want to form today to enable us make a lasting change in our lives and in society as we continue reading good books, learning new things and new ways of doing things without stopping others from carrying on with similar activities now or in future. This is social justice. As the individual embarks on his sustained reading programme, he is not jeopardizing the needs of others to also embark on a similar reading activity either now or in the future. By so doing, the book will help to build the community through building the individual for positive change.

Lifelong Learning, Life-wide Learning and Lifelong Reading Culture

'Lifelong learning' (LL) is a recent terminology used by UNESCO to replace "lifelong education and recurrent education". This was conceptualized in the 1972 Faure publication entitled *Learning to be*. 'Lifelong learning' is a paradigm shift from education that focuses on just attending formal school or college education to "Learning how to continue to learn throughout the life cycle." This is learning from 'cradle to grave' which is lifelong and also life-wide. In 1996, the UNESCO set up a committee headed by Delor to address the concept of lifelong learning. The Delor's Report entitled: *Learning: the Treasure Within* stressed that lifelong learning must stand on the Four Pillars of education which are: learning to know, to do, to be and to live together. In the wisdom of the Report, the four pillars would enable the acquisition of knowledge, skills and values through life, as a continuous process from 'cradle to grave'. Similarly, in 2000, the European Commission provided one of the most widely accepted definitions of LL to argue that it is an:

> All purposeful learning activity undertaken throughout life helping the individual to develop, acquire language, share information and improve knowledge, communication skills and competencies within a personal, civic, social and / or employment-related perspective.

Although, Wikipedia may not always be a dependable reference source in a standard academic endeavour such as this, definition it provided lends some support to that by the European Commission as:

> The ongoing, voluntary and self-motivated pursuit of knowledge for either personal or professional reasons that does not only enhance social inclusion, active citizenship and personal development, but also self-sustainability as well as competitiveness and employability.

This perspective also recognizes that learning is not restricted to childhood or the classroom but takes place throughout life and in a spectrum of situations and circumstances. According to Allen Tough (1989), 70% of learning endeavours are self-motivated while only 20% of all learning projects are planned by a professional. In this regard, learning is no

longer confined to a place (school), limited to an age-bracket (time) and the knowledge gained with limited application (regular circular employment). No, not at all because this learning takes place all the time. Everything and every experience gained anywhere and from every book read are learning opportunities that produce positive change and affect general lifestyle modification in the individual. Thus, every book read is a bridge that connects the individual to capacity building and works together for good to them that love reading, especially, reading good books. Again, the UNESCO's Belem Framework for Action (2009) summarizes lifelong learning as "an organizing principle of all forms of education". There is no end to education.

Life-wide Learning

On the other hand, life-wide learning activity is what it is. It is not usually directed at one restricted learning area and aspect of knowledge and skill but attempts to focus and re-focus attention as broadly as the environment permits. It is an environment-based or opportunity-based reading and learning venture. According to Ouane (2009), the learner is able to acquire and integrate various sets of knowledge and skills in order to apprehend, advance or even invent new knowledge and skills because the environment is right and the learner possesses the desire for continuous learning.

Lifelong Reading Culture

Lifelong reading is when the individual continues to read and maintain that reading culture, consistently, throughout life. It is about internalizing a reading habit for the sake of it first and foremost, then as a means of language acquisition, communication, entertainment, education and of sharing information and ideas. As a means of entertainment and education, a regular reader is a regular tourist because the individual, connected to the pages of the book, visits several places, meets great men and women who have affected history and so on. It is a beautiful interaction between the text and the reader. We can safely adapt the European Commission (2000)'s definition of learning to also define a sustained reading culture as an:

> All purposeful reading activity undertaken throughout life helping the individual to develop **a sustained reading culture**, acquire language, share information, improve knowledge, communication skills and competencies within a personal, civic, social and / or employment-related perspective

In this sense, it is reading to to know, to do, to be and to live together. Indeed, reading makes a complete intellectual, empowered and social individual. An individual's reading habit may be shaped by his prior knowledge, experiences and attitude. Unlike most endeavours, reading requires discipline, isolation, creativity and a critical mind.

The UN 2030 Agenda for Sustainable Development and Sustainability

The United Nations 2030 Agenda for Sustainable Development, also known as the agenda for "Transforming our world", identified 17 global goals. Goal 4 is on sustaining "Quality Education" which is to: **"***Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all***".** Goal 4a specifically, deals with "Effective Learning Environments". According to this Goal, countries and institutions (government, schools, etc) should: *"Build and upgrade education facilities that are child, disability and gender sensitive and provide safe, non-violent, inclusive and effective learning environments for all"*. Nigeria is a signatory to these declarations. Our interest here is on the provision of a: *"safe, non-violent, inclusive and effective learning environments for all"*. The reading process requires continuous practice under the right and effective environment.The Nigerian Government at all levels is expected to provide the educational facilities in a safe, non-violent, inclusive and effective learning environment for all by the year 2030. Some of these facilities should include quality schools with standard school libraries, public and community libraries with good books written by both local and foreign authors, published by both local and foreign publishers, etc, in an environment devoid of violence and poverty. In some States of Nigeria like the Rivers State, efforts are made to build and upgrade educational facilities and provide effective learning environment. The schools are also monitored by the Rivers State Ministry of Education to ensure quality. But in some other States, cultism, kidnapping of school children, rape, insurgencies and similar vices are still taking place. Children are still studying under inhuman environments and some are dropping out of school daily. Today the National Bureau of Statistics has it that about 10 million children are out of school. In other words, the extent to which we can truly say that the social and educational environment in some States is safe for the individual to form a lifelong learning, life-wide learning and a sustainable reading habit is a topic for another discussion.

   It is very important to think 'sustainability' in all life positive endeavours. It tells of what, as individuals, groups or

communities desire to be now and the legacy they intend to leave behind based on their present actions. Lifelong learning, life-wide learning and the development of a sustained reading culture must be considered together so as to find a collective and individual lifelong prosperity. This is the stance of the United Nations 2030 Agenda. To reiterate, the safe, all inclusive and effective learning environments should include the availability of functional public and school libraries manned by professionals with adequate facilities to cater for all levels of need. Employment opportunities for economic empowerment, electricity power supply, security, quality early childhood development facilities, parental background, training and re-training of teachers and so on, all form part of the safe and effective lifelong learning and reading environments. An individual who is desirous to take up additional training on a life-changing skill acquisition programme or wants to improve and sustain his existing skill, and improve on his reading habit needs quality books in the market and libraries, the economic power to buy books and pay for tutorials where necessary, electricity power and security of life to enable the individual keep late in the public or school libraries to study without fear of molestation.

Goal 4.1 of the UN on "Universal Primary and Secondary Education" also enjoins that "By 2020, countries are to ensure that all girls and boys have access to quality early childhood development, care and pre-primary education so that they are ready for primary education". This is relevant to the extent that lifelong learning and the acquisition of a reading culture also requires good early childhood foundation. Year 2020 is here and can we as stakeholders, (teachers, parents, schools, government) say that all girls and boys in Nigeria have equal access to quality early childhood education in the face of insurgencies, poverty and other challenges as identified above? Sustainability starts with the young minds being exposed and taught that they can change themselves and the world from where they are. Most Parents and teachers are grappling with poverty, insecurity and lack of basic amenities. More children are dropping out of school because parents are not able to pay their school fees. Other children are in internally displaced peoples' camps and are therefore, not in schools. So, the basis for lifelong and life-wide learning and sustainable reading culture is already threatened by these indices.

The Goal 4.7 of the UN on *Education for Sustainable Development (ESD) and Global Citizenship* also provides that:

> *"By 2030 countries are to ensure that all learners acquire the knowledge and skills needed to promote sustainable development including among others, through education for sustainable development and sustainable lifestyles, human rights, gender equality, promotion of a culture of peace and non-violence, global citizenship and appreciation of cultural diversity and of cultures' contribution to sustainable development".*

ESD thus hopes that by 2030, member countries should empower their citizens to change the way they think at all levels and in all social contexts and work towards a sustainable future based on the provision of effective learning environment. The year 2030 is not too far from now, are there indicators to show that Nigeria will achieve this goal by 2030? Any answer is as good.

Characteristics of Lifelong Learning, life-wide Learning and Sustainable Reading Culture

These are attributes that characterize lifelong learning, life-wide learning and sustained reading culture. According to Leyden (2017) these are: opportunity, skepticism, curiosity, creativity, initiative, perseverance, and capacity, the desire to continue to read and learn and even "perfectionism" and we are quick to add "passion". The UN SD Goal 4 dwells on providing the right environment.

The Imperatives for Lifelong Reading Culture for Positive Change

Positive change here means the transformation of a non-reader to a reader who has developed a sustained reading culture. Such positively transformed individual should impact his immediate environment. According to Senge et al (1999) "significant change only occurs when it is driven from the top" and for our purposes here, "the top" means the government as it seeks to provide a safe, all inclusive and effective environments for all as the UN Goal 4 stipulates. It requires the "top" addressing the limits that can discourage change from occurring. These are the imperatives. Some of these imperatives revolve round the actions of all the stakeholders involved in the learning and reading process. Every stakeholder has a responsibility: the individual, parents, teachers, the school, authors and writers, publishers, the government and the society at large.

At the individual level, Leyden (2017) recommends some ten ways to achieve a lifelong learning and reading habit. According to him the individual should:

1.   Read widely and often. Reading books, newspapers, magazines, journals, etc, in traditional (print) and

electronic formats. Also, reading constructively according to the direction of the person's identified goal. When developing a skill or a particular talent that an individual has, reading books on it will enhance the potential. Look out for newspaper columns that discuss that topic, cut that page to form part of your personal library on it. Collect artifacts on the topic. Discuss with the right people. Ask questions. Search the internet. By the time all these would have been done, you will find that you have not only increased your horizon but have also seen ways of sustaining and sharpening your interest.

2. Maintain relevant friends and contacts: Exchange books with friends as gifts. "Iron sharpeneth iron" according to the Holy Book. Be sure to delete from your list those friends that will discourage and pull you away from pursing your dream and those friends that while away your productive time. If possible, avoid some friends and contacts while you focus on what you want to achieve. In that way, they will form part of the instrument for sustaining your lifelong learning for positive change.

3. Teach others: Knowledge, when shared does not diminish; rather it increases the understanding of the bearer. Some people understand better in discussion groups. That is where the test of level of your knowledge of a subject and the direction to seek improvement.

4. Know who is: The reader should read books that relate to his/her talents or interests as a person. Those who are multi-talented must be careful so that they do not become a Jack of all trades and a master of none. Focusing on and developing one talent at a time and being curious about it. Running with the vision until it has been exhausted are key.

5. Be Passionate: When passionate about a subject, it is easier to develop the right learning atmosphere. The learner is eager to learn and know new ways of doing it. He / She is open to suggestion. This is where the school teachers and parents have an important role to play. Teachers are often able to identify talents in their pupils. It is for them to help the pupils develop the talent by giving them individual projects to start and finish. The skill acquired here will start a lifelong learning and reading process in them.

6. Believe he/she is an unstoppable reader: This requires making reading enterprise to become part of a general worldview by dreaming it, talking it, eating it.

7. When to start a reading programme: Start now where you are. The earlier you start the better for it to be sustained over a life time and make the long lasting positive impact in your individual life. Let the desire to read a book or read something be a daily priority.

8. Be like the African proverbial snail: it goes out to look for food (leaves). It does not wait for the leaves to come to it. So, go out and search out good books, people both traditional and electronic, as they appeals to your interest.

At the level of the society, beginning from the parents and guardians, the children should be encouraged to go with their passion. Books should be a regular gift item in the homes. Teachers can only build on the home foundation. It is easier for the teachers when thefoundation is right. For if the foundation is faulty, there is very little that the teachers can do. The teachers need to be motivated by regular payment of salaries, enhanced welfare, and training and retraining to improve on their skills so that they can impart quality knowledge direction and other forms of support. Most teachers, by their training, are very committed to the success of the children. If the teachers are taken good care of by the Government and the erring ones disciplined, they will have little or no attraction for illegal activities. Teachers deserve respect by the parents and guardians. The school environment needs to be right with facilities that encourage curiosity and creativity. There should be a standard school library with a qualified librarian who knows the right materials to acquire process and disseminate to the right children in the right format.

The government and the society at large should provide the right all-inclusive environment for all. Provision of Public and Community Libraries is sine-qua-non for promotion of lifelong reading culture. Such libraries are the universities for the old, young, rich, poor, able, persons and those with special needs, all races and all religions. In some developed countries, there is always a library for all citizens within a walking distance. This is a panacea for lifelong learning, life-wide learning and sustainable reading culture for positive change. Authors should be encouraged to write. Copy right of the authors must be protected and their intellectual property appropriately rewarded. Publishers should be encouraged to publish good books.

Benefits of Lifelong Reading Culture

The benefits of forming a lifelong reading habit cannot be over emphasized. In addition to the benefits already identified above, Winter-Hebert (2014) also adds other benefits to include mental benefits stimulation, stress reduction, knowledge acquisition, vocabulary expansion, memory improvement, stronger analytical thinking skills, improved focus and concentration, free entertainment, better writing skills, tranquility and peace that passes the understanding of the uninitiated.

CHALLENGES AND RECOMMENDATIONS

Under the imperatives, some of the challenges were already identified to include, generally, the "unsafe environment" resulting from the actions or in-actions of the stakeholders: individual learner, parents, teachers, the school, authors, writers and publishers, the government and the larger society. Other challenges include the effect of the social media on the reading culture of the present generation. Social Media seem to have taken-over the individual's attention. The children are worst affected by this phenomenon. School fees are rising. Salaries are no longer taking parents' home. So parents are constantly working to make ends meet and no longer have time to guide the children. Some Governments are not taking seriously the issue of the quality of schools that are approved. It is no longer news that the educational standard in Nigeria is greatly challenged. Public and Community Libraries are not enough. The existing libraries are bereft of new and good books. There are no good books in the market and where they are seen, the cost is exorbitant. Children are no longer encouraged and commissioned to read more and widely because the materials are not available. Writers are not encouraged to write books because literary works are not promoted and sponsored. Reading culture is fast eroding if not almost gone. Intellectual culture is gone. Parents do not reward children with books as gifts and reading same to them. Parents take them to fast food joints to reward them. Some teachers no longer discipline children for fear of being reprimanded by parents, yet young people need to be disciplined by their teachers who, most often, know the children better.

The school Curriculum is good enough but strict implementation appears faulty. On the larger society, some religious faith-based organisations no longer see the need to preach good social morals and the value of good virtue as against money-bagging culture. Poor reading culture and poverty do not prioritize the purchase of books. Individuals no longer see the need to engage in private self-study to acquire degrees and certificates to improve themselves. In the past, people who did not have the opportunity of attending formal, regular secondary school and university education attained prominence through private home study, sometimes through correspondence courses. Thanks to the availability of the National Open University in the country where adults can access education as a lifelong and life-wide learning environment to further promote reading culture.

The solution to all these problems is for the stakeholders – writers/authors, publishers, government, parents, teachers, religious bodies and the entire society to create the right environment and promote reading culture that will support lifelong and life-wide learning for all.

CONCLUSION

In conclusion, connecting the individual to lifelong learning, life-wide learning and a sustained reading culture for positive change requires the involvement of all stakeholders in providing "a safe, non-violent, inclusive and effective environment for all". This right environment will promote the desired reading culture and produce a worthy citizen. In this way, the book would have helped to Build Community as the 2018 World Book Day theme rightly declares.

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Full Length Research

Library Users Education: A Panacea for Academic Performance of Students of University Of Agriculture Makurdi

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This study examined the role of library users' education on the academic performance of students in University of Agriculture Makurdi. Four objectives were formulated and four research questions answered. Population for this study was 89 subjects comprising all staff both Professionals and Para-professionals from University of Agriculture **Makurdi library and was used as sample for the study. Instrument used for data collection was restructured questionnaire. Data was collected and analysed using mean and standard deviation. Findings of the study revealed that library facilities impact on academic performance of users. There are also basic skills of searching for useful literature through reference services. Findings revealed challenges affecting use of reference services for future work. The study also found strategies for improving user education programmes of the libraries. The study concluded that availability and provision of the various types of user education to library users is very important for effective utilisation of the library resources and services. However, the study identifies challenges to effective use of library services. It was recommended that Adequate qualified staff should be employed since library services enhances good academic performance of users and adequate reference resources and services should be maintained in University of Agriculture Makurdi.**

Key world: Library, Users Education and Academic performance

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INTRODUCTION

Library user education is one of the important services of the library organised for users of higher institutions of learning. It is an academic programme designed by academic libraries to educate her users especially users on how to effectively use library resources and services. User education quickens the efforts of the clientele in retrieving and effectively utilising the library materials. The demand for the use of library resources calls for the need to ensure that users have effective and efficient access to these resources. User education is expected to offer to users the knowledge, skills and training on how to source and use the library system and services by

introducing them to the services offered by the physical library building of the university as viewed by (Nnamdi, 2010, Nithayanadam, 2006 and Maduako, 2013).

According to Akalumhe (2011), "A more holistic programme of user education is referred to as information literacy programme". Many academic libraries especially university and research libraries emphasise the need for users to acquire skills that will enable them search for information independently on any aspect of knowledge using both traditional and electronic methods of accessing information. Information literacy programme is geared towards attaining a common competence in the use of library and computer network technologies. User education therefore cannot be discussed without first discussing Information literacy because they are inter-woven.

The explosion of information and information sources has informed modern societies of the growing importance of special skills in accessing and using information from different sources and media efficiently and effectively. Such skills are known as information literacy (IL) skills. Information Literacy (IL) has thus become one of the most vital sets of skills for the Twenty First Century. IL skills enable students succeed academically and help them to secure future job opportunities. An information literate person according to The United Nations Educational, Scientific and Cultural Organisation (UNESCO) is "able to recognise when information is needed and have the ability to locate, evaluate, and use effectively the needed information". UNESCO defines information literacy as "… beacons of the Information Society, illuminating the courses to development, prosperity and freedom. Information literacy empowers people in all works of life to seek, evaluate, use and create information effectively to achieve their personal, social, occupational and educational goals. It is a human basic right in a digital world and promotes social inclusion in all nations". Information literacy enables people to interpret and make informed judgements as users of information sources, as well as to become producers of information in their own right. Information literacy must be taught in the context of the overall process and instructions in information literacy skills must be integrated into the curriculum and reinforced both within and outside of the education system (Zaki, 2011 and Wang, 2012).

Library user education encompasses all types of activities designed to teach users about library services, facilities, organisation, resources, and search strategies in order to equip them with the basic skills to enable them to make optimal, efficient and independent use of information resources and services available in a given library (Adi, 2014). It is simply a planned process and technique that is aimed at equipping library users with the basic skills to enable them optimally use resources available in a given library or libraries. Guiding users on how to use the library has become necessary because of the tremendous increase in volumes of publications as well as the resulting complexity of libraries and methods by which literature is organised and disseminated.

Library user education or library instruction "began in the nineteenth century, with instruction in library use offered by a number of libraries in the United States between 1876 and 1910 and then ramped up in the early twentieth century. Academic library instruction mushroomed during the 1960's and early 1970's. This resulted in the founding of the Library Orientation Exchange (LOEX), a non-profit, self-supporting educational clearinghouse, in the early 1970's. During the 1970's and 1980's, prior to the widespread public use of computers, [library instruction] went far beyond teaching the mechanics and identifying and locating materials in the physical library…. It focused on the physical library, as for the most part, that was all that users could try out during instruction. However, the goal was always teaching so that users would transfer what they learned to new situations, reference tools and environments new to them- that is, they would learn how to learn".

Library user education is an essential mechanism for ensuring and enhancing effective library and information use. User education programmes are designed to make library users independent and efficient in their search for materials to satisfy their information needs. However, without effective user education programme, the library use process may not be properly harnessed by the users (The Free Library, 2010, Rice, 2010 and Okoye, 2013). This hampers the efficient academic performance by students.

Academic performance is the extent to which a student, teacher or institution has achieved their short or long-term educational goals (Wikinson, 2010). Academic performance is a way wherein a person excels in terms of school requirements, tasks, awards and achievements. Academic performance means being a successful student who does well in school and engages in student activities.

An observation by the researcher has shown that academic performance by most of the students in University of Agriculture has been very low. This is mostly traced from non-utilization of library resources and services that support academic work. It is believed that non-utilization of library resources and services is caused by poor user education. The study therefore examines the role of library in user education on the academic performance of students in University of Agriculture Makurdi.

OBJECTIVE OF THE STUDY

The main objective of this study is to examine the role of library users' education on the academic performance of

students in University of Agriculture Makurdi. Specifically, the study seeks to:

1.   determine the impact of library facilities on academic performance of users
2.   identify basic skills of searching for useful literature through reference services.
3.   Identify the challenges affecting users of reference services for feature work.
4.   identify strategies for improving user education programmes of the libraries

RESEARCH QUESTIONS

1.   what is the impact of library facilities on academic performance of users
2.   what are the basic skills of searching for useful literature through reference services.
3.   What are the challenges affecting use of reference services for feature work?
4.   What are strategies for improving user education programmes of the libraries

METHODOLOGY

The area of the study is Benue State. This study employed a survey research design. The population for this study was 89 subjects comprising all staff both Professionals and para-professional from University of Agriculture Makurdi library. There was no sampling for the study. The entire population was used for the study as sample because the population size could be handled effectively by the researcher.

The instrument for the study was a structured questionnaire titled "Library Users' Education on the Academic Performance of Students Questionnaire (LUEAPSQ). The instrument which was developed by the researcher was divided into six sections based on the research objectives. The questionnaire had restricted response options of strongly agree (SA), agree (A), disagree (D) and strongly disagree (SD) with corresponding values of 4, 3, 2 and 1 respectively. The data for this study will be collected by the researcher and 3 research assistants.

Data collected was analysed using descriptive statistics. Mean was used to answer the research questions. The bench mark for this was 2.50 (4+3+2+1=10/4=2.50). The decision rule was: any item with a mean value of 2.50 or above was regarded as agree while any item with a mean value of less than 2.50 was regarded as disagree.

RESULTS AND DISCUSSION

Research Question 1

What is the impact of library facilities on academic performance of users?

Result in Table 1 shows that all the 8 items had their mean values ranging from 2.67 to 3.08 and were above the bench mark of 2.50. Result also shows that standard deviation of respondents ranged from 0.84 to 1.29 which was an indication that the respondents were not too far from the mean and from one another in their responses on the impact of library facilities on academic performance of users.

Research Question 2

What are the basic skills of searching for useful literature through reference services?

Result in Table 2 shows that all the 7 items had their mean values ranging from 2.66 to 3.12 and were above the bench mark of 2.50. Result also shows that standard deviation of respondents ranged from 0.61 to 1.07which was an indication that the respondents were not too far from the mean and from one another in their responses on the basic skills of searching for useful literature through reference services.

Research Question 3

What are the challenges affecting use of reference services for future work?

Result in Table 3 shows that all the 7 items had their mean values ranging from 2.76 to 3.38 and were above the bench mark of 2.50. Result also shows that standard deviation of respondents ranged from 0.62 to 1.34 which was an indication that the respondents were not too far from the mean and from one another in their responses on the challenges affecting use of reference services.

Table 1: Mean and standard deviation of respondents on the impact of library facilities on academic performance of users

S/N	Item Statement	SA	A	D	SD	N	Mean	Std. Dev	Remarks
1	A strong library program can lead to higher student achievement	38	10	15	26	89	2.67	1.29	Agree
2	The quality of the collection has an impact on student learning	30	18	28	13	89	2.73	1.08	Agree
3	Test scores are higher when there is higher usage of the academic library	29	17	39	4	89	2.79	0.95	Agree
4	Collaborative relationships between classroom teachers and academic librarians have a significant impact on learning	28	35	13	13	89	2.88	1.02	Agree
5	Library resources and services help for planning of instructional units, resource collection development, and the provision of professional development for users	33	32	22	2	89	3.08	0.84	Agree
6	Librarians can make a positive difference to users' self-esteem	34	14	34	7	89	2.84	1.03	Agree
7	Library resources and services builds users' confidence	32	14	37	6	89	2.81	1.00	Agree
8	Library resources and services encourage independent and sense of responsibility in users	25	38	12	14	89	3.02	0.89	Agree

Source: Field survey, 2018

Table 2: Mean and standard deviation of respondents on the basic skills of searching for useful literature through reference services

S/N	Item Statement	SA	A	D	SD	N	Mean	Std. Dev	Remarks
9	Patent searching	45	22	10	12	89	2.83	1.01	Agree
10	Boolean logic which allows the use of AND, OR and NOT to search for items containing both terms, either term, or a term only if not accompanied by another term	4	59	15	11	89	3.12	1.07	Agree
11	Wildcards and truncation which involves substituting symbols for certain letters of a word so that the search engine will retrieve items with any letter in that spot in the word	33	42	5	9	89	2.63	0.75	Agree
12	Phrase searching where concepts are represented by a phrase rather than a single word	18	64	4	3	89	3.11	0.91	Agree
13	Proximity search allows the user to find documents only if the search terms appear near each other, within so many words or paragraphs, or adjacent to each other	13	63	6	7	89	3.09	0.61	Agree
14	Capitalization which is searching for proper names, search syntax that will distinguish capital from lower case letters will help narrow the search	19	24	43	3	89	2.92	0.72	Agree
15	Field searching where database records are divided up into fields	45	18	20	6	89	2.66	0.85	Agree

Source: Field survey, 2018

Table 3: Mean and standard deviation of respondents on the challenges affecting use of reference services

S/N	Item Statement	SA	A	D	SD	N	Mean	Std. Dev	Remarks
16	User behaviors and expectations	54	23	10	2	89	3.12	0.99	Agree
17	Inadequate qualified staff	55	20	6	8	89	3.34	1.02	Agree
18	Inadequate reference resources and services	63	6	15	5	89	3.38	0.95	Agree
19	Theft and mutilation of reference resources	63	6	15	5	89	3.43	0.96	Agree
20	Violation of library rules and regulations by patrons	57	3	11	18	89	3.11	1.25	Agree
21	Problem of the provision of effective reference services	50	30	2	7	89	3.52	0.62	Agree
22	Lack of knowledge of the existence of some reference services	24	37	11	17	89	2.76	1.05	Agree

Source: Field survey, 2018

Table 4: Mean and standard deviation of respondents on the strategies for improving user education programmes of the libraries

S/N	Item Statement	SA	A	D	SD	N	Mean	Std. Dev	Remarks
24	Employment of qualified staff/training of staff	29	35	13	12	89	2.91	1.01	Agree
25	Provision of adequate reference resources and services	25	20	28	16	89	2.60	1.08	Agree
26	More security should be taken to stop theft and mutilation in the library	19	24	43	3	89	2.66	0.85	Agree
27	Provision of effective reference services	45	23	20	1	89	3.26	0.84	Agree
28	Provision of qualified staff	45	23	4	17	89	3.08	1.15	Agree

Source: Field survey, 2018

Research Question 4

What are strategies for improving user education programmes of the libraries?

Result in Table 4 shows that all the 5 items had their mean values ranging from 2.60 to 3.26 and were above the bench mark of 2.50. Result also shows that standard deviation of respondents ranged from 0.62 to 1.34 which was an indication that the respondents were not too far from the mean and from one another in their responses on the challenges affecting use of reference services.

DISCUSSION OF FINDINGS

Research question one was on the impact of library facilities on academic performance of users. Findings revealed that a strong library program can lead to higher student achievement, the quality of the collection has an impact on student learning, test scores are higher when there is higher usage of the academic library, collaborative relationships between users and librarians have a significant impact on learning, library resources and services help for planning of instructional units, resource collection development, and the provision of professional development for users, libraries can make a positive difference to users' self-esteem, library resources and services builds users' confidence and library resources and services encourage independence and sense of responsibility in users.

   Research question two was on the basic skills of searching for useful literature through reference services. Findings revealed that, patent searching, boolean logic which allows the use of AND, OR and NOT to search for items containing both terms, either term, or a term only if not accompanied by another term, wildcards and truncation which involves substituting symbols for certain letters of a word so that the search engine will retrieve items with *any* letter in that spot in the word, phrase searching where concepts are represented by a phrase rather than a single word, proximity search

allows the user to find documents only if the search terms appear near each other, within so many words or paragraphs, or adjacent to each other, capitalization which is searching for proper names, search syntax that will distinguish capital from lower case letters will help narrow the search and field searching where database records are divided up into fields were the basic skills of searching for useful literature through reference services.

Research question three was on the challenges affecting use of reference services for future work. Findings of the study revealed that user behavior and expectations, inadequate qualified staff, inadequate reference resources and services, theft and mutilation of reference resources, violation of library rules and regulations by patrons, inadequate qualified staff, problem of the provision of effective reference services and lack of knowledge of the existence of some reference services were the major challenges affecting use of reference services for future work.

Research question four was on the strategies for improving user education programmes of the libraries. Findings revealed that employment of qualified staff/training of staff, provision of adequate reference resources and services, more security should be taken to stop theft and mutilation in the library, provision of effective reference services and provision of qualified staff

CONCLUSION

The availability and provision of the various types of user education to library users is very important for effective utilisation of the library resources and services. This is to say that the provision of user education programme for library users cannot be underestimated. Impediment to effectiveness of library user education programmes reduces high academic performance of users. However, the study identifies challenges to effective use of library services such as inadequate qualified staff, inadequate reference resources and services, theft and mutilation of reference resources, violation of library rules and regulations by patrons. Appropriate strategies could be employed to improving user education.

RECOMMENDATIONS

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

1.   Adequate qualified staff should be employed since library services enhances good academic performance of users
2.   Adequate reference resources and services should be maintained in academic libraries
3.   Appropriate measures should be taken to prevent theft and mutilation of reference resources
4.   Violators of library rules and regulations should be adequately penalised

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Full Length Research

Establishing a library portal for Ibrahim Babangida Library at Modibbo Adama University of Technology, Yola, Adamawa State, Nigeria

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This study proposes the establishment of a dedicated library portal for easy access by students and academics in the Ibrahim Babangida Library at Modibbo Adama University of Technology, Yola (MAUTech). The study was motivated by the Nigerian vision 20:2020 and the trend in 21st century academic libraries to offer electronic resources and services to meet users' demands and use of technology. Mixed methods, in particular a combination of the sequential transformative, concurrent triangulation, and concurrent transformative approaches, were used. A case study approach was employed. The Technology Acceptance Model (TAM) and Diffusion of Innovation (DoI) theories framed the study. Based on these, a conceptual framework was formulated. To achieve triangulation, questionnaires and interviews were used to gather both quantitative and qualitative data. Academics, students, academic librarians, and information and communication technology experts acted as participants. Findings included low use of the Ibrahim Babangida Library, insufficient and unreliable Internet access on campus, need for digitisation of library resources and the need for a dedicated library portal. The study recommends, amongst others, subscription to full-text databases, provision of sufficient and free Internet access and e-resources. The outcome of the study was a designed, established and functioning library portal based on the input of all the stakeholders of the MAUTech community.

Keywords: Library portal, e-resource, ICT, academic library, students, MAUTech, Ibrahim Babangida Library, institutional repository.

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INTRODUCTION

The study was purported to the design and implementation of a library portal access for the Modibbo Adama University of Technology (MAUTech). The need for a computerized system is accentuated in the central Ibrahim Babangida Library in assisting academics, researchers and students of the university to increasingly utilize e-resources. Currently the library resources are in disarray without a dedicated access point or portal. This study aimed at making the Ibrahim Babangida Library an Information and Communications Technology (ICT)-driven library capable of managing and disseminating electronic resources to its esteemed clientele more efficiently.

Woody, Daniel and Baker (2010: 947) have suggested that more research is needed to determine the suitability of e-

resources as learning tools. On this premise, this research aims at designing a library portal to integrate e-resources by exploring ways of making e-resources more available at MAUTech. When users have access to a variety of resources, it enhances their potential and adds value to the higher institution of learning (Rao & Mulloth 2017: 12).

Mallaiah, Kumbar and Mudhol (2008: 154) have opined that university libraries play a primary role in teaching and research. Adetimirin (2007) has reiterated that it is the responsibility of the library to acquire, organize and make accessible both print and e-resources to its clients. Olajide and Folayan (2014: 1) have noted that user satisfaction with the library collection is a measure of the library's effectiveness. Their argument supports that of Nwalo (2001: 44) who explained that periodic measuring of user satisfaction should be explored to determine how well library objectives, policies and operations meet the needs of the users.

Brief background of MAUTech

MAUTECH is situated in the capital city Yola, in one of the 21 local government areas called Girei, in the Adamawa State. According to City Population (2017), the state's projected population, consisting of 80 different ethnic groups, is 4 248 400. Apart from colleges and polytechnics, the state has three universities, namely the privately owned American University of Nigeria, the state-owned Adamawa State University, Mubi, and the federal-owned MAUTECH. The National Universities Commission, a body under the Federal Ministry of Education, supervises the Nigerian university system. MAUTech is among the accredited Nigerian universities (National Universities Commission 2015).

MAUTech has been established by the Federal Government of Nigeria in 1981 and is one of the few technological universities in the country. As the university's vision is to become a world-class university in science and technology, most of the programmes of the university are science-based. On campus, a cybercafé, computer centres, a geo-informatics unit, an Ericsson GSM training centre and an ICT unit with ICT equipment are found. Internet access on campus is available via Wi-Fi. Both students and academics pay an hourly rate of N100 (R5,50) for Wi-Fi access. The university has a website and a portal for student registration (Modibbo Adama University of Technology Website 2015).

Brief background of Ibrahim Babangida Library

The main university library of MAUTECH is called the Ibrahim Babangida Library. According to the Library Guide: Ibrahim Babangida Library (2006), the library began in a temporary building until October 1990 when it moved to the completed new building. The library can conveniently accommodate more than 50 000 volumes of books and 100 titles of journals, 750 readers and offices for 50 staff members. The library has 39 staff members consisting of the acting university librarian, nine academic librarians, 26 supporting staff members and four administrative support members. The library has six divisions namely Administrative, Collection Development, Technical Services, Reader's Services, Serials Services and Cybercafé. These divisions have computers, but lack interconnectivity or LAN access and Internet access resulting in all library operations being conducted manual.

The library currently has a collection of 35 651 books and subscribes to 12 630 journal titles of which 9 713 are foreign and 2 917 are local journals. The reference unit provides printed reference sources like indexes, dictionaries, encyclopaedias, bibliographies and yearbooks. Printed theses and undergraduate research reports are housed in a separate room.

Although the Collection Development Division aims to have 40% of the collection in electronic format, at the time of this study, the collection contained no databases, e-theses, e-newspapers, e-books or e-journals. Limited e-books on CD ROMs were kept at the Cybercafé. In the past, the MAUTech library management has subscribed to the full text databases ScienceDirect and EbscoHost, but these were accessible only on a few computers at the Cybercafé. Library users had to ask for usernames and passwords every time they wanted to access the databases. Because of low utilization due to unawareness and difficult accessibility, the subscriptions were cancelled. Since 2014, students were required to submit both a printed and electronic copy of theses. Printed copies are shelved while the Cybercafé archives electronic versions.

OBJECTIVES OF THE STUDY

The objectives of this study are to investigate the need for and establishment of an integrated library portal to provide an efficient information service to the university community as well as to contribute to creating an ICT-driven library. Specifically, the study sought to determine:

a)   the need for a library portal;
b)   what users would like in a library portal;
c)   the requirements of a library portal;
d)   techniques of designing and establishing an integrated customized library portal with databases, subscribed e-resources and open-access sources.

RESEARCH DESIGN, METHODOLOGY AND SAMPLE OF THE STUDY

This study has used more than one research design method, namely a combination of the concurrent triangulation (using more than one method to authenticate collection within a study) and concurrent transformative (via the use of theoretical perspective) approaches. Research methodology refers to the steps taken in gathering and analysing data. Creswell (2014: 45) describes research methodology as a means by which it "involves the forms of data collection, analysis, and interpretation that researchers propose for their studies." Babbie and Mouton (2008: 74) maintain that research methodology is the researcher's general approach to carrying out the research project. This study has adopted questionnaires and interviews to gather data. A research population is a collection of objects noted to have similar characteristics, traits and binding. The current study on library portal access in MAUTech is a cogent example. This study has used two major data-gathering instruments; hence, the need for two populations. For administration of questionnaires, this study used as target population the MAUTech academic staff and registered students for the 2016 academic year consisting of 617 academics, 872 postgraduate and 11 351 undergraduate students. The total population was therefore 12 840. The interview sessions was dedicated to four academic librarians and two IT experts.

   To determine the participants receiving the questionnaire, the researcher adopted the simple random sampling type of sampling and in particular probability sampling. The probability sampling techniques provide all the individuals in the population the equal chances of being selected. Each respondent has the probability of being chosen and with the appropriate technique one is assured of representative and this sometimes deduces errors within the sampling process. This case study included a large total population where the sample is of different layers but having the same uniformity (Neuman 2006: 241-245). Random sampling technique was used for the large population of students and academics from the six different schools to ensure that every participant in the population had equal chance of being included in the sample.

   According to the Raosoft sample size calculator, for a population size of 12 223 with a 5% margin of error and a 95% confidence level, a sample size of 377 is needed. To allow for questionnaires not being returned, a bigger representative sample, accuracy and efficiency (Neuman 2006: 241), 1 223 questionnaires were distributed to students in all six schools. As at the time of study, MAUTech, has the following schools: School of Agriculture and Agricultural Technology (SAAT), School of Engineering and Engineering Technology (SEET), School of Environmental Sciences (SES), School of Management and Information Technology (SMIT), School of Pure and Applied Sciences (SPAS), and School of Technology and Science Education (STSE).
For the population of 617 academics with a 5% margin of error and a 95% confidence level, a sample size of 237 is needed. To allow for non-responses, 479 questionnaires were distributed to academics in all six schools. As the populations of the academic librarians as well as the ICT staff were small, no sampling was done and e-mail interviews were sent to everybody identified as population.

REVIEW OF RELATED LITERATUR

Library portal

A library portal, also called the library homepage, is a gateway to access library resources and services via a single interface. Das and Saha (2015: 111-112) explained web portals as tools used to support and enhance accessibility to e-resources, and defined a library portal as an entry or access point to the world of resources designed to save the users' time and cost in gaining access to multiple resources of the library. The portal incorporated the integrated library management system to ensure interaction between different sections like acquisitions, cataloguing, circulation and the OPAC of the library. It provided a platform for effective access to library resources, information retrieval as well as awareness and marketing of library resources and services. Madhusudhan (2011: 3) defined a library portal as the "virtual public face, the quasi-equivalent of the front door, signage, pathfinders, collections or surrogates to collections, services and to an extent, its users". It can be referred to as a repository of information earmarked for dissemination.

Features and technical requirements of a library portal

Jones and Thorpe (2014: 2, 4, 20) stressed that a library homepage was a critical portal to library resources, even
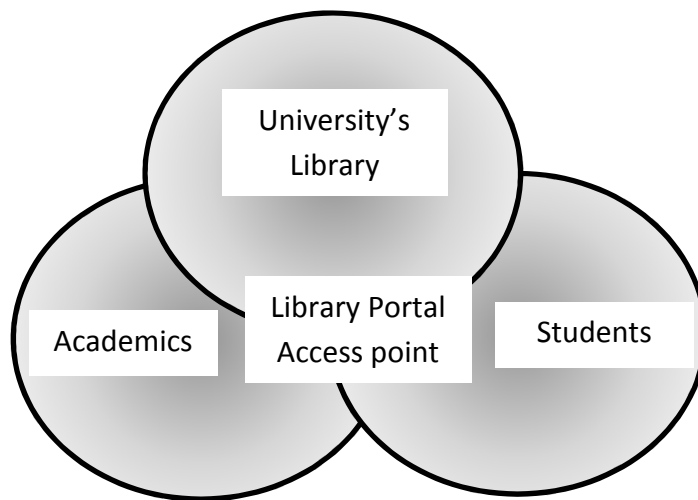

Figure 1: Library portal synergy between academics and students (Joshua 2017).

though there were alternative portals such as course management systems and Google sites. They maintained that an academic library homepage served as one access portal to many library services and that student increasingly relied on library Web services to fulfil part of their academic library needs.

The library profession strongly supports the use of ICTs to automate cataloguing, circulation and acquisition services to provide e-resources, online retrieval and library services efficiently (Emezie & Nwaohiri 2014: 2), but some level of education to enable proficient management of library resources and core knowledge, skills and attributes are required (Australian Library and Information Association, 2014). Emezie and Nwaohiri (2014) posited that academic libraries are challenged to innovatively meet the needs and demands of the parent institutions and users, and suggest that "if academic libraries are to meet their objectives and effectively provide information, traditional methods and processes will have to evolve into electronic modes of service delivery. This can only be achieved with modern technologies in a computer-driven environment" (Emezie & Nwaohiri, 2014: 2). King (2007: 7, 178) asserted that ICTs facilitate, for example, more than one retrieval tool to find journal articles.

Koutropoulos (2014: 65-66) as well as Pandey and Sukula (2017) propagate the adaption of Library Portal 2.0 to address the expectations of current patrons by supplying "Google-like" experiences. Libraries should move away from static library portals and adopt portals integrating the library catalogue, resources to which the library has access, interlibrary loans, databases, staff directory, event calendars, social media and intellectual subject content in the information managing and distribution environment.

Libraries have been known to be repositories and depositories of information, having a centralized place where patrons locate resources to meet their needs, but the present dispensation of librarianship has changed. Libraries are now repositioned to be gateways of knowledge, capable of disseminating information far beyond their physical locations. E-resourcing is a tool used to go beyond the physical library either with free access or by subscription to e-resources.

Supporting this assertion, Mane and Panage (2015: 110) have stressed that a "web portal is one approach to organise information resources and services in a way that supports the students' needs." Afferent to this, the university has the driving force to ensure the full implementation of portal access in its domain to foster information gathering and sharing among students and academics. This will help in resuscitating or advancing the university's resources regionally, continentally and globally. Importantly, the synergy between the university's library, the academics and students should

be maintained, and the extent of their collaborations will be based on the effective utilization of the portal framework and design architecture. The Figure 1 shows the tide between them.

Previously, access to university libraries was majorly mono directional in nature due to their conventional and operational functions, and being that, the resources then were mostly in physical formats. But the 21st century library portal added value to library resources with online accessibility via gateways without visiting the physical library. In some cases, a library portal in a particular university might link users to other library portals for enriched information available via interlibrary loans.

Das and Saha (2015: 111-112) have emphasized that a library portal is also a launch pad for a host of Web-based services such as e-mails, asks the librarian, news and social media. In some cases, the library portal also provides a platform for interlibrary loans, WorldCat, management of references, workspaces in cloud computing and sharing of information in a secure environment through e-mail messages, publication channels and posting.

Geetha, Mamatha and Farhana (2013: 510-511) surveyed the use of the Kuvempu University library portal by research schools and faculty members to reveal that the library portal was used by 85% of the researchers and faculty members. It was accessed by 73.33% of the respondents on a daily basis and used by the majority (70%) of respondents for research activities like downloading full-text articles. Both research scholars and faculty members informed the effect of the library portal starting from efficient access to all library services and resources, improving customization of research tools, giving them more and better convenient access to e-resources. Considering the challenges facing the library portal accessibility, 45.83% of respondents stressed that navigating the web pages and downloading resources were difficult. The study opined that more training and orientations would be needed on the use of the library portal.

An earlier study by Fatima, Ahmad and Ahmad (2011: 170-171) assessed the use of the Aligarh Muslim University library portal by students from the Engineering and Technology Faculty. The findings indicated that 61.76% of undergraduate and 68.75% of postgraduate students were aware of the library portal. The portal was frequently used by 61.76% and 68.75% of under- and postgraduate students respectively. Slightly more than half of undergraduate (58.91%) and postgraduate (56.25%) students were positive about the relevance of the different resources available on the library portal. The minority of students valued the library portal very highly. The researchers discovered reasons for low access to the library portal were due to inadequate awareness, training and library orientation. They encouraged information literacy programmes to stimulate effective use of the portal.

Dudley (2013: 3-4) examines the consistent maintenance of the library web portal at Bryant and Stratton College in Cleveland downtown campus, Ohio, USA. Continued examinations of content modules are done on a weekly basis to ensure that the library portal is optimally updated. Various searches are continuously done to help update descriptive metadata (Dudley 2013: 3). This culture of portal maintenance helps them to archive electronic information resources no longer needed and subsequently replacing them with editions that are more current. The library, in cooperation with the ICT centre, ensures that the web portal page template is user-friendly and is easily updated without going through the rigorous process of programming or coding. This approach should be encouraged to institutionalize a less stringent website maintenance policy.

As it is predicted that the library digital content and resources will determine the quality of a university, the Kenyatta University Repository Policy (Agosti, Crivellary, Di Numzio & Gabrielli 2010: 2-10) has been designed to advance the university's profile in ensuring that its research output is made available online both within the university and globally. The repository, part of the library portal, was designed to complement the traditional resource management in which researchers, academics and students have centralized e-resources placed on a permanent storage system. The Kenyatta University open access institutional repository policy covers open access, repository content, submission, metadata, research data management, preservation, selection, retention, replacement and withdrawal, intellectual property right, quality control, compliance and monitoring and compliance with publisher as well as funder policies. The university and library management ensure effective utilization of the portal and faster information sharing and communication.

Mane and Panage (2015: 109) explained the establishment, development and design features of the Jayakar library portal in India. The e-resources portal encapsulated information regarding online local and joint catalogues, free resources, open9access journals and archives. The library subscribed to databases and serial publications as well as discipline orientated e-resources. Only the subscribed databases required access authorization using the proxy server. To accommodate the needs of students, the developers of the portal considered Google-like features like user-friendly terminology, attractive screen design, easy navigation, support in the form of help menus and personalization. The library established guidelines and had policies in place for the effective use of the portal.

Chen and Smith (2015) investigated elements influencing undergraduate students' use of a university library portal by using a credit-bearing course instilled with information literacy components. Framed by the Technology Acceptance (TAM) and Information Systems success models, the study observed direct influences of user satisfaction, willingness

and competing resources on portal use as well as relationships among present use, user satisfaction and continued usage. The findings revealed the positive outcome of user satisfaction on the use of web portal as well as the negative impact of unwillingness to use the web portal. Chen and Smith (2015: 42-43) and Ukwoma and Dike (2017: 17) identified that the purposes of using the library web portals were to find research papers and projects, locate journals and articles, browse the library's online catalogue for monographs, locate quality scholarly sources, retrieve electronic reserves and find citations.

An important factor to be considered with a library portal is its extensive inclusiveness interfaces, which in most situations, incorporate repositories and links.

Ukwoma and Dike (2017) have confirmed that academics download scholarly publications of their associates from institutional repositories from which they review the literature to identify new findings or gaps in knowledge. This is one of the cardinal functions of a library portal, namely to provide useful information to users for research and collaboration.

Clarke, Hui and Li (2013: 140, 147) investigated three digital platforms (Internet, television and mobile phones) aimed at providing access to as many as possible users of the Hangzbou Public Library. The portal implemented many functions with access to the OPAC and numerous tools for searching, renewal, reservation online, current awareness and live chat with reference librarians. The content of the library portal was extensive, reflecting most of the themes and activities of the library.

Negi (2014: 2-4) maintains that a library portal is used for dedicated content management systems to affect efficient information access and sharing, mount and manage electronic collections, and deliver integrated services. This gives the library monopoly over the network to customize and operationalize its features as well as provide institutionalized resources, capable of web services linking to other portals. The major elements of library portals aside from access to the library catalogue and users' records are, according to Koutropoulous (2014), meta-searching tools, interfaces for browsing, online referencing, full-text articles links, web pages, access to interlibrary loan and user preference services along with citation management software applications. Koutropoulous (2014) is of the opinion that there is no fixed standard for library portal design. Libraries base their design on customization and on the need of their users. The standards found in the literature are generically meant for searching and retrieving purposes, Web scripting to use, library resources to be incorporated into the portal, licences agreement of e-resources, subscription dilemmas, expertise involvement and institutional research data policy and guidance, among others. With these premises in mind, proactive steps should be taken to address the expectations of patrons in the design architecture of the library portal. It should be Google-like, responsive, versatile and user-friendly. It must not have complex interfaces, dead links or complex typology (Koutropoulous 2014). It should, therefore, allow customization and flexibility in what features and services are offered. Areas of consideration should be content, user experience, flexibility, features and capabilities, infrastructure and security, and search and discovery tools and services.

Yeates and Cox (2003: 157-159) identified portal requirements as follows: tools for resource discovery, cross-searching, common interface, linking and support through to document delivery, authentication/authorization, profiling of users, interoperation, statistics and management information, look and feel, communication/real-time support and core technology. In support of the above, Peng and Jin (2009: 538) stated the requirements for a portal interface in three dimensions, namely resource-relevant, service-relevant or both. A portal with appealing design features will improve interface clarity and appeal, and will encourage the use thereof (Agosti, Crivellori, Di Nunzio & Gabrielli 2010: 233).

Designing a library portal demands programming skills and the application of high-level computer languages (Das & Saha 2015). Task teams with representatives from the library, ICT and computer centres should make decisions regarding the aspects like the design, coding, customization and integration of the portal into the university website. To design a library portal, various technical systems requirements and tools are needed. Specifications, detailed portal requirements as well as server operating systems and configurations are captured in Appendix A (Beal 2017; Das and Saha 2015; Madhusudhan 2011; System Requirements Lab 2018; The Ubuntu Story 2017).

Dempsey (2003: 10-11) described library portal approach as a means of providing intermediate stratum between users, learners and resources. Figure 2 reflects how this approach ultimately assists in the bundling of coordinated interfaces for users' interest instead of fragmentation of the resources, and thus provides library services to targeted patrons.

Librarians and information scientists in the design of portals. The PDDM contains steps and procedures in aiding the information needs and demands of users as well as its support for the adoption of web-based applications. The model encourages the use of free open-source software, reducing the rigour of programming and facilitating easy library portal design and implementation processes.

THEORETICAL FRAMEWORK

The theoretical and conceptual framework of this research used elements from the Technology Acceptance Model (TAM) and Diffusion of Innovation (DoI) theory. In order to overcome any weaknesses as well as blending the functions
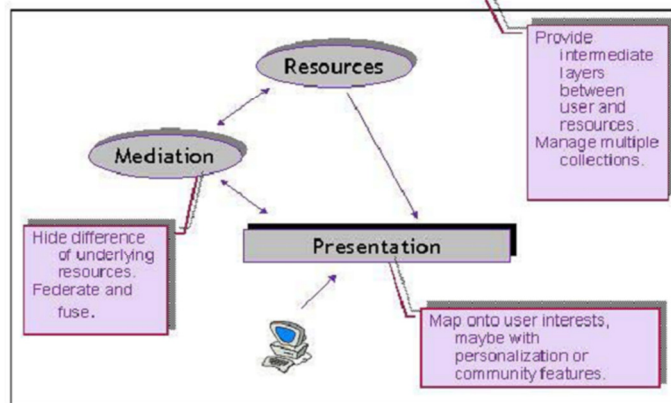
Figure 2: Dempsey library portal approach (Dempsey 2003).

Wada (2014: 168-169) proposed a model known as the Portal Development and Deployment Model (PDDM) (Figure 3) aimed at helping academic institutions,
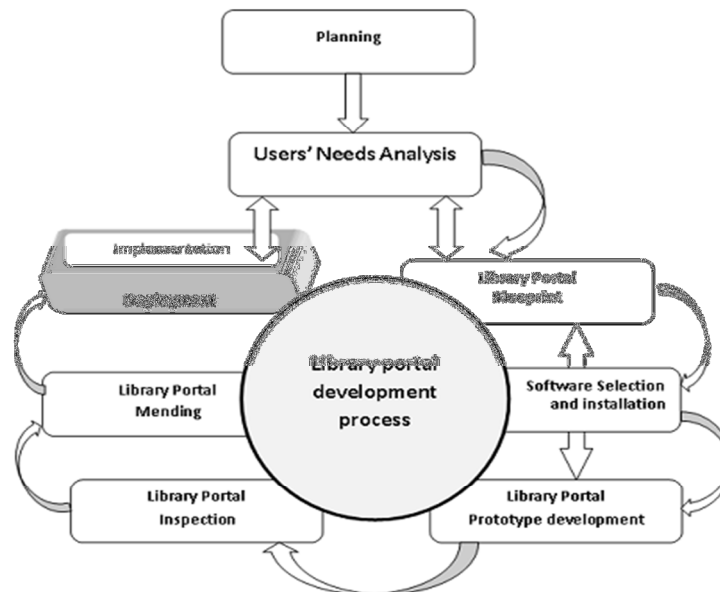
Figure 3: PDDM (Wada 2014).

of e-resources and the library portal, a strategic emphasis on the discourse of the theories has been established. The TAM has been used to assist students and academics appreciate and utilise e-resources seamlessly with the use of technology, while the DoI theory has been applied to encourage academics and students to accept a new concept being introduced - in this case, the library portal.

The associating components of the theoretical or conceptual framework are input, process and output levels. As input level, the study has determined the perceived usefulness and perceived ease of use of e-resources by academics and students. For the process level, willingness to use e-resources as well as a library portal and actual utilisation of e-resources has been determined to result in findings of a positive attitude. The output level relating to the behavioural intention of using and adopting the system reflected that, in general,

stakeholders will be adopting the use of e-resources and the library portal if it was available. The library portal has been designed to incorporate features and functions to accommodate requirements of applicability, compatibility, productivity, marketability and dependability.

DISCUSSION OF FINDINGS

This article reports on findings part of a bigger doctoral study. Motivation for the establishment of a library portal is based on findings due to 45% of students at MAUTech not using the library, 42% and 55% of students and academics respectively dissatisfied with the library collection, the cybercafé being rated as poor or very poor and the majority of both students and academics being familiar with most e-resources.

Need for implementing a library portal

To determine attitudes towards a possible library portal being implemented, respondents had to choose strongly disagree, disagree, undecided, agree and strongly agree. All four academic librarians responded affirmatively to the need for a dedicated library portal. Figures 4 and 5 reflect the ratings of students and academics.
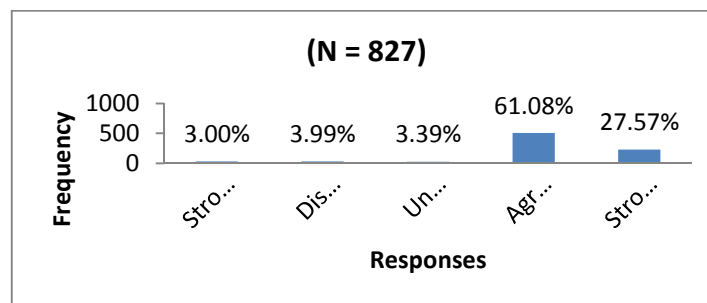
Figure 4: Implementing a library portal (students)
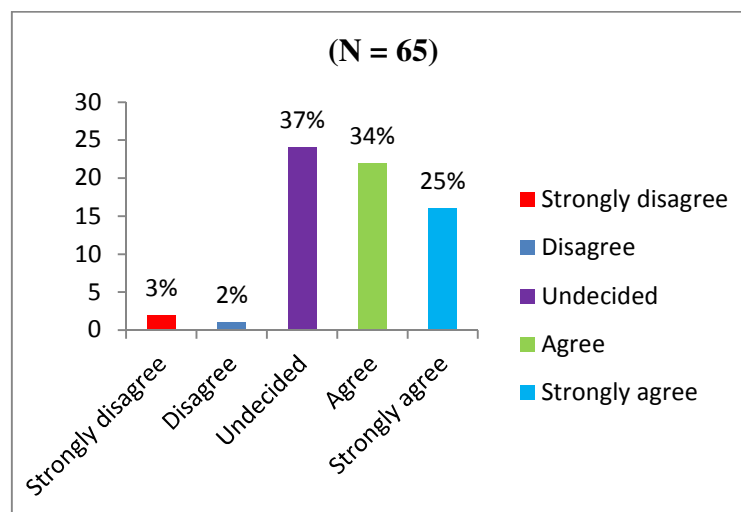
Figure 5: Implementing a library portal (academics)

Results from the figures indicated that of the 827 students the majority strongly agreed (27.57%) or agreed (61.08%) that a library portal would provide enhanced sharing and dissemination of resources to the university. Similarly the majority of academics were positive about the envisaged design and implementation of a library portal by either strongly agreeing (25%) or agreeing (34%). This corresponds with Geetha, Mamatha and Farhana (2013: 510-511) who

Table 1: Requirements of a library portal (students)

Theme	Responses
Academic resources	Updated textbooks
	More journals
	All the necessary materials should be there, so as to make an appropriate e-library portal
	Text books and materials from different departments, magazine, reference materials
	A lot of e-resources
	Books relevant to my discipline and many others associated to my academic pursuit
	I will like to see any e-resources that are supposed to be seen there
	All departments e-books including mine
	Everything starting from the history background through all research conducted by staff and students to the very least
	Free and open access to e-books and materials
	Accountancy relevant books
	A good and easy access to books
	Newspapers and research data
	Engineering mathematics books
	Strength of material text books
	All engineering text books and it relevant
	Browse different sorts of academic relevant information
	Academic materials should be provided for researchers and authors
	I want to see the products (portal access and e-resources) whom the university has produced since its establishment
Teaching information	Students Industrial Work Experience Scheme (SIWES) guidelines
	Course outlines and relevant textbooks for the course taking by me
	Project samples
	Project site
General library information	Welcome to MAUTech e-library
	MAUTech email address and their password for login
	The list of all the necessary things (e-resources) in the library
	The progress of MAUTech
Training & orientation	Orientation on how to use the resources
Results	I will like to see my result and other updated information
	To check result of external exams
Access	Internet services should be standardized
	There should be constant electricity to boost access to portal
	There should be Free WIFI on campus to access portal
	Free and open access to e-books and materials
	Availability of Internet to access portal

explained that 85% of students, researchers and faculty members at the Kuvempu University preferred and used the library portal often. It could be deduced that a conglomerate gateway that provided access to variant resources and services for library users was desired by the respondents. However, a large percentage (37%) of academics were doubtful or undecided about the idea of a library portal. The reasons might be, as can be seen from requirements mentioned later, unreliable electricity supply and Internet access.

Content requirements of a library portal

An open-ended question was asked requiring the respondents to state if a library portal was established, what content should be added to the portal design interfaces. Table 1 summarises the 35 responses received from students into the following themes: academic resources, teaching information, general library information, training and orientation, results and access.

It is evident that students wanted access to books, journals, newspapers, general library information, information on training, academic information and results

Table 2: Requirements of library portal (academics)

Theme	Responses
Integrated platform for research	*Yes. I do agree for research* *Research forum* *Anything to enhance research* *Improved service in all respect* *Access to most databases to enhance research in the university community* *Many things like research* *Space and time for research* *Whatever is available for any work*
Resources to facilitate teaching and research	*Information that will improve teaching, research and other relevant academic information to staff students and researchers* *The necessary facilities for all departments to enhanced effective teaching and learning* *Card catalogues of physical resources* *Yes, because it will enhance the level of my access to information that will make me effective teacher* *Guide and demonstration of access to journals, abstract, theses, dissertations but what will happen with the epileptic energy supply* *The portal should contain relevant materials to enhance teaching and research, community service* *Everything of information required of teaching, research* *Anything contribution to knowledge made by its staff and any other achievement intellectually so as to compete with the world* *To see educating things and public publications* *All the possible available resources*
Current resources	*Newspapers* *Innovations* *Current and relevant academic resources* *Relevant, current and related materials* *Current text and journals* *Up dated research journals, especially in the field of educational research*
E-resources	*E-books, e-journal, e-newspapers, e-magazine* *E-books readers* *E-journals and research publications* *All the items [e-resources] listed in above* *All that ones [e-resources] mentioned above*
Internet access	*Local area networking that can be accessible in offices on campus* *Improvement and sustainability of services provision* *Efficient easy access and un-interrupted service* *Prompt information retrieval* *Cyber and 24 hours services*
Adequate power supply, equipment	*There should be no epileptic power supply* *Adequate service and uninterrupted power supply* *Enough systems connected to the Internet, fast*

via the envisaged library portal.

The 38 responses received from academics are reflected in Table 2 under the following themes: an integrated platform for research, resources to facilitate teaching and research, current resources, e-resources, Internet access as well as adequate power supply and equipment.

Table 2 indicates that the majority of the academics indicated the need for current and relevant resources to facilitate teaching and research. They suggested an integrated platform for research as well as different e-resources. It is important to note that both students and academics indicated that for a library portal to be efficient, sufficient Internet access, enough equipment and stable electricity supply will be needed.

Table 3: Reasons for implementing a library portal

Theme	Responses
Enhanced access to e-resources	*The basic thing in e-library is accessibility, it accessibility is adequate no doubt the utilisation will be high* *People/staff/students can then access materials /e-resources from anywhere on campus without migrating to the computer centre where one may often times find the best occasional network services* *Enhanced utilization will be subject to provision of efficient Internet services* *It will be easier to access the materials on net* *Efficiency is necessary* *Network problem will be reduced, accessibility will be enhanced, and less money will be spent on the net due to efficient and effective network* *Yes, because when that is done accessing information on different area will be made easy and will attract users.* *Many people will access the library.* *Must students usually complained about lack of access to several database (online) due to subscription restriction.* *It will enhance quick access to learning resources* *Integration enhanced accessibility to resources* *One can get what he/she want* *An integrated library portal will work in the university intranet, with efficient and dedicated library staff operating the system may help to minimize stress for all library users* *Enhance Internet browsing with regular power supply*
Benefit the university community	*Strongly agree but after a conduct of the usage and orientation across the university staff and students* *It will be beneficial to the university community* *It will contain a lot* *Definitely people will utilise* *Yes, it has happened in private universities in Nigeria* *The world has become electronically driven and to keep pace with time we need e-resources* *Provided there is constant power supply and modification inhuman resources*
Improve research collaborations and teaching	*The world is becoming a global village* *We are in an IT World. MAUTech shouldn't be exempted* *We have capable researcher who want access to expensive journals but finance is a major constraints* *Because I will have access to all the information that I will be in need to teach my students effectively* *Yes, it will make easy access to materials and information for teaching and research and it will motivate people use it* *It will improve the work and the students will also benefits from it*
Increase morale	*Confidence will be made.*

Reasons for implementing a library portal

A question was asked to capture academics' perceptions on the rationale behind the design and implementation of the envisaged library portal. Being an open-ended question, 30 respondents reacted to this question, but only 29 were found logical and used for the analysis. The responses were categorised into the following themes: enhanced access to e-resources, benefit the university community, improve research collaborations and teaching and improve morale. Table 3 provides the actual responses.

From Table 3 it can be seen that the majority of the respondents were of the opinion that the implementation of a library portal would facilitate access to e-resources and should enhance research and teaching, not only in the university community but also beyond the borders of the university.

Librarians' roles in the library portal design

In this information age, librarians are expected to manage and market library resources to ensure the utilization thereof. A library portal will supply an effective platform. Kahn and Underwood (2013) indicate that library operations have changed considerably and call for a paradigm shift by librarians to accept innovations and change as well. Librarians were asked how they as professional librarians will add value in the design of a library portal. Their responses are captured below:

> *Librarian (1): We design all possible procedures that may lead to our clientele to have direct access to our available resources efficiently and effectively.*
> *Librarian (2): In audit and supervision to make sure it meets the standard requirements of an E-Library.*
> *Librarian (3): Through marketing of the library services and resources for prospective clientele, current awareness service, selective dissemination of information to target audience and extension services.*
> *Librarian (4): Through Selective Dissemination of Information (SDI).*

From the responses of the librarians, a responsive library portal is expected, a standardised e-library will be needed, marketing of library products and tools, and resources being used to keep library users informed should be utilised.

Support for the library portal and automated collection

According to Johnson et al. (2012) there should be a proactive support system for e-resources access, maintaining the library web page, authorisation process to users, archival policy, perpetual access and institutional archives. With this in mind, a Digital Communications Librarian was asked about technical support.

> *Digital Communications Librarian: Install local Virtual Server; Install appropriate software;*
> *Design Layout; Consultation on Design; Transfer web content to Web Hosting Service Provider.*

Establishing a library portal at the Ibrahim Babangida Library

The Ibrahim Babandiga Library has been offering modulated services without supplying ICTs, stable electricity supply or sufficient Internet access and provided a collection rated as qualitatively and quantitatively insufficient resulting in library users not visiting the library. Students, academics, librarians and ICT staff members confirmed the need for a responsive and robust library portal, as it would support research, teaching and academic activities, enhance access to e-resources, increase morale, facilitate online accessing of resources without physically going to the library, keep pace with development elsewhere as well as instigate being part of the global village and the IT world.

  This coincided with the studies done by Adepoju 2015; Boateng, Agyemang and Dzandu 2014; Leeder, 2013; Lippincott 2015: 284; Patil 2013 and Singh 2015 who emphasised that academic libraries needed library automation and networking in order to enhance their services, to deliver quality e-resources, and fulfil the expectations and demands of their users. Research also showed that when academics and students had access to a variety of library resources through a portal, it tended to add value to the institution (Rao & Mulloth 2017: 12). For MAUTech especially there is a need to have a dedicated library portal to gather and combine all the e-resources subscribed to but currently scattered throughout the university. Recognising the need for a library portal and willingness to utilise it when established is again proof of the acceptance of an innovation and therefore, the DoI theory (Chen, Kirkley & Raible 2008; Rogers 2003).

  Effective library portal designs are dynamic, robust and responsive. Static library portals are boring and hardly used because their designed interfaces are either complex or difficult to navigate. Das and Saha (2015) have confirmed that portals support and enhance accessibility to e-resources. Scholars like Mane and Panage (2015) described the features of the Jayakar Library portal in India as having online local and joint catalogues, free resources, open-access journals, archives, subscribed databases and serial publications as well as discipline-oriented e-resources. Considering the needs of students, Google-like features, namely user-friendly terminology, screen design, easy navigation, support (help menus) and personalisation have been added.

  The researcher used the knowledge gained by reviewing relevant literature, analysing the requirements of MAUTech students, academics and librarians, scanning the library portals of other libraries and interviewing experienced IT staff members, a Digital Communications Librarian and other IT specialists to establish a library portal for the Ibrahim Babandiga Library. In line with the steps of the PDDM, library portal requirements recommended by students, academics, librarians and IT experts as well as combining these with trends, similarities and any contradictory data from the relevant literature and functioning portals were incorporated. A portal was designed and implemented, but still needs further input, assessment and refining.

Hosting company

A web-hosting company to provide the live streaming of the websites or pages for people to search, use and interact with is needed. The ten top website providers in Nigeria are Whogohost, SmartWeb, QServers, Host Now Now, Domain King, Utiware.net, GlobalHosting 247, Syskay Systems, Main One and Phil more Host. After careful assessment and consultation, Whogohost was selected, as it is one of the leading hosting companies in Nigeria and have 21 products in the domain, shared hosting, reseller hosting and cloud web design under the platform Linux and Windows OS. It allows for a complete company description, address location, phone and fax details, Twitter/Facebook/Google+ forum, blogs, announcements and a knowledge-based Frequently Asked Questions.

Domain name

A domain is a network address that indicates a unique name on IP addresses for easy identification and access. The domain name www.mautechlibrary.com implying the name has been registered and set up in the domain name system server.

Features

About us

As main menu "About us", the Ibrahim Babangida Library is introduced. In order to reflect the services and structure of the library, the following submenus are linked: Mission and vision, Remarks from the vice-chancellor, Acting Librarian, library divisions, academic librarians, non-academic staff may be show cased. It also has tabs for Contact us, Library guide and Opening hours.

Online newspapers

A substantial part of the library budget is used for subscribing to physical serial publications. To reduce costs and to satisfy the demand for e-newspapers by especially students, it was decided to incorporate online newspapers. Three categories of online newspapers, namely local newspapers, international newspapers and MAUTECH news, were added. Forty-seven local Nigerian newspapers and twenty international newspapers were embedded in the portal. For current awareness, MAUTECH News, previously available only in printed copies, was incorporated to ensure wider than campus access.

E-resources

The e-resources menu has two submenus, namely free e-resources and subscribed e-resources. Incorporated under free e-resources are a number of online resources aiding teaching, learning, research and collaboration. Currently it consists of six categories, namely databases, e-books, e-journals, dictionaries, online encyclopaedias, and dissertations and theses. More resources may be added in future. The category "subscribed e-resources" presents some proprietary resources to be accessed only by registered students and academics through authentication verification. As the library does not subscribe to e-resources yet, access to databases like the American Association of Petroleum Geologists, African Journal Archive, Access Pharmacy, Emerald e-Journals might be added in future.

E-theses and dissertations

This section of the portal is part of the institutional repository and designed to provide an electronic version of all master's dissertations and Ph.D. theses. The printed theses of the university are grossly underutilized due to lack of awareness and not being arranged professionally. A database of theses with author, title and faculty indexes embedded in the portal makes them searchable and accessible with easy navigation and the option of downloading them free of charge. Omeka, an open-source code used to create custom computer-based exhibits like building features or templates, has been used to create the repository. It has a large memory capacity for archiving purposes (Omeka, 2017). It is envisaged that the repository will improve access to research as well as the research status and ranking of MAUTech globally.

Past examination papers

The aim of this link is for students to familiarize themselves with past examination paper formats and questions in order to increase their chances of passing examinations and for academics to use as revision tools. To facilitate this development, a section was created to upload past examination papers from the schools and departments in the university.

Online catalogue

As the library still needs to develop an online catalogue, a link to WorldCat (a union catalogue) has been created, providing access to catalogue records of over 72 000 international libraries. If the Ibrahim Babangida catalogue is to be developed, it would be possible to incorporate it in the portal.

Upcoming events

This link is meant to showcase upcoming activities like orientations, seminars and information literacy training initiatives, and announcements from the library. The pop-up menu includes the submenus events calendar, events, submit an event and let's hear from you. The first is a calendar platform where consistent announcements will be posted with users free to respond to announcements.

Chat with a librarian

An interactive function where users are allowed to speak to or ask librarian's questions was also activated. A reference librarian would be required to log in to the chatting tool in order to answer enquiries that might arise from users - particularly those off campus. The difference between an interactive tool and "let's hear from you" is that the latter is not synchronised whereas the first is designed to work in synchronised mode, happening live between the librarian and a user.

Social media tools

For now three social media tools Facebook, Twitter and Instagram were incorporated into the library portal to market the activities of Ibrahim Babangida Library and encourage socialisation. These tools now become the voice of the library and serves to reach both the registered as well as potential library user.

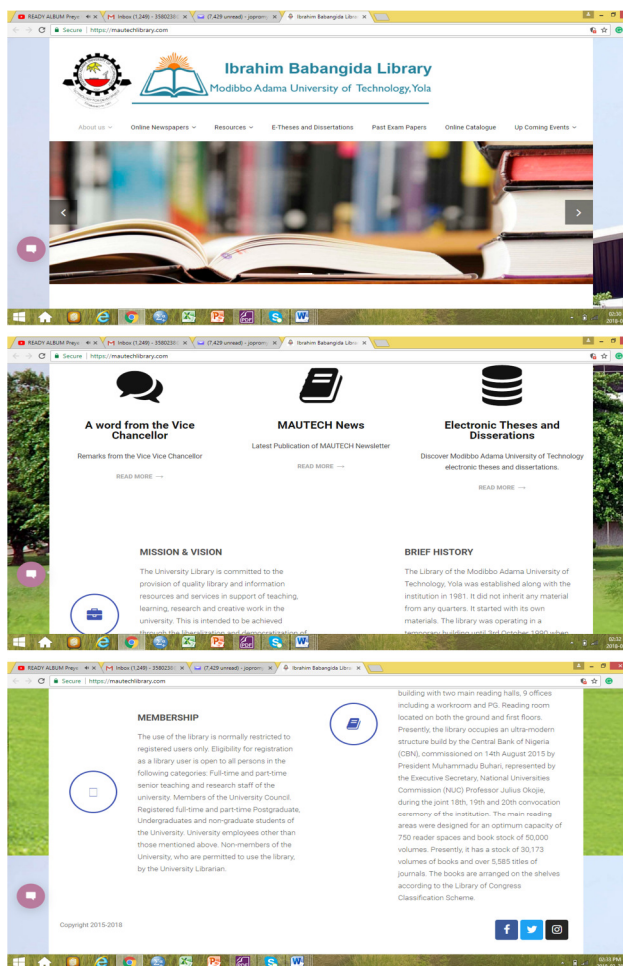The steps (Figure 6) taken resulted in a functional library portal accessible through the URL https://mautechlibrary.com

Figure 6

RECOMMENDATIONS

Based on the findings this study recommends the following to improve the information services of the Ibrahim Babangida Library further:

1. Special training in the use of the library portal should be provided to the library staff first, and then rolled out to students and academics.
2. Findings indicated that the least used resources were undergraduate projects, master's dissertations and doctoral theses currently arranged unprofessionally and stored in a locked room in the thesis unit of the Readers' Services Division. A designated area where these projects are arranged for easy accessibility and use is suggested. It is also suggested that these theses and dissertations are digitized for future online access.
3. The established library portal should provide access to all open-access e-resources as well as those subscribed to in future in order to avoid past problems of unawareness and inaccessibility.
4. The Collection Development Division should develop an acquisition policy to ensure the purchase and subscription of relevant and current e-resources covering all disciplines of the curriculum. Students should also be involved in the selection process.
5. Students' utilization of e-newspapers and e-textbooks should be supplemented with e-journals, e-theses and e-dissertations as well as indexing and abstracting databases with full-test journal articles from accredited journals. Science-based databases like American Association of Petroleum Geologists, American Chemical Society, African Journal Archive, Access Pharmacy, BioMed Central, and Premier should be considered for subscription.
6. Stable free Wi-Fi with fast response time should be provided on campus – including residences - 24/7 to

facilitate searching for information resources without costs. The library portal will endure online off-campus access.

7. As many students are using smartphones and other mobile devices for Internet access, the library portal should provide mobile applications to allow easy access.

8. An internal Library Portal Committee, chaired by the University Librarian, should be instituted to facilitate the development of an e-resources policy concerning e-resources, subscription and licensing agreements with vendors as well as developing guidelines and policy concerning technical issues regarding the portal.

9. To develop the institutional repository further, students and academics should be requested to provide research publications as well as dissertations and theses for digitization and consequent archiving and cloud storing.

10. The MAUTech management should support the acquisition of e-resources financially, especially proprietary e-resources, to meet the needs of the university community by covering all science-based subject resources.

11. The library should use the established library portal for marketing and training purposes.

12. Past examination papers from the last three years should be uploaded to the library portal in order for students to familiarize themselves with different types and formats of examination questions to enhance academic performance.

13. The library should build a permanent server system as back-up for its digital content.

14. For current day-to-day needs, but especially if the
    library is automated, the MAUTech management should put mechanisms in place to ensure sufficient consistent electricity supply on campus.

15. The established library portal should be developed more to incorporate links reflecting all the library's resources and services. The dynamism of library portals is their ability to interpolate different interfaces or resources in one access point for user utilisation.

16. An integrated library management system like Koha or preferably Worldshare should be considered to deploy a complete acquisition circulation and online public access catalogue system for Ibrahim Babangida Library.

CONCLUSION

The study main objective was to determine the techniques of designing and establishing an integrated customised library portal for Ibrahim Babangida Library at Modibbo Adama University of Technology, Yola. Findings reflected a need for digitization of library resources as well as a need for a dedicated library portal. The majority of students agreed to the establishment of a dedicated library portal; there is a strong indication that academics are positive toward the implementation of a library portal. Librarians and IT experts accented the practicability of establishing a library portal as well.

   The study recommends, among others, subscription to full-text databases, provision of sufficient and free Internet access, e-resource and e-services policies. The outcome of the study was the design and establishment of a functional and responsive library portal based on the input from stakeholders of the MAUTech community, scholarly views found in relevant literature and expertise from other libraries.

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APPENDIX A - Technical requirements of a library portal

S/N	TOOLS AND SPECIFICATIONS

1.	Library software
	A: Customization design
	  • Software developers within an institution, for example, the Computer Centre and ICT units of MAUTECH, Yola
	  • They work hand in hand with library professionals and Library Committee to design the portal access
	  • They might link the portal site to the University website.
	B: Reputed company design
	  • Recognised company with good track record to be contacted for the portal design.
	  • Work with library professionals and Library Committee
	  • Install/design the portal considering the features of the library
	  • Train all library staff on how to use the library portal
	  • Maintain the portal access within the term of agreement.
	C: Free Library design
	  • The library may try free library software
	  • After testing the prototype, the library may then decide to customise it usage

2.	Example of library Software/Portal: (These are either company designed or free library software/portal access points) LibGuides (CMS) Access-It Library Mandarin ResourceMate Jumbla
3.	Portal Policies/Guidelines Library and ICT committee will have the responsibility of drafting the policy and guidelines.
4.	Internet connection specifications: Request For Comments (RFC) Name Resolution & Type Standards (URI, URL z39.50, URN, URC, DNS etc.) Transport Standards (IP, UDP, TCP, TCP/IX, FTP, etc.) Plugins and Parts (Java, NCAPI, ActiveX, CGI, ILU etc.) Document Markup Languages (SGML, HTML, RFC 1563, CSS, RTF) Internet file and protocol Standards. Portable/Interpretive Programming Languages (Java & JavaScript, PERL, Python, TCL) 3D Specifications (OpenGL, VRML, DXF etc.) Compression (CS, AS, FAQ) Multimedia File Formats (PDF, PNG, GIF, JEP/GIF/PNG etc.) Multi-User Interfaces (Multi-user Domain, IRC-REC1459, UnixTalk, ANSI) Security Protocols and Specifications (Internet security) Other References (ISO, NIST, ANSI, W3C, RTP etc.)
5.	Upgrading a computer server Dell Power Edge T110II SMB Server HP ProLiant MicroServer Gen8 Lenovo ThinkServer R515 Asus Server TS500-E6/P4 Windows server 2012 Portal system requirements (minimum)

6.	Computer system to connect to server: Processor - dual core 2.4 GHz+ (i5 or i7 series Intel processor or equivalent AMD) RAM - 8 GB Hard Drive - 128 GB or larger solid state hard drive Graphics Card - any with DVI support Wireless (WPA2 support required) Monitor - 23" widescreen LCD with DVI support Operating System - Windows 7/8 Home Premium or Professional with Service Pack 1 The processor speed of the system should be at least 3.0 GHz (gigahertz of speed clock i.e. 3,000,000,000 clock cycles per second) Pentium 4 series with a Dual-core (i.e. a dualcore processor chip having two processors on one chip) of 2.0 minimum or Athlon (microprocessor from AMD) 44x2 minimum. The Random Access Memory (RAM) should be between 1GB XP or 2 GB Vista & 7. It should be compactable with XP and Vista/7 operating systems. The Operating System should either be windows version 7, Vista, XP, 2000 or Linus because these OSs are suitable for network configurations and access to the web. For video streaming and webcam, the video card should be a minimum of 128MB with compatibility for pixel shader for graphics resolution and sound interfaces. The Hard Disk of the computer system should be a minimum of 7.6GB of free space to accommodate enough data. And the software application may be any kind of web publishing language. CPU: 1.7 GHz Processor CPU SPEED: 1.7 GHz, RAM: 512 MB, OS: Windows 7 (32/64-bit)/Vista/XP, VIDEO CARD: NVIDIA GeForce3+ / ATI Radeon 8500+,SOUND CARD, FREE DISK SPACE, Portal Recommended Requirements CPU: Pentium 4, CPU SPEED, RAM: 1 GB, OS: Windows 7 (32/64-bit)/Vista/XP, VIDEO CARD: DirectX 9 level Graphics Card (GeForce FX 5500/Radeon 9500), SOUND CARD. FREE DISK SPACE
7.	Knowledge on software application required. The library website is powered by Drupal and is written in PHP which utilizes MySQL database. They were able to install the following modules or elements: cTools, Entity, Google Analytics, jQuery Update, LDAP, Views, Web form, Weblinks, and Wysiwyg. The portal used "Professional Theme" with some customization in the layout. As a dynamic portal access, the library's Facebook and Tweeter accounts are all incorporated into the website. There are different links to the library e-resources and local databases. The content of the portal is managed by the General Reference section of the library in Diliman. Design concept may start from a simple to interactive mode. These features are to be considered under design stage like the content to be made available, audience, content format and processing, structuring and navigation, the layout of a home page and branch pages, site search support and feedback and help. Required standards according to Ultimate guide to programming languages (2017; Das & Saha 2015; Shiotsu 2014). These Content Management Systems are recommended by (Beal 2017; The Ubuntu story 2017 & Madhusudhan 2011).

APPENDIX A - Continuation

8.	Printer: MS 810N LaserPrinter Monochrome 1200 x 1200dp Officejet Pro 251DW Injet Printer-colour 1200
9	Scanners: HP Scanjet 8270 document flatbed scanner (L1975A) Epson Perfection V600 photo scanner Flatbed colour image scanner colour Epson MatricCCD LineSensor, 6400x9600dpi, 48-bits per pixel internal/external 16-bits per pixel internal/external, 3.4Dmax
10.	Digital Cameras: Sony Alpha 7s 12.20 Megapixel *Samsung Galaxy NX 20.30 Megapixel
11.	Other Accessories: Backup Device - External hard drive, USB Flash Drive and/or DVD+/-RW drive APC Back-UPS,400 Watts /650 VA, Input 230V /Output 230V, Interface Port Optional Simple Signalling RS232 cable, USB, CDs and flash drives, Cables, Stabilizers, Extension wires etc.

Full Length Research

An Empirical Study of Factors Influencing Users' Satisfaction with Online Information Resources in Michael Okpara University of Agriculture, Umudike, Abia State.

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From its print-based traditional information resources, digital and e-resources is the new bride of library patrons including academic library users. E-resources have improved access to information for scholarship including users in Michael Okpara University of Agriculture, Umudike, Abia State. Availability of online information resources has increased users demand for such innovative services from academic libraries. Provision of online/e-resources has come with many challenges which require proper understanding by librarians. Using descriptive survey research method, challenges like demographic factors, scholars ability to get online information resources, possession of computers/laptops/Internet-enabled/smart phones, cost of access to online information resources and user' satisfaction with available online information resources were determined. A web-based survey and questionnaire correlated at 79% was used to collect data from 548 respondents representing 10% of the study population. An acceptable mean score/benchmark of 2.5 and above was adopted. The study discovered that demographic factors, ownership of computers/laptops/Internet enabled/smart phones, and satisfaction of scholars information need influence use of electronic/online information resources.

Keywords: Academic Libraries, E-resources, Information Resources, Library Resources, Online Information Resources

Cite This Article As: Ugwunna, I.S., McAlbert, F.U., Onyekweodiri, E.N. (2018). An Empirical Study of Factors Influencing Users' Satisfaction with Online Information Resources in Michael Okpara University of Agriculture, Umudike, Abia State. Inter. J. Acad. Lib. Info. Sci. 6(6): 189-195

INTRODUCTION

Background to the study

Academic libraries are those libraries established to serve users in institutions of higher learning such as universities, polytechnics, colleges of education/agriculture/technology, etc and other such institutions (Edom, 2012), (Madu and Ademiran, 2005). The basic functions of academic libraries are to support and enhance teaching, learning, research and community development. Ifidon and Nkoli (2002) listed some of the basic functions/services provided by an academic library. The library in an academic institution is often referred to

as the nucleus of that institution around which every other activity revolves. In today's ICT world, the services of an academic library extends and expands beyond the four walls of the library as its services and resources are expected to be accessible to users irrespective of their physical location. Among this remote users are distant learning students who are part of the clientele of academic library. However, observations reveal that they are not well served by existing library support services which they need (Mabawonku, 2004).

Michael Okpara University of Agriculture Umudike (MOUAU) came into existence following decree no 48 of 1992 that established the university alongside with Universities of Agriculture, Abeokuta and Makurdi. The university began its operation as a single division in a shared apartment with the then Library, College of Agriculture, Umudike, now relocated to Ishiagu, Ebonyi State since 1995.

The Library, MOUAU is today seen in a three department operation with seven units running under them in an ultra modern new library building. The library reading area has a total seating capacity of over 200 readers. Mr Arua is the present University Librarian with a total of forty-eight (48) staff. Out of this, eight are librarians, seven library officers, eleven library assistants, ten library attendants, a bindery staff, seven clerical officers, two porters and one ad hoc staff. (Source: Staff Nominal Roll, 2014). Print collection records from the acquisition department reveal that the library has over 23,000 volumes of books covering all areas of agricultural sciences and allied disciplines. The library has 5000 volumes of reference materials, including dictionaries, encyclopedias, directories and research reports of students (Ugwunna and McAlbert, 2014). A variety of sources and resources are today available to students, faculty members and other patrons of academic libraries. These include: stand-alone computing using digital devices, Internet-based sources and services which are mainly information resources available on the web and Internet gateways.

The library has an ICT unit and a digital library. The digital library is, however, not located in the library building because of lack of adequate facilities to support it. The digital library is located at and supported by the University ICT/Afri-Hub partnered centre. This digital library housed in the Afi-Hub building has forty-four (44) computers linked to a cable modem connected to the Internet. Afri-Hub is a private company working in partnership with the National Universities Commission (NUC)/Federal Universities in Nigeria. The library also employs the wireless access of the MOUAU ICT centre to make available to both staff and students the digital content of the library via Wi-Fi Hotspot Antennae mounted at various locations on the campus.

The state of the Internet access however is bad. The bandwidth at Afri Hub which provides Internet access to the company's business classes and to the digital library is very low (Uzuegbu, 2012). That of the ICT department of the university is also nothing to write home about. Thus, Internet access most times especially when too many users are online can be very frustrating especially when students spend time and at the end fail to use the e-journals or fail to download the documents they need. The library subscribes to e-journals and databases that publish articles free and allow students, lectures and other users to access, read, download and print any part of the publication. These e-journals and databases and their scope are presented as follows:

AGORA: Access to Global Online Research in Agriculture data base is by the Food and Agriculture Organization (FAO) and major publishers, enables scholars and researchers in developing countries to access digital information on food, agriculture, environmental and other related sciences. AGORA: provides a collection of 1900 journals to institutions in 107 countries. AGORA database can be found at: www.agInternetwork.org

OARE: The Online Access to Research in Environment is a global consortium of over 340 scholarly scientific publishers and societies offering one of the world's largest collections of online environment research literature. It provides access to about 1.5billion scientific papers, representing about 75% of the world's most influential peer-reviewed publications. It is coordinated by United Nations Environment Programme (UNEP) and Yale University in association with International Association of Scientific, Technical and Medical Publishers among other sponsors. It is available at: www.oaresciences.org

HINARI: Health Inter Network Access to Research Initiative is a database by the World Health Organization (W HO) and major publishers to enable developing countries to gain access to about seven hundred (700) biomedical and health journal titles accessible at: www.who.int/hinari

TEEAL: The Essential Electronic Agricultural Library is a collection of 130 major agricultural journals in 426 CD-ROMs (2005version) and independent of Internet availability or network. The library has acquired the LAN 2.0 version of TEEAL containing 141titles. The ICT office of the library located in library building has this equipment with two computers that enable researchers to read and copy the content of the CDs. The website for is: www.teeal.org.

At the Library MOUAU, students and faculty members access more than twelve thousand (12,000) scholarly journal titles covering agriculture related subjects online. It is mandatory for both undergraduate and post graduate students to pay a sum of five thousand naira (N5,000) in exchange for a sixty-hour time code valid for an academic session. With the time code, students can go to the ICT Computer Laboratory, the Afri-Hub Café' or to the Digital Library, type in their code (username and password) to access the Internet as all the computers are set on "time". On the other hand, staff members obtain a wireless access code for the same amount deductible from their salary upon request.

Thus, both staff and duly registered students with their pre-paid Internet access account from the University ICT Directorate have access to these e-resources. The library has also embarked on a digital repository project starting with students' final projects, thesis and dissertations and plans are at advanced stage to bring on board other publications and information materials emanating from the university.

LITERATURE REVIEW

Digital library is an emerging concept in librarianship in Nigeria even as libraries in the developed countries have been providing digital/e-resources since many decades ago. (Borgman, 1999), agrees with the Digital Library Federation that digital libraries have unique characteristics that differ from traditional libraries in their approaches to information provision. From a traditional librarian's point of view, digital libraries present a transformative model of a large-scale user-centric organization with various integrated components. However, the main purposes of both digital/e-libraries and traditional print-resources libraries remains to acquire, process, disseminate, store and preserve information resources. The World Internet Statistics (2011) reported that over forty million (4o million) Nigerians use the Internet and many of them are youths. This corroborates Aina (2004), Abels (2005) findings on the increased use of the Internet by scholars, researchers and other users.

Many academic libraries have automated their operations and can now provide online services to their patrons due to the availability and affordability of Internet services. Integrated library systems are available in academic libraries which enable them to provide research and learning resources electronically free and by institutional license (Bazillion, 2001). These and many more are the variety of information-driven innovations that has thinned the library world thereby expanding and extending the horizon of services which academic libraries provide.

According to Uhegbu (2007), information is a vehicle for national development and access to and use of information is also a necessary vehicle that conveys knowledge which is education that drives the development of every nation including Nigeria. Access to information through co-operation among academic libraries is an important instrument for enhanced educational pursuit by any nation. This is the thrust of discussion of issues of access to online information resources to assist scholars to obtain the information they need. This is true especially for academic libraries and institution that promote and support institutional repositories which assist scholars to publish research and reports and improve their visibility (Ezema, 2010).

Libraries world-wide rarely have all the human, material and financial resources needed for effective and efficient service let alone libraries in Africa that do not have enough resources to sustain journal subscription which negatively impacts on their service provision (Ephraim, 1991). As a result, scholarship in Africa is faced with challenges of online services arising from weak infrastructural and information systems development resulting sometimes to total network failure Okogwu and Nnam (2013) and Sheik and Bray (2011). The prevailing economic recession in Nigeria makes it necessary for available resources to be judiciously deployed to execute tasks that will assist the university to achieve its desired goals and objectives in the area of academic excellence.

Access to electronic information resources allows users global access to unprecedented number of primary and secondary sources for research activities. This paradigm shift to access and documentation to large volumes of information is contained in previous studies (Ikpaahindi, 2006). E-resources have numerous advantages when compared to buying print or physical versions. Other advantages of e-resources have been documented by other writers like Kahle, Prelinger and Jackson (2001), Okiy (2010) and Trevidi (2010). Nevertheless, Echezona and Ugwuanyi (2010) listed some of the impediments/challenges inimical to access and use of e-resources. Furthermore, McAlbert and Oriaku (2014) reported some causes of low use and non use of online information resources in the library, MOUA, Umudike.

To access and retrieve online information resources require that users possess skills, availability of information resources and even time to seek for information resources. Some writers have listed other factors that affect the information seeking of different user groups. These include language, income, educational level, rank, sex, religion, economic, social and even psychological factors (Alemna, 2000). Cost of locating and accessing online resources has long been identified as a possible factor that can influence sources of information used by a library patron (Curley et al, 1996)

and (Dalrymple, 1990). Bozimo (2007) bemoaned the low level use of electronic data bases in academic libraries in Nigeria.

In the same vein, Uzuegbu, Chukwu and Ibegwam (2012) reported that scholars' ignorance of existing electronic information resources, unfriendly user interface and usability are among the numerous challenges facing the use of e-resources in academic libraries in Nigeria. This report indicates that both subscription and free e-resources are not fully utilized by many library patrons. These reports has led to series of efforts being made by the Nigerian Universities Libraries (NULIB) in organizing workshops aimed at ensuring that students and scholars make use of available electronic information resources in university libraries in Nigeria.

Many options, however, are open to libraries, information managers and professionals of today. The purchase of CD-ROM databases at a point was seen as a viable alternative by many libraries especially those that do not have access to the Internet or reliable network connectivity. The use of CD-ROM and its advantages and challenges has earlier been explored in papers by Ojo-Igbinosa (1993) and Dubbeld (1995). Such databases are usually hosted in libraries as well as distributed to some remote workstations even on a campus-wide basis. Web gateways or data bases, electronic books and journals are subscribed to by many academic libraries but due to ignorance or lack of knowledge of their availability, scholars prefer search engines such as google, alta vista, yahoo and the rest. As a result of this seeming lack of interest in the use of e-resources in academic libraries by scholars, there is lack of institutional support to library heads on issues of e-resources.

Nevertheless, libraries are faced with enormous challenges which adversely affect the way information service is provided. Out-sourcing of digital library projects is an option which many libraries resorted to find solution to their individual challenges (Grossman, 2005). Today many libraries pay more attention to access to remote collections wherever they may be found against acquiring print collections. A well planned and coordinated digital/electronic library can guarantee users access to a wide variety of information resources once all the necessary infrastructural and man power requirements are provided.

Librarians, researchers and scholars in many fields realize the potentials of these new approaches to research and learning activities. The interest generated by the use of e-resources over the past decades has led to series of studies to look into different areas of notable challenges to the optimal use of e-resources in academic libraries to see how these can be addressed to improve access and use. The wide spread use of ICT by researchers, lecturers and students no doubt is part of the reported continued increase in the unprecedented quantum of scholarly publications or works available on the Internet (Abels, 2005).

The growth of information technology and the resultant online learning has led to librarians acquiring fewer print materials while providing more access to digital resources (Kane, 1997). Virtual services and resources provided by libraries generally consist of reference assistance, e-books, electronic journals and magazines, online databases, online library catalog, tutorials, interlibrary loan form, book delivery, instant or quick search and Internet links. Researchers have conducted studies to examine the changing roles of the library, library staff and the balancing of print journals and electronic collections with respect to the accessibility and need of virtual patrons and users preference for online e-resources (Ugwunna, and McAlbert, 2014) and (Uzuegbu, 2012).

Scholarship in Nigeria like in many parts of Africa is faced with a lot of challenges in the provision of information resources including online information resources. Librarians on their part face increased challenge to continuously assess and update their print resources and services and at the same time provide collections and services to online library users which require advanced technical skills and knowledge. This new trend in information access and use find support in the assertion by Unegbu that

Today people can stay in their homes and request and get whatever information they want.

METHODOLOGY AND INSTRUMENTS FOR DATA COLLECTION

Descriptive survey research method was adopted to determine the influence of some demographic factors on the use of online resources by scholars. To find out whether scholars are satisfied with online information resources in the library under study. Simple statistics was used in analyzing the data which was obtained with the aid of a questionnaire which contained five research questions. A web-based survey was carried out and questionnaire correlated at r =79 was used in data collection.

Data was analyzed with four-point Likert scale with weighted mean score of 2.5 was the accepted benchmark while any mean below 2.5 was rejected. Responses were rated: Strongly Agree (4) Agree (3) Strongly Disagree (2) Disagree (1). The population for this study was the 5,475 students and faculty members of Michael Okpara University of Agriculture, Umudike and other non staff and non students of the university who consulted the e-resources of the library from within and without the university during the 2016 academic session. Using Borg and Gall (1973), a randomized sample size of 548 representing 10% was drawn from the population.

Table 1: Responses to Research Questions

		SA	A	SD	D	WM
Q1	Do certain demographic factors influence use of online information resources?	193	160	120	75	2.8
Q2	Do scholars know how to access the needed information from online resources?	143	262	102	41	2.9
Q3	Do scholars own desktop computers/laptops/smart phones/Internet enabled handsets?	325	197	18	10	3.5
Q4	Do cost of access affect scholars' use of online resources?	210	237	10	91	3.0
Q5	Do online information resources satisfy scholars' information need?	146	217	105	80	2.8

OBJECTIVE

The aim of this research is to determine some factors which influence users' satisfaction with available online resources and services in the library, Michael Okpara University of Agriculture, Umudike.

STATEMENT OF THE PROBLEM

Meeting users' need in academic libraries is a difficult and complex task for librarians due to information explosion, ICT's seamlessness, low price of computers and sophistication of library patrons in the era of reduced library funding. Technology acceptance, technophobia and inadequate information literacy skill by users to enable them to access available online information resources in libraries are some of the challenges faced by many academic librarians in Nigeria. There is also problem of lack of knowledge of the availability of e-resources. As a result of the above, there is need to find out how these challenges affect the satisfaction of users of electronic/online information resources in the library, MOUA, Umudike.

SIGNIFICANCE OF THE STUDY

The outcome of this study will immensely assist in the management of e-resources in similar academic libraries when faced with vital decisions affecting students, faculty members and other researchers' use of electronic information resources and services. This investigation will help in decision-making especially with respect to balancing the allocation of scarce resources between digital/e-resources and print resources in the event of the integration of both digital/e-resources and print resources by avoiding duplication and waste of scarce resources. This study will lead to a better understanding of online users' experience which will help digital librarians/ front desk librarians who deal directly with library patrons. It will also assist librarians to deal with challenges of access and use of online/e- resources to support research and scholarship in the face of continued reduced funding of libraries services generally.

RESEARCH QUESTIONS

(1)   Do certain demographic factors influence use of online information resources?
(2)   Do scholars know how to get the need information from online resources?
(3)   Do scholars own computers/laptops/smart phones Internet enabled handsets?
(4)   Do cost of access affect scholars' use of online/e-
        resources?
(5)   Do online information resources satisfy scholars' information need?

DATA PRESENTATION

This chapter presents the responses by the scholars in Table 1.

DISCUSSION OF FINDINGS

From table 1, one can see from the scholars' responses that certain demographic factors indeed influence or affect their use of online information resources considering the weighted mean of 2.8. In the same vein, getting the needed online information resources, ownership of computers/ownership of Internet enabled telephone devices, cost of access and

satisfaction with available online resources all got a benchmark or mean of 2.5 and above. This translates into a general agreement that certain demographic factors influence/affect the use of online information resources. The issue of cost of access to online resources is notable even as this is in agreement with the submissions of Curley (1990) and Dalrymple (1990) in their separate studies. Scholars' agreement that available online resources satisfy their information need is important because this singular variable is the major aim of every information services facility. Getting the needed information from online resources is in tandem with Abels (2005) reported increase in the use of the Internet which can be attributed to the avalanche of publications on the net. The assertions from this study point to the fact that some demographic factors really do affect/influence the use of online information resources just the same way they affect the use of printed information resources.

CONCLUSION

The study revealed that demographic factors influence use of online/ e-resources in academic libraries like MOUA, Umudike which was the focus of this study. An interesting highlight of the study is the response by patrons that they get the information they need and that the available online/e-resources satisfy their information need. This should remain the main focus of information services delivery for every library and not just academic libraries.

RECOMMENDATION

Identified challenges/impediments militating against the use of online/e-resources in libraries generally and not just academic libraries must be addressed to enable users to maximize the use of available information resources bearing in mind that they come at a huge cost to the institutions and public revenue.

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Full Length Research

Awareness, Access and Use of Electronic Resources among Undergraduate Students in a Specialised Private University in Southwest Nigeria

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The study investigated undergraduate awareness, access, use, barriers, avoidance reasons and importance of ERs to students academic attainment. A case study research design was adopted. A total of 575 questionnaires were distributed to undergraduates of Bells University from four different colleges during the 2017/2018 academic session and 450 (78.3%) were returned valid. The result revealed 99%, 96%, 75% and 67% of students have awareness of ERs such as DVD, Internet, ebooks and EJournal respectively. 75%, 71% and 67% of them use the internet, Ebooks and Ebrary. Similarly, 46% and 24% use personal laptops and the library as point of access to ERs. The findings of the study revealed that, cost of data, limited access to computer and internet, lack of information retrieval and searching skills constitute barriers and avoidance reasons to the use of ERs. The implications are students avoid the use of the ERs and library as point of access Thus, in order of importance to academic attainment, internet, Hinary, ebooks and eJournal recorded 75%, 71%, 71% and 68% respectively. However, general ERs are preferred to customised and subscribed ERs of the University (such as ebrary, Myilibrary, ebook Central academic complete library). The study recommended the provision of unlimited internet access, computer terminals, periodic hand-on trainings on the use of ERs and information retrieval cum searching skills for students as flexible platform of access for ERs. In addition, ERs use statistical data should be mined and retrieved from providers of subscribed ERs for future planning and development of the library.

Key Words: Undergraduate awareness, accessibility, utilisation, electronic resources, electronic resources, private University and academic library

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INTRODUCTION

There has been tremendous transformation in education as a result of rapid advances in Information and Communication Technology (ICT) (Sejana, 2017). The role of technology in teaching and learning has also rapidly become one of the most important and widely discussed issues in contemporary times. Nwangwu, Obi and Ogwu (2014), defined ICT as set of activities which are facilitated by electronic means, namely information processing,

transmission and display. This implies that, ICT involve the handling and processing of information (text, images, graphics, instructions etcetera) for use, by use of electronic devices such as computers, cameras, and telephone etcetera. Therefore, with ICT there has been several new discoveries of the century which started with the Internet. These includes cloud computing, big data, Internet of Things (IoTs), Internet of Everything (IoE), eBanking, eGovernance, eBussiness/eCommerce, eHealth, ePayment,, eDemocracy and eVoting among others. All these as observed, is radically influencing the future of education, learning and research. It has also resulted in professional unfussiness with superlative hyper connectedness (Charles, 2016)

Commenting further on ICT as technologies for data acquisition, processing, storage and retrieval, Asaolu and Fashanu (2012), explained that ICT includes, the electronic hardware, software, people-skills and processes for generating and transmitting information. Thus, in order to ensure educational development during this digital era, it is imperative that ICT technological innovation, access, utilization and skills development be embedded in the educational system. Thus, if the concept of ICT in education includes systems that enable information gathering, management, manipulation, access, and communication in various forms, it implies that the use of ICT should involve all aspects of students activities, their daily routines, learning process and utilisation as a whole. Hence, in order to promote the use of ICT among undergraduate students, awareness and provision of access to ICT facilities is a *sine qua non.* Students develop computer skills only when they have access and or only when they understand the purpose of utilisation (Ismail, Ahmad and Affandy, 2013). In today's highly sophisticated society, ICT has facilitated the storage of huge amounts of data/information in very compact space (Saleem, Tabusum and Batsha, 2013). Therefore, the use of ICT in teaching and learning in higher education has been discovered in reviewed literature to be relevant and functional ways of providing education to learners, with a view to assist them in imbibing the required skills and capacity to locate relevant, accurate and timely information for educational purposes. Accordingly, Amanortsu, Dzandu and Asabere (2013) noted that, as computers and the applications of technology become more pervasive in the society, the need for electronic resources has also became extremely influential. Therefore, University libraries have been acquiring computers, ICT facilities and resources with emphasis shifting from printed sources to electronic resources. Based on this rationale, Bells University of Technology (BUT), Ota Nigeria, the first private university of technology is not an exception.

Thus, the emergence of ICT has profoundly impacted teaching, learning and research. It has led to the development of electronic format of educational resources which are available online. The new trend is the digitization of all forms and format of information to create educational forms of databases and academic Institutions are utilising institutional repositories as means to provide free access to research output. Thus, as opined by Ojo and Akande (2005), when ICT is combined with the internet, it creates a conduit for students to obtain huge amount of information which exist in varied medium and format. This information can be used in different ways and for different purposes by the students. Thus, in Ojo et. al's.,(2005) view, information is complex, extensive and as a tool, it has brought about a number of changes to higher education. This in turn, was reported to have exerted pressure upon the roles of academic libraries, especially when the use of ICT by students as a tool has been distinguished to have expanded to include the internet, e-mail, chat, programming, graphics, spreadsheet, online shopping, online literature searching, electronic resources and other educational materials. But, students gender, age and year of study was posited to have no significant effect on learner's ICT use (Eguavoen, 2016).

Hence, in pursuance of the provision of ERs and in order to go paperless cum hybrid, the BUL took up the challenge from inception by making electronic resources available, accessible and utilisable to both staff and students by developing a befitting a resource-rich e-library. The e-library has over 70 computers and accessories which are open for access and use by students and staff. The e-library provide students and staff with 24hour services, with access to a wide range and ever growing number of ERs, databases and sites, as well as the BUT customized access to ebookCentral (a complete Virtual Library which also provides access to encyclopedia, dictionaries and other reference materials, where users could create book shelves and make notes), which is remotely accessible from any location. The e-library collection in addition to the aforementioned, comprises of web-based, intranet based and stand alone resources. These resources are constantly being updated. It currently holds over 1, 000, 000 (1million) titles in form of e-books, e-journals, report, manuscript, maps, etc. The total number of information materials in CD- ROMS covering all subject areas is about 2,000 in number.

At the electronic library of BUT, access is provided for the ebookCentral, the intranet and stand alone resource databases; they can also browse the Massachusetts Institute of Technology (MIT) Courseware through CD-ROM technology. A fully interactive package, with over 1800 different courses which are fully multimedia (DVDs & CDs) Science and Technology, Web–Med, Library of Congress, General books and Computer based training kits; Complete Harvard Library; Scientific Library On-line (SciElo); Agora; JSTOR, Aluka; Harvard Library; Emerald insight and a host of other on-line resources etc. The e-library, also has a non-web based college-customized e-

resources with mainly relevant books for all colleges, with over 1000 multimedia CDs to support teaching and laboratory practical. There is unrestricted access to the internet with over seventy computers to browse the internet to get information that will meet the teaching, learning, leisure and research needs of staff and students. BUL is currently working out details of a relationship with Kortext, United Kingdom, to provide access to the Kortex platform for digital books and the platform is ubiquitous.

In other to create awareness for the availability and subsequent usage of the aforementioned resources, the library organise annual and periodic orientation programme for fresh staff and students in conjunction with the students affairs unit of the University. The activities of the orientation, include guided tour of the library and the Olusegun Obasanjo Presidential Library (OOPL, Abeokuta), Simeon Adebo Library (State public library), Ogun State ICT Resource Center, Abeokuta and others. There is also a "library and You" package designed to guide students, staff and others users of the Library. This package employs pictorials and it is installed on all the library computer systems for easy access as follow up on the guided tour and orientation. The library also gives multimedia resources services through its multimedia resource centre, which has been established within the Library to support multimedia teaching and learning.

According to Aina (2004), the main purpose of a University library is to support the objectives of a University. In order to function and serve the information needs of users therefore, the management of the BUT have expended considerable proportion of its scare resources to provide all the aforementioned ERs at the University library. Fresh 1 Students have always been exposed to annual orientation to tour the University library, to create awareness of available resources.

Are the students really taking advantage of the existence of these resources of the library, despite the orientation programmes and guided tours organised for them? Do students have express access and do they utilise the availability of these ER?. These are the question this study is set out to answer. Furthermore, there is paucity of literature on undergraduate access, usage and awareness of ERs in Nigerian Universities (private especially). Therefore, without an enquiry and a research of this nature, it become difficult to determine if the e-resources provided by the first private University of Technology in Nigeria, are meeting the needs of undergraduates effectively (i.e the teaching, learning, research and leisure needs). It is against th1is backdrop, that, this study is embarked upon to cont1ribute to the scarce literature available on student access, usage and awareness of ERs in a private University of Technology in South-Western, Nigeria.

STATEMENT OF PROBLEM

Generally, ERs have become established component of many academic libraries' collection, BUL inclusive. These resources are of various types and they often include hardware, software, databases, ICT facilities, CD/ROM, journal articles, e-books, reference sources, conference papers and reports among others. In BUT library, several ERs are available and can be accessed from anywhere, even outside of campus. The subscribed virtual library is not institution based, users can access at different and same time and from anywhere through customised access. The University therefore, expended huge sum on these resources to satisfy the teaching, learning and research needs of its faculty and students. As the universities spend substantial amount of money to subscribe to these resources, it is only appropriate and economical that these ERs are optimally utilized to contribute to the academic achievement of students and faculty (USARM Report, 2015)

In spite of the value of these ERs, the researchers' observation over the years have shown that, these resources are greatly under1utilized. Some of the reasons as attested by literature, includes: lack of awareness, pr1eference for other sources like general search e1ngines such as Google, lack of search skills, lack of adequate ICT infrastructures, poor internet access, bad downloading time, and at times sheer attitude of library staff / users. The manifestation of these barriers, however, differs from institution to institution and from situation to situation. Thus, the BUL networks provide easy access to its educational ERs. This is done in order that students and staff could access and utilise such for their learning, teaching, leisure and research purposes. Hence, with 1CT, the fundamental duties of BUL has expanded to creating learning opportunities and the provision of access to different formats of educational reso1urces as an a1cade1mic library. Awareness is believed to have been created conventionally with the hope that the educational process of undergraduates will be expedited and facilitated. Researchers and staff and students of BUT could be having their turn of difficult times in accessing these ERs for teaching, learning and research. Although, students learning styles have been greatly altered with ICT as generally observed, students fundamental thinking horizon is thus, not expected to remain the same. Students are however, expected 1to take advantage of the ERs at their disposal as technological tool and to broaden their knowledge and skills, they should maximize their express access to utilise the ERs (Towolawi, 2018)

In this study therefore, "access" connotes access to ERs of Bells University Library. For undergraduate to have access to the ERs, the resources must be made available and located where they are accessible to library users. It is however, expected that availability should influence level of usage. Thus, it could be implied that access has a close

relationship with usage. Looking at this in depth, the BUT library believed it has provided ubiquitous customized access to its ERs through ebrary, an academic complete virtual library, EbookCentral and Proquest etc hence, students and staff are expected to utilise these resources to meet their learning, teaching, leisure and research needs. The researchers having worked as librarians for about fifteen years at the BUL, assumed that enough awareness has been created for users. Besides, the library operating hour is from 8am till 9pm on daily basis and from 10am to 4pm on weekends, what could then be the challenges faced by students in relation to their accessibility, usage and awareness of these ERs? Could it be that, customized access is limited or are they just being grossly underutilized? These are the concern of the study. Are students avoiding the use of the ERs as a result of the incur data costs? For instance,, if the ERs are accessible on students smart phones, personal laptops and on computer terminals in the library, but there is limited internet access to use, then, the total benefit of ERs availability and accessibility initiatives may be defeated. With this identified challenge, it can be hypothesized that, there could be a relationship between access to ERs and its use by undergraduates. Moreover, undergraduates need information to be academically successful. However, as observed by this researchers, equipping the BUL with appropriate resources and facilities with myriads of ERs seem to have no justification, for the huge resources expended on their provision if a1nd when they are grossly underutilized. Perhaps, are students having some challenges of utilisation, or are they lacking some skills?; and or do they having other means of sourcing using ERs outside the library to satisfy their information needs?. These are some of the gaps identified by the study.

It is in the light of the aforementioned that, this study examines the pattern of access, use and awareness of ERs by undergraduates in Bells University of Technology, Ota. South West. Nigeria.

OBJECTIVES OF THE STUDY

This study is designed with the following objectives in mind to:

1.   find out the extent to which undergraduate students are using ERs
2.   find out the level of awareness of the students about the ERs.
3.   determine students points of access to ERs.
4.   find out what constitute barriers to undergraduate use of ERs
5.   find out how the students acquire information retrieval skills.
6.   determine why students avoid using ERs.
7.   examine how im1portant ERs are to the academic attainment11s of students.

R1ESEARCH QUESTIONS

In order to achieve the objective of this study, attempt wa1s made to answer the following questions.

1.   What is the extent to which undergraduates students use ERs?
2.   What level of awareness do the undergraduate students have about ERs?
3.   What are the students point of access to ERs?
4.   What constitute barriers to students use of ERs?
5.   How do the students acquire information retrieval skills?
6.   Why do student avoid using the ERs?
7.   What are the importance of ERs to the academic attainment of undergraduates?

SCOPE OF THE STUDY

This study concentrated on investigating access, usage and awareness of ERs among undergraduate, using the first private University of Technology in Nigeria as a case study. The scope of the study was limited to Bells University of Technology undergraduate students alone, as it will be easier for the researchers to reach their subjects. Ideally, it would have been appropriate to include other Universities of Technology in Nigeria in the study in order to be able to compare access, usage and awareness of ERs in various institutions. However, the cost involved in such endeavor and the time available for the research did not make this feasible.

SIGNIFICANCE OF THE STUDY

The study is significant on the following basis.

1.   The findings of the study will increase the scare literature available on access, usage and awareness level of ERs in Bells University of Technology in South-West Nigeria, which the management of the library and that of the Universities can use for future plans.
2.   The data generated can be used as a basis to agitate for constant and frequent use of the library as point of access to ERs and other educational materials of the University.
3.   The findings of this research will also provide evaluative information which the library management can use to improve its services and such could also be used to justify the importance
of ERs to learning, teaching and research.
4.   Through the findings of this study, it will be easier to justify BUT management investment in the acquisition of ERs and this will form the basis of agitation to equip the library with modern ICT equipments, software and continuous subscription to databases and other ERs
5.   This study is expected to also shed light on the relevancy, adequacy and acceptability of the ERs collection and services of the BUT library.

LITERATURE REVIEW

   According to Charles (2016), ICT refer to all electronic devices prefixed 'e' for both wired and wireless devices which have been classified and categorised into mobile (anywhere anytime access) prefixed 'm'; Internet (transaction via the Net) prefixed 'i', television (transaction via digital television set) prefix 't' and pervasive (anywhere anytime transaction through mobile/wireless devices) and prefixed 'p' or 'u'. Thus, the advent of ICT has been attested by literature to be a dominant revolution which has created super platforms for interconnectivity. The swift growth of ICT has also set in motion, a new trend in the provision of ICT facility, resources and services for library professionals and their users in unison with the traditional roles and fundamental services of Libraries. Accordingly, libraries are using ICT (internet) to support their fundamental functions and services: acquisition, circulation, reference, classification, cataloguing to provide access to its resources and services (Butt, Quitab and Mahmood, 2014). ICT has served and will continue to serve as medium of acquisition and transmission of information for a long time to come. For any academic library to thrive in this information age, the library irrespective of the size of its collection must embrace Information Communication Technology (ICT).
   Consequently, Mubashrah, Riaz-ul-Haq and Jamil (2013) cited Adeoye and Popoola (2011) to highlighted the effectiveness, availability, accessibility and use of library and information resources in their study on library resources utilisation by students and teachers. The results of the study revealed that libraries are usually underutilized by as a result of lack of human and material resources. The trio explained that, for effective learning, undergraduates are expected to have access to necessary information materials and resources. These resources, they noted could be in tangible (i.e., printed resources) and intangible (i.e., electronic resources) format. They also reiterated that librarians are responsible for providing information resources materials at the right time and concluded by identifying possible types of inaccessibility problems faced by students, namely: conceptual, linguistic, critical, bibliographic, and
physical. Moreover, the quality of library resources both print and ER determines the quality of graduates produced, as such libraries are agents of educational, social and economic development (Aina, 2014).
   ERs are generally regarded as the mines of information. They include electronic hardware, software assets and processes which are utilised for generating and transmitting information Literature attested that they are preserved through modern ICT devices, refined and redesigned and stored in the cloud/cyber space in concrete, digital, electronic and compact formats. They are ubiquitous in nature and are accessible anytime, anywhere and through any devices by different categories of patron. Thus, the phrase "ERs", has broadly been used for resources in digital/electronic formats which are made available to library users through a computer based information retrieval system. Accordingly, Omosekejimi, Eghworo and Ogo (2015) defined ERs as materials consisting of data and/or computer program(s) encoded for reading and manipulation by a computer, such as a CD-ROM drive or remotely via network such as the internet. Peripheral device are used to directly connect them to computer systems. The trio cited the University of Chicago Library to list some of the ERs that should be available in every academic library's disposal to include:

➢   CD ROM: pre-pressed optical compact disc containing data. The name is an acronym for Compact Disc Read-Only Memory. Computers can read CD-ROMs and they can also write on the CD-ROM's. There writeable or rewriteable CD-ROMS. Some CDs, called enhanced CDs, hold both computer data and audio with the latter capable of being played on a CD player, while data (such as software or digital video) is only usable on a

computer (such as ISO 9660 format PC CD-ROMs).

➤ Electronic Books: Libraries provides access to a variety of electronic books, as well as the other printed works (such as essays, poems, or historical documents). Some of these electronic books and texts are part of large, searchable databases.

➤ Electronic Journals: Most academic libraries have an offline e-Journals Database to help students find journal materials that are useful to students and online versions of e-journals which the library is subscribed.

➤ Online Database: These are web based filing system designed to store information. They are databases accessible from networked connections from the Internet. Most academic libraries now subscribe to online. databases of books and journals that are relevant to the University curriculum which will help to facilitate teaching and learning in the University environment, Repositories and Egranary are example of such databases

➤ Electronic Sources: These are materials that are available online in electronic formats. They include online newspaper, magazine or television website such as NBC or CNN. Peer-reviewed journals, WebPages, forums, wikis, websites and blogs. The name online sources is used synonymously as 'electronic' sources, 'web' sources and 'internet' sources databases and or electronic resources. These are very useful information sources which many libraries make available to satisfy knowledge and information needs of their users. Virtual Libraries namely the NUC virtual Library, Ebrary etc are other types of available e-resources. In the context of this study ERs include: Scielo, ebrary/Bra-virtual e-content, e-book Central, JSTOR/Agora, Kortex Digital books, Standalone college customised ebooks and MIT Courseware.

Similarly, Nwangwu, Obi, & Ogwu (2014) in a study on the Integration of Information Communication Technology (ICT) into the Curriculum of Federal Unity Schools (FUS) in Nigeria affirmed that the integration of ICT enhance learning, knowledge as well as providing solid foundation for operational excellence in a globalised world. Adomi and Kpangban (2010) in another study on the application of ICT to secondary education corroborated the aforementioned by stating that ICT are electronic technologies used for information storage and retrieval and affirmed that its adoption and use in schools have positive impact on teaching, learning, and research to sum all the definitions of ICT up, Chikaire (2015), also opined, that ICT offer the potential to increase efficiency, productivity, competitiveness and growth in increasing access and exchanging of information. Literature has established that, the first key factor in access, use and awareness of ICT among students is availability of ICT resources.

Accordingly in a study on the use of ICT in rural school libraries, Adila, Nor'izah and Habee (2013), explained the term access to means the ability and means to communicate or make use of any information resource in an automated information system. The trio opined that individual library users lack of access to ICT resources usually prevent them from obtaining knowledge and opportunity to alter information, material, resources. Aramide, Ladipo and Adebayo (2015) in a study on demographic variables and ICT access as predictors of ICT usage among science teachers in Federal Unity Schools in Nigeria, also describe access as the extent to which a particular user is able to easily locate particular resources for use as well as the degree of accessibility to such resources. They posited that insufficient access is the main obstacles for ICT usage in educational programs and argued that even when the resources are available in the library, it does not mean that the students will get constant access to them. The trio reiterated that, access is usually influenced by the cost of the facilities per use, (such as the electricity costs, software, maintenance, etcetera) library opening hours and hours of library use by students. Thus, access is a factor that influence the usage of ICT resources. However, the study also discovered that accessibility and the location of resources were found to be the leading predictor of use in Nigeria. The duo concluded, that, access is an indispensable requirement and a predictor of utilization. Thus, the ease of location determines usage of resources either print or electronic.

Awareness in general is common knowledge and understanding of the availability of ERs as learning resources that contain information which form integral component of academic Libraries resources. They could be access and utilise for research, teaching and learning purposes. Reinhardt, Mletzko, Sloep and Drachsler (2014) in their attempt to understanding the meaning of awareness in Research Networks, believed that awareness is an understanding of the activities of others, which provides a context for your own activity. Thus, students understanding of the activities of the library as it relates to the provision of various types of ERs, which provide context for students academic activities is here referred to in this study as awareness. In this research, awareness is mainly to know undergraduate students knowledge and perceptions about ERs, their values, physical location and contextual access to needed information.

Additionally, the academic success of students have been traced to and associated with several variables. As observed by Adetoro (2014), undergraduates in Nigeria seldom visit libraries and information centers to use relevant information as a result of lack of requisite skills in information search. In a study on social competence and information utilization of library and information science 1undergraduates in Tai Solarin University of Education, Adetoro, discovered that the use of the libraries for self-actualization is lacking and concluded that the consequence of inadequate information utilization activities among undergraduates usually result in low social competence.

MATERIALS AND METHODS

The population of this study comprises of 575 (300level) undergraduate students of Bells University of Technology Ota. Ogun-State., Nigeria admitted during the 2015/16 academic session. They are in their penultimate year and were drawn from four different colleges of the university, namely: Colleges of Natural and Applied Sciences (COLNAS= 96), Management Sciences (COLMANS=135), Engineering Sciences COLENGS=186) and Environmental Sciences (COLENVS=158. The Undergraduate Students Access, Usage and Awareness Questionnaire (USAUAER) was the instrument used for data collection. The questionnaire was well structured to clearly identify the important variables to be measured. These variables included: the ERs use by students, the barriers to the use of the resources, benefits derivable from the usage of the resources, and the undergraduate's methods used to acquire information and their retrieval skills. Using total enumeration technique, 575 questionnaires was distributed to the respondents in lecture rooms, laboratories and within the library by the researchers, with the assistance of library Assistants and lecturers of Bells University. A total of 460 questionnaires were returned, however, only 450 were found valid and usable this constitutes 78.3%. The administration was completed in eight (8) weeks at the middle of the 1st semester 2017/2018 academic sessions.

RESULTS AND DISCUSSION11S

Data generated from the study are presented and discussed below.

RQ1: What is the extent to which undergraduates students use electronic resources?

To ascertain the extent to which undergraduates utilise the e-resources put in place for them, the respondents were asked to rate the degree of use of each of the e-resources. Table 1 present the extent to which undergraduates students use e-resources.

Table 1 is a reflection of the level of the usage of ERs by respondents. Nearly all the ERs are used, but at different degrees. Internet is the mostly used ERs as indicated by 338 (75%) of respondents. This is followed by e-books and ebrary/Bra virtual to which 320 (71%) and 302 (67%) responded respectively. CD/ROM and Web Med/email is next to e-Journals in the order of patronage as shown by 261 and 248 (58% and 55%) and 243 (54%) of the respondents. MIT Courseware, scientific library online (Scielo), JSTOR/Agora, Kortext Digital books, standalone college customised ebooks and e-book Central are less frequently used as shown in the table. The findings revealed that the level of usage for about 60% of e-resources is high, except for MIT Courseware, scientific library online (Scielo), JSTOR/Agora, Kortext Digital books, standalone college customised ebooks and e-book Central where less than half of the sample population has shown low interest. This is in contrast with
the findings of Adeniran (2013), in a similar study on the use of ERs by Redeemers' University undergraduates, where it was reported that the usage of electronic resources is low.

RQ 2: What level of awareness do the undergraduate students have about ERs?

Table 2 revealed that, majority 446(99%), 432(96%), 338(75%), 306(68%) and 302(67%) of the respondents were aware of the availability of DVD/CD-ROM, internet, eBooks, web med/email and eJournal technology respectively, while only 4(1%), 8(2%), 112(25%), 144(32%) and 148 (33) were not aware. Additionally, 189(42), 182(41), 135 (30), 131(29%), 103(23%), 98(22%) and 96(21%) of the respondents were aware of the availability of Scielo, ebrary/Bra-virtual e-content, e-book Central, JSTOR/Agora, Kortex Digital Books (KDB), Standalone college customised ebooks and MIT Courseware resources respectively while 261(58%), 268 (60%), 315(70%), 319(71%) , 347(77%), 352(78%) and 354(79%) respectively were not aware. The analysis of collected data clearly indicate that the level of awareness of the students on the availability of some generally known electronic resources such as DVD/CDROM, Internet, email, ebooks and eJournal is high, but low for academic and institutional based resources such as, ebrary/Bra-virtual e-content, e-book Central, JSTOR/Agora, KDBs and standalone college customised ebooks. The generally known resources are free, they provide general information and can be used both inside and outside of the library. This may be the reason why they are more popular than the other resources. The academically complete virtual and institution customised based resources are however, more relevant for academic, scientific and research purpose.

RQ3: What is the students point of access to ERs?

To ascertain the respondents point of access to ERs, respondents were asked to indicate where they normally go in

order to ascertain their point of access to e-resources.

Table 3 present the students point of access to ERs.11 Analysis as shown in table 3 revealed that 207(46%) of respondents use their personal laptops to access ERs and to search for information on the internet. While only 109 (24%) of the respondents go to the library to use the internet facilities and to do CD-ROM searching for literature Other points of access for ERs according to respondents are home/hostel, to which 90 (20%) affirmed A total number of 23 (5%) respondent that they use the classrooms, while only 3 (1%) did not respond to this question. This may imply that majority of BUT undergraduates utilise ERs. It is interesting to note that students use their laptops and the library to get electronic information. We are in the knowledge cum ICT era and

Table 1: The extent of use of ERs (N=450)

SN	ERs	FREQUENCY	PERCENT %
1	Internet	338	75
2	E-Books	320	71
3	Ebrary-Virtual	302	67
4	DVD/ CD-ROM	261	58
5	E-Journals	243	54
6	Web med/ email	248	55
7	MIT Courseware	207	46
8	Scientific library On-line (Scielo)	131	29
9	E-book Central	113	25
10	JSTOR/Agora	113	25
11	Kortex Digital Books	99	22
12	Standalone college customised ebooks	95	21

Table 2: level of Awareness of ERs (N=450)

S/N	ERS/DATABASE	FREQUENCY	PERCENT %
1	DVD/ CD-ROM	446	99
2	Internet	432	96
3	E-Books	338	75
4	Web med/ email	306	68
5	E-Journals	302	67
6	Scientific library On-line (Scielo)	189	42
7	Ebrary/ Bra- Virtual e-content	182	41
8	E-book Central	135	30
9	JSTOR/Agora	131	29
10	Kortex Digital Books	103	23
11	Standalone college customised ebooks	98	22
12	MIT Courseware	96	21

Table 3: Point of access to ERs (N= 450)

S /N	POINT OF ACCESS	FREQUENCY	PERCENT %
1	Cybercafé	18	4
2	Library	109	24
3	Classrooms	23	5
4	Personal laptops	207	46
5	Home/Hostel	90	20
6	No Response	3	1
	Total	450	100%

information is now ubiquitous. This implies that BUT undergraduate are information conscious, they are utilising the resources available on the internet and those of the subscribed virtual library. No wonder information resources are located on their personal laptops, the library, homes/hostel and classrooms for students to make the most of.

It is also obvious from the table that majority of the respondents 207 (46%) use their laptops when searching for ERs. It implies that internet services on their personal laptops is better off than that of the library. Besides, it implies student also prefer more comfortable location where they can access the ERs any time of the day even in the night with minimal obstruction like power failure and lack of internet access. They possibly subscribe to data on pay as you go basis to minimize cost and visit the library only for 1assistance. Most of these factors are not feasible in the library situation which has specific time to operate with limited internet access and number of computer terminals to access information.

RQ 4: What constitute barriers to the use of ERs?

To ascertain what constitute barriers to the use of ERs, 1respondents were asked to indicate problems faced in the course of utilising ERs.

Table 4 revealed factors that constitute barriers to the use of ERs as ascertained by respondents. The major problems respondents faced in using ERs as identified from analysis from Table 4 is mainly, that of the cost of subscription for data to use the internet 248 (55.1%) of the respondents affirmed this. On the basis of the above analysis and observations, it implies that limited access to computer terminal and internet access at the library were the major reasons that would encourage users to subscribe to data for students to use the electronic resources in the Bells University library. This connotes that a large number of undergraduate were using the electronic resources for learning and study and for keeping abreast with new developments in their areas of interest. However, most of the students had become acquainted with using their personal laptops to access the electronic resources from the internet. Limited access to computer terminals and internet access in the university library both have 144(32%) and 19(4.2%) respectively. This finding is corroborated by Toyo's (2017) study where slow internet access and lack of awareness of ERs were some of the identified obstacles confronting undergraduate students on the use of ERs . Thus, in order to utilise the available ERs, unlimited internet access, unlimited computer terminals and awareness training should be provided to exploit these useful resources.

RQ 5: How do the students acquire Information Retrieval Skills (IRS)?

To ascertain how students acquire IRS, respondents were asked to indicate how they learn to utilising ERs.

Table 5 presents how students acquires1 IRS to utilising ERs. It was discovered that respondents learn to use ERs mainly through their ICT lecturers as attested to by 193 (43%) of the respondent. This is followed by their personal efforts and guardians from library staff, 90 (20%) and 72 (16%) respectively. From the above, students do not request for assistance from library staff when it comes to the use of ERs as only 72 (16%) claimed to learn from library staff. From the analysis above, it can be deduced that majority of the respondents acquire the skills needed to access and retrieve information from ERs one way or the other as revealed. This connotes that, respondents derive various benefits from the use of these ERs. Some of the possible benefits includes relative ease of use, provision of access to a wide range of information, access and retrieval of information to improve general communication and overall academic performance. Thus, the eagerness to acquire the skills of its usage.

RQ 6: Why do student avoid using ERs?

To ascertain why students avoid the use of ERs, respondents opinion were sought on reason why they think students run away from using ERs.

Table 6 reveal the reasons why respondent avoid the use of ERs. The result revealed, that the major reason why undergraduates avoid the utilisation of ERs was the incurred cost involved in buying data in order to access the information contained in the ERs and lack of Internet service. Cost involved and limited access to internet as indicated by 238 (53%) and 112 (25%) of the respondents respectively affirmed the finding.

RQ 7: What are the importance of ERs to the academic attainment of undergraduates students?

To ascertain the importance of ERs to the academic attainments of students, respondents were asked to indicate whether their academic attainments would be reduced without the use of ERs..

Table 4: Barriers to use of ERs (N=450)

S/N	BARRIERS TO USE OF ERS	FREQUENCY	PERCENT %
1	Cost of data subscription	248	55.1
2	Limited access to Computer Terminals	144	32.0
3	Lack of Internet	111119	4.2
4	Lack of Information	13	2.9
5	Lack of Skills	13	2.9
6	Time Consuming	9	2.0
7	Too much distraction from studies	4	0.9
	Total	450	100%

Table 5: How students learn to utilising ERs (N=450)

S/N	HOW STUDENTS LEARN TO UTILISE ERS	FREQUENCY	PERCENT%
1	ICT lecturer	193	43
2	Personal effort//Self Taught	90	20
3	Guardian from Library Staff	72	16
4	Online Training	41	9
5	Parent Efforts	27	6
6	Friends/Classmate	14	3
7	Guardians from GES 107 Lecturers	9	2
8	Trial & Error	4	1
	Total	450	100%

Table 6: Reasons for avoidance of use of ERs (N=450)

S/N	WHY STUDENTS AVOID USING ERS	FREQUENCY	PERCENT %
1	Cost involved	238	53
2	Lack of internet	111	25
3	Time Constraints	50	11
4	Information retrieved usually Scanty	23	5
5	Satisfaction with printed Sources	09	2
6	Lack of Computers for searching	09	2
7	Lack of Skills of using	5	1
8	Lack of information	5	1
	Total	450	100%

Table 7:Importance of ERs to academic attainments of students (N=450)

S/N	ERs	FREQUENCY	PERCENT %
1	Internet	338	75
2	Hinary	312	71
3	E-Journals	302	67
4	E-book Central	261	58
5	MIT Courseware	261	58
6	E-Books	243	54
7	DVD/ CD-ROM	207	54
8	Web med/ email	207	46
9	Ebrary/ Bra- Virtual e-content	207	46
10	JSTOR/Agora	189	42
11	Kortext Digital Books	189	42
12	Scielo	171	38
13	Standalone college customised ebooks	149	33

Table 7 revealed the importance of ERs to the academic attainment of respondents. Infact, from the analysis from Table 7, according to respondents all the ERs are important and all will reduce the academic attainments of the

students, but at different degrees. The analysis of result revealed that internet is the most important ER and the first that will clearly reduce students academic attainment as indicated by 338 (75%) of respondents. This is closely followed by Hinary 312 (71%), e-Journals 302 (67%), E-book Central 261(58%), MIT Courseware 261(58%) and e-books 243 (54%) respectively. Ebrary/Bra virtual 207 (46%) and Web Med/email 207 (46%) is next to JSTOR and Kortext Digital books in the order of patronage as shown by 189 (42%) respectively as indicated by the respondents. Scientific library online (Scielo) and standalone college customised ebooks are of less importance as shown in the table. The findings revealed that more than 50% of the ERs are considered by respondents to be utmost importance to their academic attainment. This is in tandem with the finding of Omosekejimi, Eghworo and Ogo (2015) and Adeniran (2013) that the use of electronic resources has tremendous impact on the academic performances of the undergraduate students of the Federal University of Petroleum Resources Effurun, Warri, Nigeria and undergraduates of Redeemers University, Mowe respectively. According to Omosekejimi et.al, (2013) Internet, Hinary, E-Journals, E-book Central, MIT Courseware and E-books are the ERs that has the highest impact/effect on the academic attainment of undergraduates. This implies that undergraduate students of Bells University just like their counterpart at the Federal University of Petroleum Resources, Effurum, Warri use these ERs very regularly hence, they were able to rate them in order of their important. The impact were clearly to the respondents to the extent that they were able to identify their effects on their academic attainment. This finding is further corroborated by the findings of Fyneman, Idiedo & Ebhomeya (2014) which revealed that students in Niger Delta University and Rivers State University of Science and Technology (RSUST) use these ERs very regularly. The finding of the study also supported the findings of Fyneman et.al, (2014) that students use the NUC virtual library, HINARI, E-Journals, CD-ROMs, AGORA, and Ebscohost.

IMPLICATION OF THE STUDY

This study has revealed some fundamental details about undergraduate access, use and awareness of ERs by students of Bells University of Technology, Ota Ogun State. South West, Nigeria. The study revealed that even though awareness is high among students on the availability of ERs and their importance to students academic attainment as clearly identified, the level of usage remain low. Limited internet access, inadequate computer terminals and incurred cost for data subscription are the identified barriers that prevent students from using the ERs. Similar reasons prevent them from using the library as point of access. The implication of this is that although access is provided, but undergraduate students are not able to use the ERs which were subscribed and paid for by the University. Students therefore do not have access to current information. As a result, subscriptions are just being made but the content of these resources are not utilising. This justified the negative impact that the non-usage of these ERs has on their academic attainment.

Another fundamental discovery of the study is that undergraduates only make use of the freely and generally available ERs even when they incur cost to buy data. This imply that the customised and subscribed ERs are underutilized. The academic complete virtual library and the institution customised based resources are however, more relevant to their academic, scientific and research needs/purposes. It was also discovered that students also lack searching and information retrieval skills. This implies that students need trainings on information retrieval and ERs searching. This lack of skill could hinder them from tapping into the potential benefits inherent in the use of the institutional based ERs. This is a direct consequence of avoiding the use of the ERs as a result of incurred cost for data due to limited access to the internet and computer terminals.

CONCLUSION

The findings of this study suggest that more than half of the sampled population of undergraduate students have access to and utilise ERs. However, despite the importance of these ERs to their academic attainment as clearly identified, the level of their usage remains low. Limited internet access, inadequate computer terminals and incurred cost for data subscription are the identified hindrances and avoidance barriers that prevent students from using the ERs and prevented the use of the University library as point of access to the ERs. The implication of this is that undergraduate students will not have access to the ERs which was subscribed to and paid for by the University. Neither will they also have access to current information. As a result, subscriptions to the ERs are made but the ERs are underutilized. This has negatively impacted academic attainment.

Another fundamental finding of the study is that undergraduates only make use of the freely and generally available ERs, while they underutilize the customised and subscribed ERs. The academic complete virtual and institution customised based resources are however, more relevant to the students' academic, scientific and research needs. Students also lack searching and information retrieval skills. This implies that students lack information retrieval and ERs

searching skills, this will hinder their ability to benefit from the potentials inherent in the ERs. This is a direct consequence of avoiding the use of the ERs as a result of incurred cost for data due to limited access to the internet and computer terminals. In addition, for the surveyed population of undergraduate to locate and use ERs at different points of access, the library should be used as a point of access to satisfy 11their knowledge, learning, information and research ne1eds. Therefore, there is need to encourage them in using the University library as the major point of access. Once this is done, it will improve patronage of the ERs of the library. This will in turn justify the huge amount invested by the University in the provision of the ERs; therefore the following recommendations are suggested.

RECOMMENDATIONS

1. The paper recommends the provision of unlimited internet access and computer terminals at the electronic part of the University library. This will improve ERs usage, library patronage and create unlimited access to its ERs.

2. Lecturers to emphasise usage of ERs and other library resources (both print and electronic) through assignments to locate information in the library. This underscores the cooperation between lecturers and the library.

3. Lecturers are also to be kept abreast of recent accession of ERs and other resources of the library through the intranet and use of social media platforms.

4. Organisation of periodic training on the use of ERs and practical training workshops on Information retrieval and search skills as inculcated in the Use of Library and Study Skills programme is recommended

5. Training modules on effective search strategies, designing of appropriate metadata and subject headings to enable easy information retrieval among others is also garmane.

6. Provision of more flexible platforms of access for subscribed institutional based ERs is recommended as the main source of learning and research information for academic staff and undergraduates.

7. Periodic user statistics and mined data from the publishers and or providers of subscribed ERs to be kept by the User Services Department of the University library. These statistics establish usage pattern on undergraduate learning patterns and process .These statistical reports should however, follow recognised standards.

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Full Length Research

A scenario of the various metrics based papers published by authors in India from 2008-2017

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Scientometrics/Bibliometrics/Infometrics/webometrics, these are the term which tells about the statistical studies in a particular subject to know about the trend, development and status of the subject, organization and its personnel. It helps in decision making, setting new policies and parameters for the development of society, and also the subject in which that study has been carried out. Present study is an attempt to find out the extent of various metric studies carried out in the discipline of Library & Information Science.

Keywords: Citation Analysis, Performance Indicator, Web Impact Factor, Research Trend Analysis, H-index.

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INTRODUCTION

Authors have to publish in their area to make them visible in the academic world, to sustain their position in the academia and also to add some value to the field in which they have gained mastery. Similarly, research evaluation is done systematically to measure the advantages, use and impact of research result on the society, well-being of community or decision making and policy formulation. This evaluation of research result with the help of some performance indicator or yardsticks called metrics, originated from the Latin word *metricus*, which means a measure for something. The idea behind this metrics studies are to have a clear picture of the development of discipline, the profession and everything connected with it. When these studies of the scope, nature and various applications of several metrics is done in the field of science subjects than it is commonly known as Scientometrics. This term has many quasi synonymous terms like Bibliometrics/ Informetrics /Webometrics etc. A good number of publications are there on the topic Bibliometrics/ Scientometrics /Webometrics. There are conferences and seminars devoted to Scientometrics /Bibliometrics/ Webometrics like International Society for Scientometrics and Informetrics (ISSI) or COLLNET. Similarly there are some periodicals which are entirely devoted to this sub discipline like 'Scienometrics', COLLNET Journal of Scientometrics and Information Measurement, Journal of Scientometrics Research etc. Bibliometric studies help in carrying out the analysis of research contribution in a particular field of study. When an analysis of websites is carried out using different parameters it becomes Webometrics. In the language of Bjorneborn & Ingwersen [1] "the study of the quantitative aspects of the construction and use of information resources, structures and technologies on the web is called webometrics." It includes webpage content analysis, web link structure analysis, web page usage analysis and web technology analysis. Bibliometrics term was given by Pritchard, [2] is the application of Mathematical and Statistical methods to measure the quantitative and qualitative changes in different media. It tries to measure the contribution of authors in various collaboration, their impact on the subject, on the uses of periodicals, most prolific periodical, geographical distribution of research work and collaboration etc.

The very basis of all these studies are the three famous laws called, Lotka's inverse square law, Bradford's Law of

Scattering and Zipf's Law of Word Occurrence. Lotka observed a relation between authors and their scientific productivity. It states…."that number of authors making n contributions is about $1/n^2$ of those making one, and proportion of all contributors, that make a single contribution, is about 60%,"[3] which means that, out of all the authors in a given field, 60% will have only one publication, 15% will have two publication and 7% of the authors will have 3 publications. In other words, in a particular topic, for every 100 authors, whose contribution is single article, there will be 25 authors with two articles and 11 authors with three articles etc. General expression for Lotka's Law is $x^n.y = k$, where x represents no. of contribution and y represents no. of authors. For the special case n=2, the value of constant is 0.6079. [4]. A number of studies have been carried out to find out the productivity of authors in various dimensions, such as direct and indirect. Directly by quantitative and qualitative study of the publications produced by authors and indirectly by analyzing the impact of publications on future researches. Quantitative studies have been done by Kawamura M, Thomas CD, Tsurumoto A, Sasahara H, Kawaguchi Y., [5] on the Journal of American Dental Association, where a logarithmic graph was plotted for the number of authors against their contribution, and finding suggested that repeated publication by the authors was a rare phenomenon. Similar contribution studies were carried out by Devendra Kumar Mishra, Manisha Gawde and Madhu Singh Solanki [6] of the Ph. D thesis in English. Data was collected for different factors and analysis of the different aspects such as length of articles, Rank of guide, authorship pattern etc.. Verma, N., Tamrakar, R., & Sharma, P. [7] analyzed the journal Annals of Library & Information Studies in terms of Author productivity and concluded that majority of the journals are two authored and authors belong to New Delhi. Number of studies (Jacobs, D. 2001), (Singh, G., Mittal, R., & Ahmad, M. 2007), Thanuskodi, S. [8, 9] have been carried out to find the productivity of authors as well as their affiliations, collaboration with their peers at national as well as international level. These all studies come under direct studies.

Indirect studies are the impact studies carried out variously by Dutta, Das and Sen [10], Ming-yuesh Tsay [11], Dean Hendrix [12], Liang Zhang ET. Al. (2010), Prashant P Deshmukh [13] and Nilaranjan Barik & Puspanjali Jena [14]. These studies were based on the Citation analysis of the publications revealing Citations per article, average citations received by the articles as well as journals, Ranking of the journals and institutions, authors their collaboration and core periodicals in the field. Some studies also tried to find out the half-life of the journals as well as books in which the authors publish.

Literature is replete with these types of studies. If these metrics studies are analyzed in time course, it can be found that various parameters used for the studies have also changed with time. Like, Nour's [15] study in 1985, where he analyzed LIS research articles on the basis of parameters: journals, Research Methodology, Subject, total no of references and references to journal articles. In 1999, study by Kumpulainen [16] appeared in which parameters used were- organization context, subject topics, various activities, methods of data collection, various analytical methods etc. After 2000, focus of study changed to Trend analysis, authorship pattern, collaboration pattern, Impact Factor of journals as well as authors' h-index etc. From 2010 onwards three dimensional study came up, where quantity, quality and consistency of the publications were analyzed, besides a number of indices given by various scientists like g-index, h-index, hg-index etc. came up. This study is just an attempt to find the range of parameters that have been used in the metric studies by different authors.

OBJECTIVES

Objectives of the present study is to analyze the extent of use of various parameters by authors to carry out Bibliometric/ Scientometric/ Webometric studies. Major parameters that can be used for metric studies as given in the e-text of e-pgpathshala [17] are-

- Ranked list of journals by citations (Core Journals)
- Citation Half-life and Obsolescence
- Self-Citation
- Authorship studies
- Collaborative research
- Repetitiveness of citation and Bibliographic coupling
- Co-citation
- Subject Dispersion
- Language wise distribution

METHODOLOGY OF STUDY

Method used in the present study is an analysis of the articles with respect to their objectives, published in two major

journals of Library and Information Science namely Annals of Library and Information Studies and DESIDOC Journal of Library & Information Technology from 2008 to 2017. ALIS is a quarterly publication so, there were 40 issues of ALIS. Similarly, DJLIT is a bimonthly publication so, total 60 issues of DJLIT were analyzed for the metrics based articles. Then various parameters used in the objectives of the studies were analyzed and tabulated.

There were total 86 articles based on various metrics studies in DJLIT and 56 articles in ALIS. Out of theses 86 articles of DJLIT, 25 articles contained Scientometrics words in their title i.e. were Scietometric studies, whereas, 8 studies were based on Webometrics and rest

Table 1. List of parameters used for the study

S. No.	Parameters used for studies	DJLIT	ALIS
1	Ranked list of journals by citation	20	15
2	Citation Half-life and Obsolescence	2	0
3	Self-Citation	Nil	Nil
4	Authorship studies	30	21
5	Collaborative research	35	21
6	Repetitiveness of citation and Bibliographic coupling	Nil	Nil
7	Co-citation	Nil	Nil
8	Subject Dispersion	40	15
9	Language wise distribution	5	0

Table 2. Frequently used Parameters for Bibliometric studies

S. No.	Parameters used for study	DJLIT	ALIS
1	Literature Growth	61	21
2	Authorship Pattern	30	21
3	Prolific Author	33	11
4	Prolific Institution	33	16
5	Prolific Journal	20	15
6	Geographical Distribution of Periodicals	30	18
7	Collaboration pattern	35	21
8	Citation Analysis	39	19
9	Subject area distribution	40	15
10	Preferred Communication Channel	17	7
11	Bradford's Law	7	7
12	Lotka's Law	6	4

53 belong to Bibliometrics. Of the 56 articles of ALIS, 9 articles contained Scientometrics word in their title or were Scientometric studies, 6 Webometric studies and rest 41 were Bibliometric studies.

RESULT AND DISCUSSION

The careful analysis of the objective of studies in various issues of ALIS & DJLIT revealed following result which has been represented in a table form (Table 1). The various parameters that have been used for analysis have been tabulated in the given table.

The above table (table 1) shows that Ranking of journals on the basis of Citation, Authorship studies, Collaborative research, subject Dispersion were the frequently used parameters for study whereas citation half-life and Obsolescence, Self-citation, Bibliographic coupling, Co-citation and Language wise distribution of the articles were the least used parameters.

When the frequently used parameters of Bibliometric studies were analyzed deeply and tabulated in table 2 the outcome was as follows- out of the 53 Bibliometric studies of DJLIT and 41 Bibliometric studies of ALIS, various dimensions of studies were- Trends analysis, individual scientists' Bibliometric profile, productivity of various universities & departments, comparison of productivity of one university with that of another at national or International level etc. A deep analysis of the various parameters used in the Bibliometrics studies in the articles published in the DESIDOC Journal of Library & information Science and Annals of Library & Information Studies have been tabulated in the given table no. 2. Literature growth (61), subject area distribution (40) and Collaboration pattern (35) is the most used parameter for study whereas preferred Communication channel (17), Prolific Journal (20) and Authorship pattern (30) is

least used parameter in DJLIT. Similarly in ALIS, Literature Growth (21), Authorship pattern (21) and Collaboration Pattern (21) is frequently used parameter whereas preferred Communication channel (7), Prolific Author (11) and Prolific Journal as well as subject area distribution (15) is least used parameter in ALIS. Although Bradford's Law and Lotka's Law has not got their proper recognition.

CONCLUSION

After analyzing 86 articles of DJLIT and 56 articles of ALIS, it was found that, there are 6 articles each from ALIS and DJLIT on Webometrics, 39 articles from DJLIT and 19 articles from ALIS on Citation Analysis dealing with H-index, IF, CPP and RCI. None of the articles on Citation Analysis dealt with self -citation, or Half-life of citations. Only two articles of DJLIT have dealt with Obsolescence study, which is quite useful study. Of the Bibliometric/scientometric studies, most frequently used indicators were Authorship pattern, Collaboration studies, Literature growth study, geographical distribution of publications and subject area distribution study. In the Citation analysis studies Co-citation study, Bibliographic coupling, IF analysis, Half-life studies, Obsolescence studies have been rarely used, they should be given due importance. Besides, this is the era of Digitization, so webometric analysis is the need of the time. Another important indicator for quantitative study is 3-D evaluation of information production given by Gagan Pratap. [18]. It is a simple heuristic model using 2-D, quantity (productivity in terms of number of papers published) and Quality (Specific impact as defined by citations per paper) are complemented by a third dimension, called consistency η , this enables a better 3-D evaluation of information production process. There are 3 study using this indicator in DJLIT. This study should also be given consideration.

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Full Length Research

Awareness and perception of e-governance information portal by undergraduates of University of Lagos, Nigeria

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E-governance information portal is the platform that makes it possible for government to render services electronically. E-governance promotes efficiency, transparency and accountability of government functions, convenient and faster access to government services, improved democracy and lower costs of administrative services. However, there seems to be a dearth of literature on e-governance within the Nigerian context as most of the studies that have been carried out on citizens' awareness and perception of e-governance were done outside the African continent and majority did not study undergraduates. This makes this study imperative. Descriptive survey research design was adopted for the study and the study population consisted of 25095 undergraduates of the University of Lagos, Nigeria. The multistage random sampling technique was used to select a sample size of 232 and the questionnaire was the instrument used for data collection. Findings showed that the level of awareness of e-governance information portal of Lagos State (Citizens Gate App) by majority of the respondents was low as indicated by close to half of the undergraduates 109 (48.4%). Majority of the respondents had a positive perception of the e-governance information portal of the Lagos State Government. A significant number of the respondents (mean=3.06) noted that the electronic application (app) could bring governance close to the people. The e-governance information portal will not be able to assist the government in providing dividends of democracy if awareness about the existence of this portal is low and if the citizens do not perceive the portal as useful. It was recommended that the individuals in charge of the Citizens Gate App need to intensify their awareness creation.

Keywords: Awareness, perception, e-governance, undergraduates, Nigeria

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INTRODUCTION

Societies are organised and coordinated by the government. Without governments, anarchy and pandemonium will reign supreme in the society. The actions and inactions of governments have implications on different segments of the society. In order to improve the lot of the people, government need to continue to look for ways to provide services. Governments in both developed and developing countries strive to make

massive financial and political commitments towards change initiatives that are enabled by advanced Internet and communication technologies (ICTs) (Fountain, 2001). Broadly, these initiatives have led to the adoption and use of advanced ICTs in public administration by government organisations at all jurisdictional levels are grouped under the umbrella term "e-government" (OECD, 2003). The significant increase in the availability and use of government information and services online is a testament to the importance of e-government (Muir & Oppenheim, 2002).

E-governance is the commitment to utilise appropriate technologies to enhance governmental relationships, both internal and external, in order to advance democratic expression, human dignity and autonomy, support economic development and encourage the fair and efficient delivery of services (Gupta & Jain, 2010). The authors also noted that e-governance offers a large opportunity for serving the citizens in better way as ICT promises lots of advantages in governance process but at the same time require efforts for changing process, building infrastructures, capacity enhancement etc. According to Sanjay and Sarangdevot (2011), e-governance can also be viewed as the application of electronic means in the interaction between government and citizens and government and businesses, as well as in internal government operations to simplify and improve democratic, government and business aspects of governance.

The most important anticipated benefits of e-governance in developing countries include improved efficiency, increase in transparency and accountability of government functions, convenient and faster access to government services, improved democracy and lower costs of administrative services. The aim is to also use the internal running and linkages among various government departments, ministries and agencies. In order to ensure that the citizens have access to the various components of e-governance, information portals are created. In this regard, e-government information portals can fundamentally be considered as a governmental innovation and evolutionary phenomenon for transforming government organisations into more citizen-centric and efficient organizations. E-government information portals ensure that the citizens have access to the activities of the government around the clock as an integrated and single entity (Stauffacher, 2002).

Abasilim, Gberevbie and Ifaloye (2017) echoed the views of scholars that e-governance could be carried out on a basis of; Government-to-Citizens (G2C), Government-to-Business (G2B), Government-to-Government (G2G) AND Intra-government. G2C provided the platform whereby the citizens can easily access needed information about governance services. G2B enables the government to communication with those in the private sector of the economy. G2G focuses on exchange of information among those at the governance level in the local and state and federal. As for intra-government, it relates to the exchange of information among the different departments in each level of governance.

In Nigeria, the government of Lagos State which is the economic nerve centre of the country has launched an e-government information portal with a view to render e-governance services in the state. The portal is called the Citizens Gate App, aligning more with the G2C mode. During the launch and flag-off ceremony of the Citizen's Gate platform, the present Governor of the State, Akinwunmi Ambode noted that the platform was created to serve the people of Lagos better and interact with them more, in order to deliver more dividends of democracy. This initiative is very laudable, because as a state that prides itself as the centre of excellence, new innovations and concepts need to be constantly developed to match the status. Due to the massive amount of internally generated revenue in the state, the government of Lagos State seems to have the financial support that is needed to keep this laudable idea running.

It is expected that all residents of Lagos state become aware of this electronic platform that should bring governance close to them. Undergraduate students studying in Lagos State are supposedly an enlightened class of people who should be aware of the e-governance information portal. A study of this nature that focuses on them could present findings that could be used to improve the use of the e-governance information portal by other target groups in the state. Most undergraduate students are technologically savvy and as such do not have challenges in using technology in any way. Awareness about this e-governance information portal by the undergraduates will create an avenue whereby the platform can be well utilised by them. High level of awareness of the e-governance portal by the undergraduates can be beneficial as they can access information on government scholarships, entrepreneurship training opportunities, financial aids and the likes. They can also use this platform to express their concerns to the government.

However, the success of e-governance initiatives is dependent not only awareness of citizens, but also on their perception. Thus, if the undergraduates perceive the e-governance platform as beneficial, they might be willing to use the platform for various purposes and even share their experiences with their followers on the social media. Based on this, awareness and perception are critical to the use of the e-governance information portal by the undergraduates. It is not empirically known whether the citizens, undergraduates in the context, are aware of e-governance platform created in Lagos State, Nigeria and whether they have a favourable perception. Therefore, the aim of this study is to examine the awareness and perception of e-governance information portal by undergraduate students in University of Lagos, Nigeria.

STATEMENT OF THE PROBLEM

The benefits arising from the use of e-governance information portal by citizens, undergraduates inclusive, cannot be

overemphasised. Literature search revealed that most of the studies that have been carried out on citizens' awareness and perception of e-governance were done outside the African continent and majority did not study undergraduates. Thus, there seems to be a dearth of literature on e-governance within the Nigerian context. This could possibly be as a result of the infrastructural challenges. However, Lagos State seems to have risen above the hindering factors militating against the creation of e-governance information portal with the creation of an e-governance application. Based on this, it is imperative to study the awareness and perception of e-governance information portal by undergraduate students in University of Lagos, Nigeria.

RESEARCH QUESTIONS

The study will provide answers to the following research questions;

1. What is the level of awareness of e-governance information portal by undergraduates in University of Lagos, Nigeria?
2. What is the perception of e-governance information portal by undergraduates in University of Lagos, Nigeria?
3. What are the perceived challenges of e-governance information portal by undergraduate students in University of Lagos, Nigeria?

LITERATURE REVIEW

Researchers have carried out studies on the awareness and perception of e-governance services by different categories of citizens. As regards awareness, Al-Jaghoub, Al-Yaseen and Al-Hourani (2010) surveyed the awareness of 1,200 undergraduates of different faculties at the Al-Ahiyya Amman University Jordan on e-governance services. Results showed that most of the respondents (75%) did not know e-governance services and its website. Findings also revealed that 85% noted that they had never logged on to the website to seek information. The authors argued that the fact that the sample consisted of students who were young, most of whom had high income and access to the Internet, implies that they should at least know what e-government is. The implication is that given that many other Jordanians will not have the same level of income, Internet access, and easiness of usage means that they will most likely have even lower awareness and usage levels of e-government services.

Netheti, Shrivastava and Shukla (2015) analysed e-governance services for effective communication to citizens in a state in India. The respondents were 60 citizens of Odisha State who were government employees. These individuals were selected purposively. They reported that the awareness of e-governance services by the respondents was influenced by their areas of settlement. Results showed that most of the respondents who lived in the urban areas had high level of awareness as against those who lived in the rural areas who recorded a low level of awareness of e-governance services.

Nasrulla and Kumari (2016) examined the implementation of e-governance in Bangalore. The study considered awareness as a critical factor that could predict the use of e-governance services. From the results, age was found to be a determinant of awareness of e-governance by the respondents. Most of the individuals between the age group of 25-34 were aware of e-governance services, while majority (60%) of those between 35-49 were not aware and those between 70 and 100 were not aware at all. This implies that undergraduates who should be younger in years have a higher probability to be aware of the e-governance platform than other citizens. Ramya (2016) also studied awareness of e-governance by 60 secondary school teachers in Mangalore, Karnataka. Findings revealed that most of the respondents 36 (60%) had a moderate level of awareness of e-governance, 14 (23.33%) had a low level of awareness and the rest 10 (16.67%) had high level. As a result of this, Ramya opined that the teachers need to develop a high level of awareness of e-governance in order to contribute to a sustainable society.

As for perceptione-governance platforms, Susanto and Goodwin (2010) conducted a web-based survey, paper-based questionnaires, and phone-call interviews that collected 159 responses from 25 countries on the use of e-governance portal via Short Messaging Service (SMS). The results showed that most of the respondents (20.8%) had a favourable perception of the e-government services as they perceived it to be easy to use, 12.6% also felt that there were perceived value for money and perceived responsiveness when it comes to the use of SMS based e-governance. A notable number (11.9%) and (9.4%) also perceived SMS based e-governance to be useful and convenient.

In the study carried out by Al-Jaghoub, Al-Yaseen and Al-Hourani (2010), majority of the respondents were very interested in using their electronic systems to access e-governance services. This is an indication that these individuals have a positive mental image of e-governance

information portals. The study by Netheti, Shrivastava and Shukla (2015) also discovered that a significant number of the respondents had the feeling that the services provided in the e-governance system were user friendly. As a result of this, the authors reported that the citizens were giving priority to the use of these services as against the manual systems.

Despite the seemingly positive perception of e-governance information portal by citizens, there are some challenges. Okwueze (2010) noted that adequate power supply is an important element to be considered for the successful implementation of e-governance in the country's public sector. Against the current picture of what exist in most of the public service, most government agencies operate on generators and sometimes the generators lack capacity to power adequately the ICT facilities.

Olaopa (2014) also identified inadequate funds allocated to the e-governance projects as a challenge. Without adequate funding, it could be difficult to establish and sustain the infrastructure needed for the continuous operation of the e-governance platform. Attitude or resistance to change is another challenge confronting e-governance. Most of citizens, especially those in the public service, are still used to the old way of carrying out government activities. That is, they are still known to be working with a lot of papers, carrying of files from one desk to the other or from one office to the other. Their resistance to e-governance implementation in their services is what has culminated to the poor rating of the implementation of e-governance in the public service.

METHODOLOGY

Descriptive survey research design was used for this study. The population of study comprised of the undergraduates of University of Lagos, Nigeria. According to the data in the Pocket Statistics of University of Lagos as downloaded from their website, there are 25,095 full time undergraduates; this number forms the population of the study. The multistage random sampling technique was used for this study. At the first stage, 60% of the faculties were selected randomly. The selected faculties are Basic Medical Sciences, Dental Sciences, Pharmacy, Environmental Sciences, Arts, Engineering and Law. The second stage of sampling involved the random selection of three faculties through the balloting method. The selected faculties are Basic Medical Sciences, Pharmacy and Environmental Sciences. The last stage of sampling involved the determination of the sample size. In order to get the sample size, a sampling fraction of 7% was used. Thus, the total sample size is 232 (Table 1).

The self-developed questionnaire, which has four sections, was the data collection instrument. Section A focuses on demographic information of the respondents. Section B elicits response on the awareness of e-governance information portal by the undergraduates. Section C collects information on the perception of e-governance information portal by undergraduates. Section D focuses on the perceived challenges of e-governance information portal by the undergraduates. In order to ascertain face validity of the instrument, copies were given to two experts in the Department of Library, Archival and Information Studies, University of Ibadan who read through and made necessary corrections which were effected before final administration. The data collected was analysed with the use of descriptive statistics of frequency counts and percentages for research questions one to three, with mean and standard deviation added for research questions two and three. The Statistical Package for the Social Sciences (SPSS) was the software used for data analysis.

RESULTS

Questionnaire administration and return rate

A total of 232 copies of the questionnaire were administered to the undergraduates of the University of Lagos who were three faculties. However, 225 copies were returned and found useful for analysis giving a response rate of (97%) (Table 2).

Demographic characteristics of respondents

Table 3 showed that majority of the undergraduates 73 (32.4%) that responded to the questionnaire were in 100 level, while just 10 (4.4%) indicated that they were in 500 level. Results also revealed that a significant number 101 (44.9%) noted that they were between 16-20 years of age and only 3 (1.3%) were 30 years old and above. As regards gender, most of the undergraduate students 156 (69.3%) were males and 69 (30.7%) were of the female gender. From the findings, close to two-fifths of the undergraduates 82 (36.4%) indicated that they had spent between 16-20 years of their lives in Lagos, while just 6 (2.7%) noted that they had spent between 25-29 years in the state.

ANSWER TO RESEARCH QUESTIONS

Research question one: What is the level of awareness of e-governance information portal by undergraduates in University of Lagos, Nigeria?

Table 4 revealed that well over half of the respondents 125 (55.6%) attested to the fact that they were not aware

Table 1. Selected faculties and sample size

Faculties	No. of Undergraduates	Sample Size
Basic Medical Sciences	609	43
Pharmacy	963	67
Environmental Sciences	1740	122
Total	**3312**	**232**

Table 2. Questionnaire administration and return rate

Selected faculties	Distribution	Return
Basic medical sciences	43	40
Pharmacy	67	65
Environmental sciences	122	120
Total	**232**	**225**

Table 3. Demographic information of respondents

Demographic Characteristics	Frequency	Percentage
Level		
100	73	32.4
200	49	21.8
300	23	10.2
400	70	31.2
500	10	4.4
Age Group (Years)		
16 -20	101	44.9
21 - 24	99	44.0
25 – 30	22	9.8
30 and above	3	1.3
Gender		
Male	156	69.3
Female	69	30.7
Year(s) spent in Lagos state		
1-10	91	40.4
11-20	105	46.6
21-29	29	13.0
30 and above	-	-

N=225

Table 4. Awareness of e-governance information portal by undergraduates in University of Lagos, Nigeria

Question	Yes Freq	Yes %	No Freq	No %
Are you aware that Lagos State Government has an electronic information application where you can get all the information you need about the government and also provide suggestions?	100	44.4	125	55.6

Table 5. Level of awareness of e-governance information portal by undergraduates in University of Lagos, Nigeria

Question	High		Average		Low	
Can you rate the level of your awareness?	38	16.9	78	34.7	109	48.4

Table 6. Name of the e-governance information portal of the Lagos State Government

Question	Yes		No	
	Freq	%	Freq	%
Do you know the name of the electronic information application launched by the Lagos State Government?	45	20.0	180	80.0

Table 7. Correct name of e-governance information portal of the Lagos State Government

Question	Yes		No	
	Freq	%	Freq	%
What is the correct name of the electronic information mobile application?				
Lagos State Government Information App	10	4.4	-	-
Lagosians Gate App	1	0.4	-	-
Citizens Gate App	9	4.0	-	-
Lagos E-Governance Gate App	25	11.1	-	-

that the Lagos State Government has an e-governance information portal where they can get the information that they need and also provide suggestions. However, 100 (44.4%) indicated that they were aware.

Table 5 showed that the awareness level of e-governance information portal by majority of the respondents was low as indicated by close to half of the undergraduate students 109 (48.4%).

Still on the awareness of the e-governance information portal provided by the Lagos State Government, four-fifths 180 (80.0%) of the respondents noted that they did not know the name of the e-governance information portal launched by the Lagos State Government, though 45 (20.0%) claimed they know the name (Table 6).

Table 7 showed that out of the 45 respondents that pointed out that they knew the name of the e-governance information portal, only 9 (4.0%) got the name portal which is Citizens Gate App correctly. The majority, 25 (11.1%) of the total number of respondents chose the wrong answer which was Lagos E-Governance Gate App.

Research question two: What is the perception of e-governance information portal by undergraduates in University of Lagos, Nigeria?

Table 8 showed that majority of the respondents had a positive perception of the e-governance information portal of the Lagos State Government. A significant number of the respondents (mean=3.06) noted that the electronic app brings governance close to the people. While others were of the opinion that the provision of the electronic app is a means to increase the quality of service from the government to the residents (mean=3.00). It was also the view of a significant number that the app will give opportunity to the residents to urgently report matter needing immediate attention to the appropriate government quarters (mean=2.70). On the other hand, a significant proportion of the respondents (mean=2.94) were of the opinion that the residents cannot access reliable information from the government through the app.

Research question three: What are the perceived challenges of e-governance information portal by undergraduates in University of Lagos, Nigeria?

Table 9 presented results on the challenges of e-governance information portal as perceived by the undergraduate students. Findings showed that lack of awareness about the e-governance portal on the part of the citizens of the state was the greatest challenge (mean=1.82). Other notable challenges were inadequate publicity on the part of the government (mean=1.77), low level of ICT literacy on the part of the citizens (mean=1.75) and erratic power supply (mean=1.73). Thus, in order for the e-governance information portal to perform effectively, these challenges have to be addressed.

Table 8. Perception of the e-governance information portal by undergraduates in University of Lagos, Nigeria

Perception of the electronic information application	SA Freq	SA %	A Freq	A %	D Freq	D %	SD Freq	SD %	Mean	SD
Residents can access reliable information from the government through the app	14	6.2	41	18.2	114	50.7	56	24.9	2.94	0.82
The electronic app brings governance closer to the people	73	32.4	99	44.0	46	20.4	7	3.1	3.06	0.81
The provision of the electronic app is a means to increase the quality of service from the government to the residents	50	22.2	133	59.1	35	15.6	7	3.1	3.00	0.71
The use of this app will improve communication and interactions between the residents and the government	51	22.7	89	39.6	68	30.2	17	7.6	2.77	0.89
The use of this electronic app could bring about the delivery of more dividends of democracy	52	23.1	71	31.6	82	36.4	20	8.9	2.69	0.93
This electronic app will give residents the opportunity to commend, complain and suggest areas of improvement to the government	33	14.7	107	47.6	75	33.3	10	4.4	2.72	0.76
The provision of the electronic app could boost the citizens confidence in the government	42	18.7	87	38.7	83	36.9	13	5.8	2.70	0.84
This app will give opportunity to the residents to urgently report matter needing immediate attention to the appropriate government quarters	41	18.2	91	40.4	77	34.2	16	7.1	2.70	0.85
This app could be used to get updates about job opportunities in the state civil service	43	19.1	83	36.9	89	39.6	10	4.4	2.71	0.83

Key: SA (Strongly Agree) A (Agree) D (Disagree) SD (Strongly Disagree)

Table 9. Perceived challenges of e-governance information portal by undergraduates in University of Lagos, Nigeria

Challenges	Agree Freq	Agree %	Disagree Freq	Disagree %	Mean	SD
Lack of awareness about the e-governance portal on the part of the citizens of the state	185	82.2	40	17.8	1.82	0.38
Inadequate publicity on the part of government	174	77.3	51	22.7	1.77	0.42
Lack of access to the internet	129	57.3	96	42.7	1.57	0.50
Low level of ICT literacy on the part of the citizens	168	74.7	57	25.3	1.75	0.44
Slow internet network	159	70.7	66	29.3	1.71	0.46
Unfriendly and unattractive nature of the user interface	131	58.2	94	41.8	1.58	0.49
Erratic power supply	164	72.9	61	27.1	1.73	0.45
Outdated nature of the information on the portal due to lack of update	150	66.7	75	33.3	1.67	0.47
Lack of trust in the government	151	67.1	74	32.9	1.67	0.47

DISCUSSION OF FINDINGS

Results showed that most of the respondents were not aware of the e-governance information portal of the Lagos State Government. There was a low level of awareness, as majority noted that they did not know the name of the e-governance app. It was also discovered that out of those that indicated that they know the name of the app, majority ticked the wrong name. This indicates that the awareness creation by the government through the ministry, department or agency responsible for it needs to be revisited. This assertion was made because if majority of the undergraduates despite their inquisitive nature are not aware of the existence of an e-government portal and when those who claimed to be aware and even know the name of the portal fail to know the correct name, it means other categories of individuals in the state may be completely ignorant of this good development. This agrees with the findings of the study conducted Al-Jaghoub et al (2010) in Jordan where they reported in their separate studies that most of their respondents who were undergraduates had low level of awareness about the e-government programmes and online services.

Majority of the respondents had a positive perception of the e-governance information portal of the Lagos State Government as a significant number noted that the electronic app could bring governance close to the people. Others were of the opinion that the provision of the electronic app is a means to increase the quality of service from the government to the residents. This is an indication that the e-governance information portal is viewed as a very important development that could transform access to information from the government and information communication between the government and the citizens and vice versa. This corroborates the submission of Susanto and Goodwin (2010) who noted that e-information portal is easy to access and easy to use. The more citizens perceived that an information portal service is easy to use the more likely they are to use the service. The result of this study is however in contrast with that of Lallana (2008) who reported in a study that the perception of the respondents on the e-information portal was not favourable as some did not trust the government and perceived that the quality of public services is poor.

The perceived challenges of the e-governance information portal by the undergraduates included lack of awareness about the e-governance portal on the part of the citizens of the state and inadequate publicity on the part of government. Other challenges are low level of ICT literacy on the part of the citizens and erratic power supply. It would be difficult for individuals to effectively utilise what they aware of. Additionally, since the e-governance information portal is ICT driven, those in the society, especially the illiterate may find it quite difficult to use it because of their inability to use computers or related mobile devices. Furthermore, if power supply is not regular, the devices used to access information through the electronic app will not be powered. This is in accordance with the submission of Okwueze (2010) who noted that inadequate power supply could be a clog in the wheel of successful implementation of e-governance in Nigeria.

CONCLUSION

The successful implementation of e-governance information portal by governments at all levels of governance cannot be made possible without effective awareness creation targeted at different categories of people in the society, undergraduates inclusive. If this is done in the right way, the citizens might develop a positive perception that could eventually lead to the adoption and use of the e-governance information portal. The government of Lagos State is clearly on the right path with the investment in the e-governance portal as it will play a huge role in bringing governance closer to the people as the state moves towards a mega city status. Thus, for Lagos and other states in Nigeria with e-governance platforms, it is very important to channel all efforts towards creating awareness and positive perception of the information portal so that the urge finance and the labour invested in establishing these portals will not go down the drain.

RECOMMENDATIONS

In view of the findings, the following recommendations are made;
1.   In order to address the perceived challenge of lack of awareness about the e-governance information portal, it is very important for the individuals in charge of the Citizens Gate App to intensify their awareness creation. The various media like the television houses, radio stations and newspaper organizations should be used to run jingles and adverts on a continuous basis for a considerable time.
2.   Due to the cosmopolitan nature of Lagos State, it is very important for the jingles to be run in different languages so that individuals from different ethnic groups who are residents of Lagos State will also benefit from the provision of the e-governance information portal. It is also essential to place newspaper adverts with lots of illustrations on how the app can be used. In the same way, the television jingles could also be in form of brief dramatisation of how the app can be used and the benefits derivable.
3.   The Lagos State Government should invest extensively in the development of the power infrastructure in the state to improve the use of the e-governance platform. Alternative sources of power like solar, electricity gotten

from waste, in which the state has enough of as a result of the population, and the even wind can be used to power the state.

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Full Length Research

Influence of Perceived Usefulness and Computer Skills on Automation System Adoption in Academic Libraries

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Utilization of information and communication technology (ICT) in libraries has greatly advanced library's operation to be automated base. This arouses the need for new computer skills and amount of benefits to be in place. Automation system as one of the significant changes in the new trend of libraries plays a vital role toward actualizing the mandate of libraries. However, the scenario is different especially in African countries like Nigeria where the rate at which automation systems adoption by libraries can be adjudged to be slow and unsteady. It is against the afore mentioned, that this study assesses the influence of Perceived Usefulness(PU) adopted from Technology Acceptance Model (TAM) and Computer Knowledge(CK) on automation system adoption by academic libraries in Bauchi state. The study adopted cross sectional survey as its research design and 199copies of structured questionnaires were administered to the respondents in order to obtain data for the study. A total number of 185 copies of the questionnaires were retrieved and used for data analysis. Mean, standard deviation, t-test statistics, and regression analysis (multiple regressions) were used to conduct the various analysis of the study. The results obtained from the analysis revealed significant influence of PU and CK on automation system adoption by Bauchi state academic libraries. PU has a P-value of 0.005 and Beta value of 0.211 (β= .211), likewise CK has a P-value of 0.001and Beta value of 0.251 (β= .251). In line with the study findings, it is recommended that all stake holders and management of those libraries should continue to give more support to the regular training of staff and purchase of more useful and reliable ICT facilities in order to actualize the expected benefit of the automation system.

Key words: Technology Acceptance Model, Perceived Usefulness, Computer Knowledge, Automation System and Academic Libraries

INTRODUCTION

Libraries are indispensable components to higher institutions of learning. The increased use and demand of information by educational communities necessitate the need for simple, easy and convenient means of providing, storing and disseminating information to every member of the user community. The collections of the libraries are in both print and non-print format, though in the ancient times of libraries, access to the library collection was done through accessing the library building room. But as technology continues to evolve, all protocol of library access changes

whereby patrons accesses library collections online (Dinesh, Aravindhan and Rajeswari, 2015). As such the need for computer skills is necessary. Libraries are regarded as one of the fastest growing organism, therefore this dynamism made the old methods of maintaining the daily routines insufficient. For clients to have better and fastest service in terms of quick information retrieval, storage and dissemination, application of modern techniques to automate the entire system became exclusively indispensable (Neelakandan *et al.,* 2010)

Borgman (1997) remarked that library software burst in to existence since 1960's being a period of expansion in higher education and increasing fund for library materials. As the pace of publications persist, libraries realized that they could not cape up with the traditional method of acquiring, storing and disseminating information very fast, therefore the need for automation is necessary particularly to save labour, cost and improve efficiency in operations. And this must require computer skills and benefits (usefulness) to be derived from the automation project.

Despites this, most libraries are yet to fully adopt technology for their services delivery due to some certain factors that accounted for. Rosengberg (2005) surveyed some libraries in African continent and revealed that out of 40 libraries, majority of them represented by 56% are yet to complete the automation process in their libraries. Most libraries began with cataloguing, but have neither finished that nor moved to other services that need to be automated. The author further revealed that 13 (21%) have not yet started the automation while 9(15%) have been able to achieve full automation of their library services. Similarly, Chisenga (2004) while surveying some public libraries in African countries to ascertain the degree at which they adopted automation system found limited use of ICT and computers in Botswana, Ghana, Kenya, Malawi, Nigeria, South Africa, Tanzania, Uganda, Zambia and Zimbabwe which seriously brought slowly face of automation of their services.

The story is even worst in the Nigerian context where Gbaje (2012) reported that very few academic libraries are automated particularly university libraries and sited the instance at which Ahmadu Bello University is using Virtual system for management of its Library. This has been connected to the inadequate computer skills of librarians and lack of indicating the benefits of the automation to the institutions authorities. With this unprecedented changes, growth and development in knowledge and information, Aguolu (2011) suggested that for academic libraries to satisfy the tremendous research and reading demand of their clients in various disciplines, they must need computer skills and automate their services that are regarded highly essential by the clients. This study aims at looking at the influence of perceived usefulness obtained from Technology Acceptance Model (TAM) and Computer Skills on the rate at which automation system is being adopted in Bauchi state academic libraries.

LITERATURE REVIEW

Concept of Library Automation

The evolution of information and communication technology (ICT) coupled with the increased number of collections in libraries make it necessary for libraries to device new techniques that can enable them to handle the affairs of the libraries very efficiently. This is one of the reasons that gives rise to the application of automation system into our libraries. Although library automation has been variously defined by different authors and depending on their background, experience and orientation to what is called automation, but from traditional point of view, the concept has been view as the computerization of the entire housekeeping operation of the libraries which include acquisition, cataloguing, circulation and serial control. However as technology continues to evolve, library automation goes beyond that to mean handling of vast amount of data and information efficiently and quickly with the help of ICT. Bierman (1980) stress that, the utilization of computers and other associated technologies to carry out the exact functions and routines that have been done in the library with justification of reduced cost, efforts and/or increased performance is termed as automation.

Upon all the explanation in the above paragraph, Bhardwaj and Sukla (2000) concluded that library automation is a broad term used to refer to the diverse set of routines such as acquisition, cataloguing, serials, circulation that are carried out with the help of computing devices with an improved quality of products and services of library and information centers.

Perceived Usefulness and Automation System Adoption in Academic Libraries

Organizations and institutions will find it difficult if not impossible to fully understand the benefits and return on any investment they made on technology unless the technology is being actually utilized by the intended users. Despite of its affordable cost, technology is found to be underutilized by many organizations and sometime is even abandoned by such organizations due to the fact that users are not ready to accept such technology (McCarroll, 1991; King, 1994;

Gillooly, 1998). Realizing the continuous growth of demand and reliance of automated system coupled with increased introduction of new technologies for various purposes, understanding the factors that promote effective adoption and utilization of automation system continues to be a fundamental issue for researchers and practitioners (Mun &Yujong, 2003)

In the last two decades, several theoretical models were used by many researches to find out factors that influence the behavior of users' acceptance of new technology, out of which technology acceptance model was the major model that received serious attention and considered as more fit (Mun&Yujong, 2003). TAM was able to theorized that the actual usage of technology by individual is determine by the behavioral intention of that individual which in turn jointly determined by perceived usefulness and perceived ease of use (Davis, 1989). However, this study decided to consider one variable from TAM which is perceived usefulness and paired it with another variable called computer skill to determine their influence on the adoption of automation system in academic libraries of Bauchi State Nigeria. Perceived usefulness of TAM is aims at explaining job productivity and performance in relation to the adoption of a given technology, which is why Davis (1989) defined perceived usefulness as the extent to which a user believes that utilizing a certain technology would influence his/her job performance and productivity positively. Perceived usefulness explain that users adopt a system that they feel it can be very useful in satisfying the demand of which it is sought for. The TAM hypothesizes that positive relationship do exist between usage and performance, maintaining that individuals always want to use IT applications when they perceive such usage would lead to the desire job performance

With regard to library information, Rajput and Gautam (2010) acknowledged that automation can be applied profitably in the following library housekeeping operations; acquisition, classification, cataloguing, stock taking, serial control and circulation. Kocha and Sudarshan (2007) shared this in asserting that automation of acquisition unit enhances funds control, quick checking of approved books devoid of duplication and manages labour intensiveness in the manual system. Above all automation of library brings a lot of benefits that help in improving the general performance and enhance repaid productivity in library operation and service delivery (Peyala, 2011). Egunjobi and Awoyemi, (2012) acknowledge that easy access to library materials, execution of multiple task such as acquisitions, cataloging, circulation, and reference as well as better services renders by library staff to intended users is one of the beauty that automation provides in libraries.

To this extent, perceived usefulness plays a vital role in the decision as whether or not a particular technology should be adopted. From the a foregoing, it is clearly indicated that "there is positive relationship between perceived usefulness and automation adoption"

Computer Skill and Automation System Adoption in Academic Libraries

Proficiency in the application of information and communication technology (ICT) in academic libraries for effective services delivery is directly connected with the extent of skill librarians possess in this area. The new international Webster's comprehensive dictionary of the English Language (2010) described skill as the familiar knowledge of any science, art, or handicraft, as shown by dexterity in execution or performance or in its application to practical purposes.

For libraries to effectively and efficiently perform their professional jobs at this period of high expectations from them, they should possess appreciable level of ICT skills. Ademodi and Adepoju (2009) stress that necessary skills and competency acquisition by librarians particularly at this current information age is essential, hence advocated that librarians must obtain competence that are relevant in their profession, in which virtually all roles and responsibilities are performed with the use of computers.

Anyoku (2012) entails that most of the 21st century librarians' responsibilities involve dealing with computers and related components to render efficient services to clients, therefore, the need for additional computer skill necessary. This is closely in line with Tyson (2007) who asserts that with shaping of libraries, library staff should also be transformed to serve the present generation who anytime and anywhere demand information resources to deals with their information thirsty. The skills of librarians should be connected to the technological facilities used in contemporary libraries. Librarians in Nigeria are experiencing most frequently changing environment which made it necessary to diverse their thinking, skills and broaden their perspective to some extent (Tyson, 2007).

However, a number of researches revealed that librarians in academic libraries have no adequate computer skills that can enable them discharge their mandate appropriately. Ademodi and Adepoju, (2009) investigated the computer skill among librarians in academic libraries in Ondo and Ekiti State in Nigeria and found that the staff have inadequate computer facilities as well as skills to professionally operate the computers. Their study further recommended the need for more attention and sufficient fund to supplement the training and purchase of computer facilities to enhance librarian's capabilities in carrying out library services. Osagie (2009) also confirm that the number of professionals and skillful staff that can efficiently process, store and disseminate information using ICT is inadequate, which in turn affects the way and manner information services are handle in most academic libraries.

Furthermore, it has been empirically observed that ICT/computer skills and literacy among librarians has negatively affected the adoption and usage of automation

in libraries. This can be seen as Ajidahun (2007) studied the training development and education of library manpower in information technology in Nigerian academic libraries. The findings showed that out of 276 professional librarians working in 20 University libraries in Nigeria, only 89 (32.24%) were computer literate. The findings further revealed that the level of professional training in information technology received by the professional staff in Nigerian University libraries is generally inadequate.

Therefore it is hypothesized that "there is positive relationship between computer skill and automation system adoption in academic libraries". (see Figure 1)

Conceptual Framework
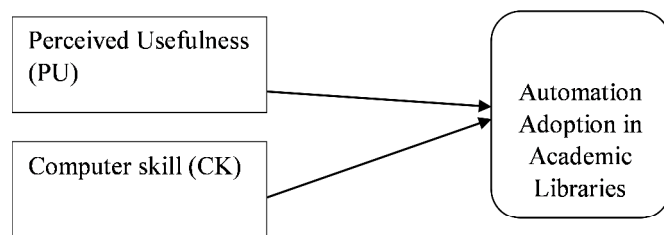
Conceptual Research Framework for the Study
Source: *Generated by the Researcher (2017).*
Figure 1.

METHODOLOGY

Previously tested scales were adapted to measure all the constructs of the proposed model. Most of the scales were altered to suit the context of the automation system adoption. Six items adapted from Venkatesh and Davis (2000) were used to measure perceived usefulness and another six questions adapted from Fuller *et al.* (2006) were used to measure computer skill constructs. The needed data for this study was collected through a well self-administered questionnaire design for this study. A 5 point Likert scale was used to measure the respondents' level of agreement or disagreement with each question asked.

To ensure the validity of the instrument, the researchers sent the instrument to an expert in the field for face validity and later on retrieved them back after the assessment was done. In addition to that, other necessary measures to ensure construct validity of the instrument such as confirmatory factor analysis (CFA), Kaiser Meyer-Olkin (KMO) measure of sampling adequacy and Cronbach's alpha were conducted and found to be adequate and suitable. A value of 0.7 in the Cronbach's alpha is considered adequate to ensure reliability of the internal consistency of the questionnaires (Nnnually, 1978). Therefore, Cronbach's alpha value of 0.7 was used as a decision criterion in this study.

A cross sectional research design was considered fit to this study and therefore adopted. In cross sectional research design, the data mostly through questionnaires are collected at one point in time in such a way that it is possible to look for a relationships between all the variables of the study

Three hundred and ninety six (396) library staff drawn from all academic libraries in Bauchi state comprises the population of this study and the sample size of 199 respondents which is approximately equal to 50% of the total population was obtained using Yamane's formula. Hair, Black, Barry, Anderson, and Tatham(2006) stressed that the appropriate sample size for questionnaire method should be 100 or above, therefore the sample size for this study amounted to 199 is adequate enough and satisfy the requirement. Proportionate stratified random sampling technique was adopted in selecting the samples of this study. The technique involves categorizing the selected elements into different groups then taking an element from each stratum by means of simple random method (Sekaran, 2003). The data analysis involved both descriptive and inferential statistics and the collected data were statistically analyzed by means of percentage, mean score, standard deviation and multiple regressions with the help of Statistical Package for Social Science (SPSS) version 20.

RESULTS AND DISCUSSIONS

Demographic Variables of Respondents

The study findings revealed that majority of respondents represented by 43.2% are degree and H N D holders. While

masters holders constitutes the minority as they represent only 13.0%. However, other category of qualifications falls in between. From the aforementioned, the study received the attention of qualify staff and hence the reliable result would emerge. Table 1 indicated the demographic variable just explained

Confirmatory Factor Analysis (CFA) was carried out and its results also satisfy the needed condition. All variables' constructs have factor loadings greater than 0.5 and Pallant (2011) strongly recommended that all the loading factors should be greater than 0.5 that for a construct to be retained it must have a loadings greater than five, as such it satisfied the needed condition. Also, all Eigen values of the variables are greater than 1 which clearly indicated that they all satisfied the needed condition. Pallant (2011) suggested that the Eigen values should be greater than 1. Similarly, variance explained have met the requirement by having the values above 50% and all the variables still have their Cronbach's alpha values above 0.7. All the conditions of CFA have successfully met as can be seen in table 2.

Table 1

Demographic factor	Category	Frequency	Percentage (%)
Respondents' qualification :	Masters	24	13.0
	Degree/HND	80	43.3
	Diploma /NCE	70	37.8
	Others	11	5.9
	Total	**185**	**100**
Respondents'years of experience			
	1-5	69	37.3
	6-10	49	26.5
	11-15	35	18.9
	16-19	17	9.2
	20 and above	15	8.1
	Total	**185**	**100**

Source field Survey, 2016

Table 2

Constructs	Items	Factor loadings	1st Eigen values	2nd Eigen values	Eigen values ratio	%of Variance explained	Cronbach's Alpha
PU	PU1	0.745	2.255	0.701	3.216	56.37%	0.740
	PU3	0.728					
	PU4	0.756					
	PU6	0.773					
CK	CK2	0.735	2.607	0.795	3.279	52.14%	0.763
	CK3	0.726					
	CK4	0.734					
	CK5	0.747					
	CK6	0.666					
AAD	ADD1	0.715	3.214	0.884	3.635	53.56%	0.807
	ADD2	0.733					
	ADD3	0.791					
	ADD4	0.746					
	ADD5	0.659					
	ADD6	0.739					

Source: SPSS Output

Correlation Test

In an attempt to determine the linear relationship between the study variables, correlation analysis was conducted. Sekaran (2003) stressed that one of the best methods employed in determining linear relationship between two or more

variables is correlation analysis. As such, Pearson's correlation was employed to conduct correlation test on direct relationship between all the study variables. Pallant (2011) Maintained that a correlation of 0 is indicating absence or no correlation, a correlation of 1.0 is indicating perfect positive correlation, while a   correlation of -1 is indicating a perfect negative correlation. Cohen(1988) further provides the following as guidelines: r = 0. 10 to 0.26 as a little or small correction; r = 0.30 t o 0.49 as average or medium correlation; and r = 0.50 to 1.0 as high or large correlation. This result of correlation helped to reveal that multicollinearity problem does not exist. Field (2005) recommended that to avoid multicollinearity, the value of the correlation coefficient should be less 0.8. (see Table 3)

Table 3. Pearson's Correlations between Study Variables Table

Pearson's Correlations		PU	CK	AAD
	PU	1		
	CK	0.359**	1	
	ADD	0.301**	0.327**	1

** Correlation is significant at the 0.01 level (2-tailed).

Table 4. *Model Summary*

Model	R	R square	Adjusted R	Std. Error of the Estimate	F Change	Sig. F change
1	.382ª	.146	.136	.48173	15.517	.000

a.   Predictors: (constant). PU and KN
b. Dependent Variable: Automation Adoption

Multiple Regression Analysis

Model Evaluation

Model summary table 4 is one of the major tables of interest in multiple regression analysis. This is because it provides the R, R^2, adjusted R^2 and the standard error of the estimate that are all aim at clarifying the fitness of the model in the study. Model Summary Table 4 revealed that the two independent variables (Perceived Usefulness and Computer Knowledge) explained 14.6% of the dependent variable (Automation Adoption); Meaning that the independents variables explained 14.6% (R^2 = 0.146) of the variance in automation adoption. Likewise the F change of Anova, revealed a very positive results by having F change = 0.000.

Coefficient and Hypothesis Testing

The analysis presented in table 5 revealed that all the independent variables (PU and CK) of this study were found to be statistically significant predictors of the dependent variable (automation adoption). Coefficient Table (table 5) indicated that PU has a significant value of 0.005 and CK has 0.001, which implies that their significant values are all less than 0.05 (P< 0.05) hence all positively influence the adoption of automation system in academic libraries in Bauchi state. Likewise, the column for Standardized Coefficients of Beta for all independent variables indicated how each contributes to the prediction of the dependent variable.The standardized coefficient Beta value for CK is 0.251(β= .251) which indicated that it makes the highest contribution of 25.1% to the automation adoption in academic libraries of Bauchi State and PU has the Beta value of 0.211 (β= .211), meaning it makes a contribution of 21.1% to the automation adoption in academic libraries of Bauchi State.

With this results therefore, hypotheses 1: *H₁. Perceived Easefulness has a positive influence on automation adoption in academic libraries; H₂. Computer Knowledge has a positive influence on automation adoption in academic libraries* are all accepted. (Table 5&6)

DISCUSSION OF FINDINGS

Through the use of theoretical basis derived from technology acceptance model, analysis of the collected data revealed that PU and CK are statistically significant predictors of automation system adoption in academic libraries of Bauchi state. The results exposed the fact that automation system adoption by academic libraries in Bauchi state can be positively influenced by PU and CK.

Result of influence of P U on automation adoption has shown that significant influence do exist on automation system adoption in the libraries. This signifies that librarians found the automation system in their respective libraries very useful in terms of operation, performance, productivity, effectiveness and energy saving. As such, the perceived usefulness of automation system in libraries as a determinant that can enable them adopt automation system in their libraries for good functioning of the libraries and better services delivery. Hak (2015) conducted nearly similar study and found a significant relationship between library automation adoption and PU in Senaya libraries, Indonesia. Davis (1989) maintained that when a new system is introduced, the first thing that people do is to evaluate its usefulness, from which they can decide as whether to continue or discontinue to use it, since people will only tend to use an application when they perceived it useful and significant to improve their skills and performance.

Table 5

Model		Unstandardized Coefficients		Standardized Coefficients			Collinearity Statistics	
		B	Std. Error	Beta	T	Sig.	Tolerance	VIF
1	(Constant)	1.864	.476		3.912	.000		
	PU	.297	.103	.211	2.874	.005	.871	1.148
	CK	.267	.078	.251	3.423	.001	.871	1.148

Source: SPSS Output

Table 6. Summary of Hypotheses Testing

Hypotheses	Hypotheses statement	P value	Decision
1	H_2. Perceived Usefulness has a positive influence on automation adoption in academic libraries	0.005	Accepted
2	H_2. Computer Knowledge has a positive influence on automation adoption in academic libraries	0.001	Accepted

Source: field Survey, 2016

Result of CK also revealed that computer knowledge has significant influence on automation system adoption in academic libraries of Bauchi state. This is in line with a study conducted by Ayodele, Joseph, Ojoke and Felix (2013) who investigated the proficiency of the information providers in the area of IT. Their results showed that most of the respondents can effectively operate computer systems (46.4%), can operate computer systems (35.5%), can partially operate it (12.3%) and (3.1%) could not operate a computer system. This may have connection with the fact that most of the libraries now deploy ICTs in their libraries, because the authors further affirmed that 86.6% of the libraries surveyed have computer systems; 46.4%, cabling for multiple access; 39.2%, bandwidth; 81%, printers; 68%, telephones; 75.3%, Internet; 50.5%, scanning machines; 30%, digital camera; 39.2%, multimedia. All these IT facilities are very important for the smooth take-off of library automation with effective library software to run it.In contrast to that, Ademodi and Adepoju, (2009) investigated the computer skill among librarians in academic libraries in Ondo and Ekiti State in Nigeria and found that the staff have inadequate computer facilities as well as skills to professionally operate the computers. Eklof and Hellebore (2009) concluded that it is of great relevance that librarians are well familiarized with ICTs and possess the rudimentary knowledge of computers.

CONCLUSION

Perceived usefulness (PU) and Computer knowledge (CK) are very essential in running the libraries since today's libraries now became more ICT integrated than before. Findings from the study revealed that both PU and CK are very

relevant to the successful adoption of automation system; therefore academic libraries should pay a serious attention to those variables if possible and others so as to have a very successful automation system adoption in their libraries and for them to survive among the libraries of 21st century. The researchers further recommended that stake holders and management of these libraries should continue to give more priority to the deployment of automation systems that their benefits can simply be articulated and staff are trained on regular basis.

Suggestion for Future Study/Limitation of the Study

Base on the analysis of this study, it has been statistically indicated that the variables in the model explained only 14.6% of the variance of automation adoption in academic libraries of Bauchi State. Another 85.4% of variance remains unexplained, suggesting a need for further study to slot in additional variables and sample sin the model so as to have very comprehensive model of automation system adoption determinants in academic libraries. Future research should also look in to the possibility of covering a very wide area such as two states or even geo-political zone and include all types of libraries so as to understand the level at which automation adoption is being influenced by the benefits that are derived from it and computer knowledge of the staff.

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Full Length Research

Internet Use in Management of Patients by Medical Doctors: A Survey of Private Hospitals/Clinics in Jos Metropolis

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This research investigated the internet use by medical doctors in the management of patients in privately owned hospitals/clinics in Jos metropolis. The entire population of 153 medical doctors from 41 privately owned hospitals were adopted in the research. Survey research design was the research method adopted for this investigation. The instrument used for data collection was questionnaire. Descriptive statistics such as frequency counts and percentages were used to analyse the data generated. The findings of this research revealed among others that most 54 (59.34%) of the medical doctors working in private hospitals in Jos metropolis had good internet competencies; majority 47 (51.65%) of the doctors accessed the internet in their consulting rooms; the medical doctors did not know how to refine their searches using search engines, hence majority 59 (64.85%) of them restricted their searches to Google search; and the major challenges the doctors faced in the use of the internet were slow internet network connection and frequent electricity power failure. It was therefore, recommended among others that the Nigerian Medical Association (NMA) which is the umbrella association of medical doctors in Nigeria, should organise workshops for their members in Jos metropolis. The workshop should be centred on the internet use and more emphasis should be on the use of search engines; owners of private hospitals in Jos metropolis should acquire generators to ease the problem of constant power failure. The research therefore, concludes that even though more than half of the medical doctors working in private hospitals/clinics in Jos metropolis know how to use the internet to manage their patients, there is still need to train the medical doctors on internet use. This will refine/ improve their searches and reduce the frustration normally associated with managing large quantity of down loads/hits produced when searching for information.

Key words: Medical, Doctors, Jos, Private, Hospitals, Internet, Patients, Management

INTRODUCTION

Background of the Study

The Internet is a global network of networks that enables computers of all kinds to directly and transparently communicate with each other throughout the world. It is usually described as a global network and

an 'Information Super-highway' (Computer Hope, 2010). It is defined as a world-wide broadcasting capability, a mechanism for information dissemination, and a medium for collaboration and interaction between individuals and their computers without regard to location (The Internet Society 2010). The internet is a major technological breakthrough of our time. The Internet is a popular source of health information for health care providers and consumers.

A great variety of information resources are now available and accessible online. These include among others search engines (Google, Yahoo, Alta Vista, Lycos, Mama, etc), databases (MEDLINE/PubMed, Scopus, Web of Knowledge, EMBASE, African Index Medicus), portals, gateways, digital archives, libraries and institutional repositories. Recent, reliable, quality and up-to-date healthcare information are also available in websites of academic and health institutions, professional associations, governmental and non-governmental organizations. In addition, some governmental and not-for-profit organizations such as the National Institutes of Health (NIH) and Bioline International have digital archives for free full-text articles. Also available online are medical dictionaries, encyclopedias, abstracts and indexes, bibliographies, atlases, videos and drug information sources.

The Internet has enabled health care practitioners to obtain and share health information and to track and monitor diseases (Centre for Disease Control 2003). In addition, it has made it easy and possible for physicians throughout the world to collaborate, communicate, and interact with each other (Manhas, 2008). In the last two decades, there has been a tremendous increase in the volume of healthcare information published online. The amounts of online health information available to users keep growing on daily basis than can ever be imagined ten years back (Manhas, 2008).

The use of these internet resources by medical doctors in patients care is an already established phenomenon and well documented in developed countries. However, the use of internet services in patient management by medical doctors in developing countries like Nigeria is not well documented. Hence, there are scanty reports on internet use by medical doctors in patients' management in Nigeria. However, there is no report on how medical doctors use the internet for patients care in private hospitals/clinics. It was on this scenario that this research was designed to examine how medical doctors in privately owned hospitals/clinics in Nigeria use the internet for patients' management, using medical doctors in private hospitals/clinics in Jos metropolis as a study group.

Background Information on Jos North Local Government Area, Plateau state

Jos North Local Government Area (LGA) of Plateau state is one of its seventeen Local Government Areas and its main metropolitan. It extends over an area of 291km2 with a total population of 429,300, projected from the 2006 National Population and Housing Census, with 266,66 (62%) being urban dwellers and 163,134 (38%) rural dwellers. In 2009, the National Population Commission estimated population of Jos North LGA as 439,217 comprising of 220,856 males and 216,361 females.

Jos North LGA shares boundaries to the west with Bassa LGA, to its North with Toro LGA of Bauchi state, to its East with Jos East LGA and Jos South LGA southward.

Jos North LGA was created in 1987, with twenty political wards: Tafawa Balewa, Aba Nashehu, Ahwol, Alikazaure, Angwan Rogo/Rimi, Gangare, Garba Daho, Ibrahim Katsina, Jenta Adamu, Jenta Apata which shares boundaries with Katako Market, Jos Jarawa, Kabong, Lamingo, Mazah, Naraguta A, Naraguta B, Rigiza/Targwong, Sarki Arab, Tudun Wada, Vander Puye

Ethnic Groups in Jos North: Jos is an administrative and cosmopolitan city consisting of diverse ethnic groups including: Berom, Anaguta, Mwaghavul, Rukuba, Ngas, Irigwe. There are also Hausa, Fulani, Yoruba, Igbo and other minorities.

Civil service, farming, small scale businesses are the predominant occupation and majority of the population are members of either Christianity or Islam religions.

List of Hospitals in Jos North LGA Used in the Investigation

There are forty-one (41) private Hospitals/Clinics in Jos Metropolis. This include: Daisyland Orthopaedic and Trauma Hospital, Oasis Medical Centre, Adoose Specialist Hospital, Chilas Specialist Hospital, Ecwa Evangel Hospital, Federal Low Cost Clinic and Maternity, Focus Hospital, Jama'a Medical Centre, Nassarawa Medical Centre, New Crescent Hospital, Samantha-Lucil Hospital, Tadam Medical Centre, Victoria Memorial Hospital, OLA Hospital, Dauda Clinic, Gwash Specialist Hospital, StaHealth Specialist Hospital, Matanmi Hospital, Hope Clinic and Maternity Hospital, Health Care Clinic, Faith Alive Foundation Hospital, Hope Hill Medical Centre, Cocin Hospital, Advertist Medical Centre, Sunnah Hospital, Graville Multispecialty Hospital, Sowako Specialist Hospital, Solat Women Hospital, Fertile Ground Hospital, Fomas Hospital, Ray field Medical Services, Tudun Wada Angwan Clinic, Park View Hospital, New Era Hospital, Kauna Specialist Hospital, Maranatha Specialist Hospital, Sauki Hospital, Abnira Medical Centre, Solace Women Hospital, ALPS Hospital, and Gynaeville Specialist Hospital.

SIGNIFICANCE OF THE STUDY

The use of internet services for the management of patients is a well-established phenomenon in developed countries. However, the use of internet services in the management of patients by medical doctors in developing countries including Nigeria has not been well documented (Ukwe, 2010). More also that this is the only way medical doctors in developing countries could bridge the gap in information resources on current medical issues between them and their colleagues in developed countries. This is because sciences, which include medicine is dynamic in nature. Every second, minute, hour, day, week, etc, new and better methods, and drugs on patient management are developed and published first in the internet (Bhatti, 2014). So, there is a great need for medical doctors to be able to gain access to internet resources. The failure of medical doctors to access latest information or resent developments in their field could seriously hamper their ability to safe life. It was on this scenario that this research was designed to characterize the internet usage patterns of medical doctors in private hospitals in Nigeria, using medical doctors working in privately owned hospitals/clinics in Jos metropolis as a focal population. The findings of this study will expose how the medical doctors utilize the internet resources to manage patients, the challenges they faced and possible solution on how to improve the situation in Nigeria. The findings of this investigation will be useful to health providers like: Nigerian Government; Ministry of Health; Management of Teaching Hospitals and Federal Medical Centres; Private Clinic owners and Non-governmental Organisations.

OBJECTIVES OF THE STUDY

The main objective of this investigation was to evaluate the internet use amongst medical doctors, in the management of patients in privately owned hospitals/clinics in Jos metropolis. Specifically, this research seeks to determine the:

i.   Internet competencies of the medical doctors working in private hospitals/clinics in Jos metropolis;
ii.   Sources of acquisition of Internet competencies by the medical doctors
iii.   Preferred medical doctors' internet access point;
iv.   Means of accessing the internet;
v.   Medical doctors preferences for search engine usage;
vi.   Medical doctors purpose of internet use;
vii.   Average number of patients the medical doctors see per week;
viii.   Medical doctors level of satisfaction with the Internet resources;
ix.   Medical doctors' need for further training on the internet use;
x.   Challenges the medical doctors faced in accessing the Internet resources.

LITERATURE REVIEW

Health care practitioners need information for efficient and effective management of their patients. They also need information to update their knowledge as well as for teaching and research. Ocheibi & Buba (2003), in their study of information needs and information gathering behavior of medical doctors in Maiduguri reported that doctors need specific medical information to enhance their knowledge on a day-to-day basis, particularly with the information explosion such as e-mail and Internet facilities (Ocheibi & Buba 2003). According to Okoro and Okoro (2009), the primary reason why medical doctors need information is to obtain answers to clinical questions; they also need information to stay abreast of developments in clinical medicine.

Internet has become an integral tool for the 21st Century physicians. Medical doctors who are not willing or ready to accept and use this technology will be missing valuable information relevant to their daily practice. A substantial amount of work has been done by information professionals and medical researchers addressing information needs, seeking and use among health care practitioners in a wide range of occupations and settings (Dee and Stanley 2005; Nwagwu, 2008). Previous researchers have investigated the use of electronic information resources by physicians and their preferred type of information sources and perceived barriers to accessing information for patient care (Wong and Veness, 2005).

Traditionally, printed materials such as books, journals held in personal libraries, were physicians' main sources of information (Bhatti, 2014). However, with the increase in the pace of health care research and the introduction of computers and the Internet, many new electronic information resources and systems are now available (Dalon, 2011). The availability of computers and especially the Internet has provided the possibility of immediate access to the most recent and reliable results of clinical research in everyday medical practice in developed countries (Gyapong, 2002). In developing countries on the other hand, the Internet is still only available to a minority of health professionals, and often it is not available at the point of care (Davin & Nilan, 2003).

Several studies have explored the use of the Internet to obtain clinical information for patient care by medical

practitioners in diverse health institutions across the globe. For example, Comscore (2012), study of resident physicians' adoption of information technology in Pennsylvania, United States, showed that 98% of the respondents used the Internet and two-thirds used it for health related purposes. Comscore (2012), studies from the United States also reported that physicians sought information from the Internet for patient care. Wong and Veness (2005), Findings from New Zealand studies showed that a greater proportion of General Practitioners (GPs) and Family Physicians (FPs) have access to the Internet and the majority used it for patient care. A similar finding was also reported by Dee and Stanly (2005), among Australian and New Zealand radiation oncologist and registrars; 85% of the respondents considered medical research findings 'useful' in day-to-day management of patients.

Among currently available technologies, only the Internet has the potential to deliver universal access to up-to-date health care information (Okoro & Okoro, 2009). Accurate and up-to-date medical information is vital to maintain quality of health care. During the past decade, many health information resources have been developed and available online for use by health care professionals. The Internet has been used by healthcare medical practitioners to obtain and share large amounts of medical information and to monitor diseases. The knowledge of the Internet as an important health information resource for medical doctors have greatly improved during the past decade as a result of patterns of use and medical impact measures (Okoro & Okoro, 2009).

These opportunities, the internet presented to medical practitioners world over are not actually utilized by many medical doctors, especially doctors in third world countries like Nigeria (Tang, & Ng, 2006). It was on this scenario that this research was designed to examine how medical doctors in Jos metropolis use these internet technologies in managing patients, with a view on the problems/challenges, prospects and how to improve the situation.

METHODOLOGY

Research Design

Survey Research Design was adopted for this study. According to Busher and Harter (1980) survey research design enables specific issues to be investigated through information gathering on people's opinions and believes over a wide population. This technique is relevant to this study because it involved sampling of opinions of users (Medical Doctors in Private Hospitals/Clinics in Jos Metropolis) on Internet use in Management of Patients.

Population of the Study

The targeted population for this study comprises all the 153 Medical Doctors working in Forty one (41) Private Hospitals/Clinics in Jos Metropolis. It should be noted, that the total number of Doctors working in private hospitals in Jos Metropolis is not static. This is because the doctors can withdraw their services at any time. Since, this population (153) is manageable; there was no need for sampling. Hence, all the doctors were adopted in the research.

Research Instrument

The instrument used for data collection was questionnaire. A 52 items structured questionnaire was designed. The questionnaire was divided into 2 sections. Section 'A' sought for information on personal (Demographic) data of the respondents. Section "B" sought for information on the Internet competencies of the medical doctors working in private hospitals/clinics in Jos metropolis; Sources of acquisition of Internet competencies by the medical doctors; Preferred medical doctors' Internet access point; Means of accessing the internet; Medical doctors preferences for search engine usage; Medical doctors purpose of internet use; Average number of patients the medical doctors see per week; Medical doctors level of satisfaction with the Internet resources; Medical doctors' need for further training on the internet use; Challenges the medical doctors faced in accessing the Internet resources.

Validation of the Instrument

The questionnaire went through content validity check. Copies of the questionnaire were given to senior colleagues in the profession. The essence of this exercise was to ensure that the questions were clear, simple and appropriate for the study. On the basis of their suggestions and modifications, some of the items were modified to suit the objectives of the study. A final draft of the questionnaire was then prepared and used for the study.

Pretest

A pretest of the study was conducted using test and re-test method. Twenty (20) medical doctors working in private

hospitals in Bauchi metropolis were used to test the reliability of the questionnaire. The reliability coefficient of r=0.86 was obtained, and the coefficient was considered high enough for reliability (Tiraieyari, et al, 2011). This enabled the researcher to ascertain whether or not the questions asked were able to generate the required data. The questionnaire was then distributed.

Administration of Questionnaire

Based on the total number (153) of the Medical Doctors in the private hospitals/clinics in Jos metropolis, 153 copies of the questionnaire were produced and administered to the Doctors in their offices and collected the next day.

Method of Data Analysis

Data collected were analyzed using descriptive statistics of frequency counts and percentages for answering the research questions. Tables were also provided where necessary.

Response Rate
O
ne hundred and fifty three (153) copies of the questionnaire were administered to the respondents in all the forty one (41) hospitals surveyed. Out of the 153 copies distributed ninety one (91) copies were filled, returned and found usable. This gave a response rate of 59.48%. The low response rate was largely because of the insecurity in Jos metropolis at the time of the distribution of the questionnaire. (Table 1)

Data Analysis

   Table 2, shows the gender of the respondents. This revealed that there were 62 (68.13%) males and 29 (31.87%) females. This revealed that the respondents were dominated by males.
   Table 3, shows the age range of the respondents. This indicated that 36 (39.56%) of the respondents were between the age range of 46 - 55 years. This age range was followed by 56 years - above, 36 - 45 years, 26 - 35 years, with 21 (23.08%), 19 (20.88%) and 15 (16.48%) respondents respectively. This shows that the age range with the highest population of respondents was 46-55 years.
   Table 4, presents the Internet competences of the respondents. This shows that the majority 43 (47.25%) of the respondents indicated that their Internet competencies were good. This was followed by 37 (40.66%) and 11 (12.09%) respondents who submitted that their Internet competencies were fair and very good respectively.
   Table 5, shows the respondents source of Internet competencies. This revealed that the largest proportion 38 (41.76%) of the respondents acquired their Internet competencies through seminars and workshops. While, 28 (30.77%), 13 (14.28%) and 12 (13.19%) of the respondents acquired their Internet competencies through conferences/lectures, reading books, and friends respectively.
   Table 6, reveals the respondents preferred Internet access point. Majority 47 (51.65%) of the respondents indicated consulting room. While, 15 (16.48%), 12 (13.18%), 10 (10.99%) and 7 (7.69%) of the respondents indicated anywhere, home, office and cyber café respectively.
   Table 7, shows the respondents' means of accessing the Internet. Majority 56 (61.54%) of the respondents indicated laptops while 20 (21.98%), 12 (13.19%) and 3 (3.29%) of the respondents indicated smartphones, personal computers (PC) and others respectively.
   Table 8, shows the respondents preferences for use of search engines. This revealed that majority 59 (64.84%) of the respondents indicated Google. While, 26 (28.57%), 4 (4.39%), 2 (2.19%) respondents preferred Yahoo, Ask.com, and Bing respectively. However, none of the respondents agreed using AOL.com and Baidu search engines.
   Table 9, reveals the respondents purpose for Internet use. This showed that majority 60 (65.93%) of the respondents purpose for using the Internet was for patients' management. While, 15 (16.49%), 9 (9.89%) and 7 (7.69%) of the respondents submitted that they used the Internet for job seeking, latest news, and general knowledge respectively.
   Table 10, shows the average number of patients the respondents see per week. This revealed that majority 46 (50.55%) of the respondents see 31 - 60 patients per week. This is followed by 30 (32.97%), 10 (10.99%), and 5 (5.49%) respondents that submitted that they averagely see 61-90 patients, 1-30 patients, and 91-above patients per week respectively.
   Table 11, reveals the respondents level of satisfaction with Internet resources. Majority 51 (56.04%) of the respondents agreed that they were satisfied with the Internet resources. While 27 (29.67%), and 13 (14.29%) of the respondents admitted that they were very satisfied, and undecided with the internet resources respectively. Generally,

Table 1: Distribution of Medical Doctors into their various Specializations

Specialization	Frequency (No.)	Percentage (%)
Obstetrics and Gynecology	18	19.78
Ophthalmology	10	10.98
Surgery	13	14.28
Psychiatry	4	4.39
Pediatrics	17	18.68
Medicine	26	28.57
Radiology	3	3.30
TOTAL	**91**	**100.00**

Source: Field Work

Table 2: Gender of the Respondents

N=91

S/N	Gender	Frequency (No.)	Percentage (%)
1	Male	62	68.13
2	Female	29	31.87
	Total	**91**	**100**

Source: Field work

Table 3: Age Range of the Respondents

N=91

S/N	Age Range	Frequency (No.)	Percentage (%)
1	26 – 35	15	16.48
2	36 – 45	19	20.88
3	46 – 55	36	39.56
4	56 - Above	21	23.08
	Total	**91**	**100.00**

Source: Field work

Table 4: Internet Competencies of the Respondents

N=91

S/N	Competencies	Frequency (No)	Percentage (%)
1	Very Good	11	12.09
2	Good	43	47.25
3	Fair	37	40.66
4	Not Good	-	-
	Total	**91**	**100.00**

Source: Field work

Table 5: Sources of Acquisition of Internet Competencies by the Respondents

N=91

S/N	Sources	Frequency (No)	Percentage (%)
1	Friends	12	13.19
2	Seminar/Workshop	38	41.79
3	Reading Books	13	14.28
4	Conference/Lectures	28	30.77
	Total	**91**	**100.00**

Source: Field Work

Table 6: Respondents Preferred Internet Access Point
N=91

S/N	Access Points	Frequency (No.)	Percentage (%)
1	Consulting Room	47	51.65
2	Office	10	10.99
3	Home	12	13.18
4	Cyber Café	7	7.69
5	Any Where	15	16.48
	Total	**91**	**100.00**

Source: Field work

Table 7: Respondents Means of Accessing the Internet
N=91

S/N	Means of Internet Access	Frequency (No.)	Percentage (%)
1	Laptop Computer	56	61.54
2	Personal Computer	12	13.19
3	Smart Phone	20	21.98
4	Others	3	3.29
	Total	**91**	**100.00**

78 (85.71%) of the respondents agreed that they were satisfied with the medical resources in the Internet.

Table 12, illustrates the need for further training of the respondents. This revealed that majority (94.51%) of the respondents admitted that they need further training on how to use the internet to source for information.

Table 13, shows the challenges faced by the respondents in the use of the Internet. This revealed that the highest proportion 28 (30.87%) of the respondents indicated slow Internet network (usually caused by low Internet bandwidth) was their major challenge. While 21 (23.08%), 13 (14.28%), 12 (13.19%) , 9 (9.89%) and 8 (8.78%) respondents submitted that their major challenges in using the Internet were frequent electricity power failure, coping with large amount of downloads /hits, lack of time, and lack of computers respectively.

DISCUSSION OF FINDINGS

Findings in table 4, shows that at least 54 (59.34%) of the respondents agreed that their Internet competencies were good. This finding could possibly be because the Internet houses a lot of medical resources. For the medical doctors to access these resources, they must acquire Internet competencies that will enable them access the resources in the Internet. Hence, most of the doctors were forced to acquire the internet competencies. This finding corroborates the work of Akpan-Obong (2007), who posited that the Internet is an indispensable allied for most medical practitioners because of the large amount of resources it houses.

Findings in table 5, revealed that the largest proportion 38 (41.76%) of the respondents acquired their Internet competencies through seminars and workshops. This finding could possibly be because workshops/seminars are mostly conducted as a practical class, hence most of the respondents acquired their internet competencies through workshops/seminars. This finding is in line with the works of Manhas (2008), and Ajuwon (2006), who on separate occasions highlighted that workshops are more impactful when adopted as a means of impacting knowledge than other means of impacting knowledge.

Table 6, reveals the respondents preferred internet access point. Majority 47 (51.65%) of the respondents indicated consulting room. This finding revealed that the respondents preferred internet access point was consulting room. This could possibly be because the respondents used the internet services to manage their patients. This finding corroborates the works of Ladner, Nadir, Abdelaziz, Benmaïza, Alaoua, and Tavolacci (2010), who on different occasions noted that medical doctors now access the internet resources with their cell phones in the consulting rooms to classify their patients' sicknesses.

Table 7, shows the respondents' means of accessing the Internet. Majority 56 (61.54%) of the respondents indicated

laptops. This finding could be because laptop computers and smartphones are portable. Hence they can be carried along easily. This finding agrees with the work of Nwagwu (2008), who observed that medical doctors now carry laptop computers and smart phones as a means of sourcing for information in the consulting rooms, for patients' management.

Table 8, shows the respondents preferences for use of search engines. This revealed that majority 59 (64.84%) of the respondents indicated Google. This finding shows that the respondents had no deep knowledge of search engines, hence most of them used Google search engine. This observation is in line with the findings of Isah (2010), and Ukwe (2010), who on separate occasions posited that most internet users often preferred using

Table 8: Respondents Preference for Search Engines Use
N=91

S/N	Search Engines	Frequency (No.)	Percentage (%)
1	Google	59	64.85
2	Yahoo	26	28.57
3	BING	2	2.19
4	Ask. com	4	4.39
5	AOL.Com	-	-
6	BAIDU	-	-
	Total	**91**	**100.00**

Source: Field Work

Table 9: Respondents Purpose for Internet Use
N=91

S/N	Purpose of Internet Use	Frequency (No.)	Percentage (%)
1	For Employment/Job Seeking	15	16.49
2	For Latest News	9	9.89
3	Patients Management	60	65.93
4	General Knowledge	7	7.69
	Total	**91**	**100.00**

Source: Field work

Table 10: Average Number of Patients the Respondents See per Week
N=91

S/N	No. of Patients	Frequency (No.)	Percentage (%)
1	1 – 30	10	10.99
2	31 – 60	46	50.55
3	61 – 90	30	32.97
4	91 - Above	05	5.49
	Total	**91**	**100.00**

Source: Field work

Google search engine in sourcing for information from the internet.

Table 9, reveals the respondents purpose for Internet use. This showed that majority 60 (65.93%) of the respondents purpose for using the Internet was for patients' management. This observation could possibly be because, doctors are often interested in their patients care and management. This finding agrees with the work of Ahmed and Yousif (2007), who stated in their research that medical doctors are usually seeking for latest information on patients' management. This is largely because medicine is dynamic and often there are improvements on the existing techniques on patients' management. So, for doctors to be abreast with the latest development in medicine, they must visit the internet often.

Table 10, shows the average number of patients the respondents see per week. This revealed that majority 46 (50.55%) of the respondents, see 31 - 60 patients per week. This observation shows that the number of patients the respondents see every week was very low. This could be because of sharp increase in the number of hospitals/clinics in

Table 11: Respondents Level of Satisfaction with the Internet Resources
N=91

S/N	Level of Satisfaction	Frequency (No.)	Percentage (%)
1	Very Satisfaction	27	29.67
2	Satisfaction	51	56.04
3	Undecided	13	14.29
4	Not Satisfied	-	-
	Total	**91**	**100.00**

Source: Field work

Table 12: Need for Further Training on Internet Use
N=91

S/N	Need For Further Training	Frequency (No.)	Percentage (%)
1	Yes	86	94.51
2	No	5	5.49
	Total	**91**	**100.00**

Source: Field Work

Table 13: Challenges Faced by the Respondents in the Use Internet
N=91

S/N	Challenges	Frequency (No.)	Percentage (%)
1	Frequent Electricity Power Failure	21	23.08
2	Slow Internet Network	28	30.78
3	Coping With Large Amount of Down Loads/Hits	13	14.28
4	Lack of Computers	8	8.78
5	Cost of Internet Access	12	13.19
6	Lack of Time	9	9.89
	Total	**91**	**100.00**

Jos metropolis due to bad economy in the country. This therefore, forced most doctors to seek for other means of generating additional income to augment their salaries. Hence, more private clinics/hospitals are established. This view is in line with the findings of Ocheibi and Buba (2003), who pointed out that the poor economic situation in the third world countries often lead to the development of more private businesses including private hospitals/clinics.

Table 11, reveals the respondents level of satisfaction with internet resources. Majority 51 (56.04%) of the respondents agreed that they were satisfied with the Internet resources. This observation could be because the internet hosts hug amount of medical resources, hence, the doctors were satisfied with the internet resources. This finding corroborates the works of Okoro and Okoro (2009), who on different occasions stated that most of the medical information resources have migrated to the Internet. Therefore, medical doctors must acquire internet skills if they are to still remain relevant in their profession.

Table 12, illustrates the need for further training of the respondents on the internet use. This revealed that majority (94.51%) of the respondents admitted that they need further training on how to use the internet to source for information. This observation could be because the respondents did not know how to use the different types of search engines. Hence, their searches were not deep enough to enable them obtain their needed information. This finding supports the works of Idowu and Oduwole (2011) and Dolan (2011), who on separate occasions asserted that the inability of users of the internet to master the different types of search engines usually, limit the ability of the internet users to find their needed information in the net.

Table 13, shows the challenges faced by the respondents in the use of the Internet. This revealed that the highest proportion 28 (30.87%) of the respondents indicated slow Internet network (usually caused by low Internet bandwidth) was their major challenge. This could possibly be because the internet networks in most African countries are usually discouragingly slow. This situation is very frustrating. This observation supports the works of earlier researchers such as Bhatti (2014) and Odutola (2003), who on separate accounts posited that Internet bandwidth and constant electricity power failure are the major challenges the Internet users in most developing countries faced in accessing internet resources. They further pointed out that if nothing is done to ameliorate these problems, time will come, most of the third world

countries will be cut off from development. This is because information is needed in the development of every aspect of a Nation.

SUMMARY OF MAJOR FINDINGS

1.   Majority 62 (968.13%) of the medical doctors working in private hospitals/clinics in Jos metropolis are males;
2.   Highest proportion 36 (39.56%) of the medical doctors working in private hospitals/clinics in Jos metropolis are within the age range 46 – 55 years;
3.   The findings also revealed that most 54 (59.34%) of the medical doctors have good internet competencies;
4.   The doctors' major source of acquisition of the internet competencies was through organized seminars/workshops;
5.   Most 47 (51.65%) of the doctors accessed the internet in their consulting room;
6.   Majority 56 (61.54%) of the doctors' means of accessing the internet was computer laptops;
7.   The medical doctors did not know how to use search engines in their searches, hence majority 59 (64.85%) of the doctors used only Google search engine in their searches;
8.   Most 60 (65.93%) of the doctor's purpose of using the internet was for patients' management;
9.   The average numbers of patients the doctors see per week were between 31 – 50 patients;
10.   Majority 78 (85.71%) of the doctors are satisfied with the internet resources;
11.   Majority 86 (94.51 %) of the doctor admitted that they need further training on how to use the internet to source for information;
12.   The major challenges the doctors faced in the use of the internet were slow internet network and frequent electricity power failure in that order.

CONCLUSION

This research was designed to assess the internet usage patterns of medical doctors in the management of patients in privately owned hospitals/clinics in Nigeria, using the medical doctors working in private hospitals in Jos metropolis as a focal population. The findings of this research has established that the use of the internet resources for patients' management is a known phenomenon among the medical doctors in Jos metropolis; however, its use in respect to its potential as a reservoir of health resources is less, as most of the doctors larked the knowledge, and use of suitable search engines to retrieve information from the internet. Hence, their searches were not deep. Even though most of the doctors claimed knowledgeable in the use of the internet, majority of them agreed that they still need more training in the use of the internet. It was therefore, recommended among others, that Nigerian Medical Association (NMA), which is the umbrella association of the medical doctor in Nigeria, should organise workshops for their members in Jos metropolis on the use of internet resources for patients' management with emphases on use of search engines.

RECOMMENDATIONS

Based on the findings of this study the following recommendations were proffered:

1.   The Nigeria Medical Association should organise workshops for their members in Jos metropolis, on internet use in patients' management. The workshops should emphasize on the use of search engines to retrieve health information resources from the internet. This will help reduce excessive downloads of unwanted information, which many of the respondents identified as one of their major challenge;
2.   The owners of private hospitals/clinics in Jos metropolis should acquire generators. This will ease the problem of constant electricity power failure. Hence the internet facilities will be powered for smooth operation of the Internet;
3.   All the consulting rooms should be furnished with fast internet network services, this will encourage the medical doctors to use the internet effectively for patients management;
4.   Computers preferably laptops should be acquired for the doctors. This will really relieve them from the troubles of using their phones or not being able to access the Internet;
5.   Owners of private hospitals/clinics in Jos metropolis should offset the cost of Internet access, instead of allowing the doctors to use their data and smartphones to access the resources in the internet for patients care;
6.   The owners of private hospitals/clinics should employ more doctors. This will create enough time for the doctors to have enough time to access the internet. This is because if the doctors are overloaded with many patients they may not have time to use the internet.

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Full Length Research

Open Access Institutional Repositories in Academic and Research Institutions in Nigeria: A Review of Benefits and Challenges

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Institutional Repositories offer the opportunity for academic libraries to collect, preserve and disseminate an institution's scholarly output. Serving an important service to the community, Institutional Repositories offer many benefits to the academic institutions community as well as other people and communities around the world. Institutional Repositories make it possible to collect content in one location, capture and provide open access to the intellectual output of a university, as well as preserve content that may be otherwise unavailable or out of publication. It is essential to explore the benefits as well as the challenges of Institutional Repositories to make sure it is worthwhile to the library as well as the institution. This paper therefore, explores benefits and challenges faced in the introduction and sustainability of Institutional Repositories in academic institutions in Nigeria. Lastly, it was recommended that National Universities Commission (NUC) should organize series of conferences and capacity building workshops to educate and train stakeholders in academic and research institutions in Nigeria on the benefits of establishing Institutional Repository. In this way their knowledge of Open Access Institutional Repository will be enriched and they will be in a better position to advocate for change in policies within their institution and at national level. This will create a conducive environment that will nurture the development and growth of open access Institution Repository in Nigeria.

Keywords: Open Access, Institutional Repository, Benefits and Challenges, Nigeria

INTRODUCTION

Open access Institutional Repository is fast becoming one of the best avenues utilized by institutions in making their research knowledge or output widely available and accessible to the outside world via the World Wide Web. Steele (2013) presents a working definition of Open Access Institutional Repository as "a digital archive of the intellectual product created by the faculty, research staff, and students of an institution and accessible to end users both within and outside of the institution, with few if any barriers to access". The growth of open access Institutional Repositories has been very remarkable in developed countries as well as some developing countries like Brazil, India and South Africa. However, notwithstanding the large number of academic and research institutions in Nigeria, as at the time of this writing, there appeared to be few functional Open Access Institutional Repositories in the country (Anene, Alegbeleye, & Oyewole, 2017). The resulting effect is that the volumes of research output emanating from the country - most of which

address local and regional developmental issues continue to reside in obscurity – not visible to those who may need them (Oguche, 2016).

This paper therefore, examine ways through which problems associated with the poor visibility and access to research output from academic and research institutions in Nigeria could be addressed by means of Open Access Institutional Repositories. Therefore, the aims of this review paper are to examine the:

1. State of scholarly publishing in Nigeria;
2. Benefits of Open Access Institutional Repositories;
3. Challenges faced in the introduction and sustainability of Open Access Institutional Repositories in Academic and Research Institutions in Nigeria; and
4. Prospects of Open Access Institutional Repository

Overview of open access institutional repository

The Open Access (OA) which is an off-shoot of a wider global movement called access to knowledge is a vital component of scholarly communication. Open Access (OA) focuses on the need to provide free, immediate, online and unrestricted access to peer-reviewed literature. This can be achieved via the Green or Gold paths. Koler-Povh, Mikoš & Turk (2014), put it succinctly that there are two basic principles established in the world that provide to the public free OA to scientific publications, frequently called gold path and green path of OA. With the gold path of OA, the public is given free access to publications at a publisher's website. With the green path of OA, the public has OA to available publications kept in repositories or storages and findable with customary Web search engines. Ramasamy & Padma (2015) expressed the Budapest position on how to achieve OA goals better by stating that there are two primary means for achieving OA goals, namely, Gold OA or "author pays", achieved by publishing in a peer- reviewed, scholarly OA journal in which articles are freely available online, and "Green" OA or "self-archiving", achieved by publishing in any peer-reviewed journal and then depositing a peer-reviewed version or preprint of the article in an OA repository.

State of Scholarly Publishing in Nigeria

Academic institutions at the tertiary level are the focal point of scholarly and applied research in Nigeria. In terms of scholarly research, university-based research entered the scene with the establishment of the University of Nigeria in 1948 – the first premier university in Nigeria. With the passage of time, the number has grown to 154 (as at the time of writing) federal, state and private universities. The Federal Universities have been classified into three generations (National Universities Commission, Annual Report for 2017). The first generation universities are University of Ibadan, University of Lagos, University of Nigeria, Ahmadu Bello University, Obafemi Awolowo University and University of Benin. The second generation class is composed of University of Ilorin, University of Jos, University of Maiduguri, University of Calabar, Usman Danfodio University and Bayaro University. The third generation is composed of specialized universities of technologies and agriculture situated in Abeokuta, Akure, Bauchi, Makurdi, Minna, Owerri, Yola and Umudike.

The Federal Universities receive a large proportion of their grant from the Federal Government. In addition, they (especially the first generation) account for a significant proportion of the scholarly research conducted in Nigeria. As a matter of fact, close to 50% of the staff/students in Nigerian universities are teaching/enrolled in the first generation universities (Ezema & Ugwu, 2013). Although research at Nigerian universities occurs in all the major branches of science, a survey carried out by Ezema & Ugwu (2013) suggests that Nigerian scientists have made much contribution in the fields of applied science. The survey which focused on the six first-generation universities in Nigeria shows that research in agriculture was predominant (33%). Much of the research in agriculture focused on increasing food production through higher yields (Ezema & Ugwu, 2013). Research in Engineering and Medicine ranked second and third respectively.

Other areas of research in Nigerian universities identified by the survey are in the physical and mathematical sciences. Research in mineralogical exploration pursued at three of the first generation universities led to the discovery of economic mineral deposits. Apart from tangential incursion into applied research, especially in analytical chemistry, the study further suggests that most of the chemical research at Nigerian universities tend towards solving fundamental, internationally recognized problems (Ezema & Ugwu, 2013). Most of the scientists in Nigerian universities work alone on their projects though sometimes they are assisted by graduate students. Collaborative research is often rare. Though few cases emerge from "accidental convergence of individual lines of research rather than as a result of a planned attack on a major scientific problem" (Finlay, Tsou, & Sugimoto, 2015). Even in exceptional cases where collaborative research emerge, they hardly stay on for a long while due mainly to high mobility of

local academics who want to set up and lead their own groups (Eke, 2011).

The state of research publishing in local academic journals in Nigeria has been on the rise in recent times. Unfortunately, most of these publications are not openly accessible (Ridwan, 2015). A recent trend in an attempt to make such publications widely accessible has been to list the journals in the African Journal Online database (www.ajol.info). According to Oguche (2016) most academics in Nigeria, publish their works because of the following reasons: to gain financial reward, to gain personal prestige, to communicate their results with colleagues, and to advance in their career. However, the most important reason academics publish all over the world including Nigeria, is for the purpose of advancing their career (promotion). This is not surprising, because promotion in the academic environment is tied to academic publications (Oguche, 2016). Hence, most academics in Nigeria are more concerned with having their article published and less concerned as to the visibility of the medium of publication they have adopted (Kunle, 2015). This notion has resulted in the proliferation of academic journals published by departments or faculties within the academic institutions. These journals have very low circulation hence making it even more difficult to measure up to international standard. They seem to be set up for the purpose of enabling 'colleagues' to have their papers published so that they can have some 'published works' to table before academic promotion committees (Oguche, 2016). The result of this academic culture was vividly described by Egwunyenga (2010). Many journals sprout in departments and faculties in universities, some of which did not go beyond the first volume before they ceased to exist either because of poor subscription, funding, internal contradictions or having realized their immediate objectives of presentation for promotion (Egwunyenga, 2010).

Benefits of Open Access Institutional Repositories

Chang & Aeernoudts (2015) postulated that reasons for setting up repositories vary, and a range of projected benefits have been suggested in many literatures. These include benefits to the researcher, to the institution, and to individual disciplines. Academic libraries also benefit from being involved in Institutional Repository Initiatives, and there are implications for scholarly communication overall. The primary reasons used to persuade academics of the benefits of placing their output in an Institutional Repository is exposure—that by having their research and publications openly available on the Web, not just in fee-based databases, scholarly journals, or books, their work is likely to be used and cited more (Kule, 2015). As a result, their reputation will be enhanced over the long term, due to the recognition they gain from this (Xia, Gilchrist, Smith, Kingery, Radecki, Wilhelm & Harrison, 2012). Other benefits to researchers include stewardship and preservation of their publications in digital form, which frees them from the need to maintain this content on a personal computer or website (Akintude, 2010).

Many benefits are identified, at the institutional level, or even at the national level. In Japan, for example, the Ministry of Education, Culture, Sports, Science and Technology have encouraged Japanese university libraries to develop institutional repositories to promote sharing of knowledge throughout Japan and internationally (Xia & Opperman, 2012).

The development of Institutional Repositories in Nigeria is seen as a way of making institutional research outputs available to a community with less than optimal access to resources (Ogbomo, & Muokebe, 2015). Akintunde (2010) observed that in Nigeria Digitization holds the advantage of providing a platform for sharability and duplicity of data, and networking because of the digital form of content. It also enhances the life-span of records as well as securing data and records that would have been obliterated due to their age.

It is now obvious to the academic and scholarly community that the traditional model of scholarly communication via subscription-based journals, serves to hinder rather than expand access to research output (Mohammed, 2013). In the light of emerging trends in digital scholarly communication, open access Institutional Repositories play an important role in the preservation and dissemination of institutional research outputs which in turn becomes a constituent part of a global research output. Although publications by faculty members in scholarly journals could add impact to the prestige of the institutions they are associated with, an Institutional Repository stands to generate greater impact by centralizing research outputs generated by the institution's researchers, and thus serving as a much better and simpler metrics for gauging the quality of the institution's academic scholarship, productivity and prestige (Musa, Musa & Aliyu, 2014). In the case of research and academic institutions in Nigeria, development of Institutional Repository will not only boost the global visibility and utility of their research, but will also introduce a novel research culture focused on meeting international standard and values. Knowledge by a researcher that his/her research will be openly accessible by a global audience will have an impact on his/her focus and standard. Anbu (2010) was of the view that the current closed access publishing model fails to portray the quality and quantity of research done in African universities and by African scholars.

Bonn (2014) also identified justifications for Institutional Repository to include increase in visibility and impact of research output, change in the scholarly publication paradigm and improvement of internal communication within the

institution. A study by Steele (2013) revealed that an institutional repository could have a positive impact on the visibility and accessibility to an institution's intellectual output. The study was based on the School of Business of the University of Otago in New Zealand. The School was the first to develop a publicly accessible institutional repository which went into operation in mid-November 2005. By the end of January 2006, there was a record of 9000 downloads from 60 different countries. Over two months later, the number of downloads doubled and included visits from eighty countries. The statistics further showed a total of 18,744 download from 80 distinct countries since the repository went live. Growth had been consistent over the entire period. The most popular paper (an Information Science discussion paper) had 451 downloads from 23 countries after twelve weeks in the repository. The top ten downloaded papers included two discussion papers, two working papers, two technical reports and four Honours dissertations (one of which was manually scanned from the original hard copy). Of these, only the discussion papers were previously available online, so the advent of the repository has had a clear impact on the availability of research within the School of Business (Czerniewicz, 2013).

Czerniewicz (2013) has argued that Institutional Repositories provide a compelling response to two strategic issues facing academic institutions. First, it expands access to research, reasserts control over scholarship by the academy, increases competition and reduces the monopoly power of journals, and brings economic relief and heightened relevance to the institutions and libraries that support them. Secondly, it serves as a tangible indicator of a university's quality and to demonstrate the scientific, societal, and economic relevance of its research activities, thus increasing the institution's visibility, status, and public value. Czerniewicz (2013) further stated that, Institutional Repository could also be seen from two complementary perspectives. First as a natural extension of academic institutions' responsibility as generators of primary research seeking to preserve and leverage their constituents' intellectual assets; and secondly as one potentially major component in the evolving structure of scholarly communication.

Institutional Repositories provide access to wealth of scientific and technological information and knowledge which are very essential for development. The opportunities presented by Institutional Repositories and Open Access archives to the development of Africa as well as the challenges hindering the development of digital information repositories on the continent has been examined by Ridwan (2015). The researcher acknowledged the fact that several of the research output from the region exists in the form of grey literature i.e. unpublished information and knowledge resources such as research reports, theses and dissertations, seminar and conference papers. Very little research outputs find their way into the world's well-established international scientific journals, due to various problems among them because publication in mainstream journals faces the problems of over-subscription and recorded prejudice against submissions from developing country scientists. Additionally, local journals in general have poor distribution and visibility. This situation results in research from Nigeria not being indexed in major international databases which have the capacity to increase the visibility of these research outputs. He further noted that much of the research generated in research institutions are not being shared or developed further beyond field and laboratory research. Very useful and valuable technological and scientific information and knowledge remains unexploited and in some cases is lost (Ridwan, 2015).

The establishment of Institutional Repositories in academic and research institutions in Nigeria is a serious developmental issue that requires urgent attention. As Ridwan (2015) rightly observed, they are valuable for research and development because they can offer instant access to information and knowledge resources being generated on the continent. The universities and research institutions in Nigeria are the major centres of research and consequently the major generators of research based data, information and knowledge. The scientific and technological information and knowledge which they are generating should be easily accessible, and the creation and use of Institutional Repositories could be the first step in this process. The importance of Institutional Repository in collaborative production and dissemination of scholarly information have been evidenced by concerted efforts geared towards assisting academic and research institutions in developing open access institutional repositories.

There is now a growing call for academic and research institutions in Nigeria to establish Institutional Repositories where their scholars and researchers are required or mandated to deposit or archive their research output (Ridwan, 2015). Oguche (2016) summarizes the benefits a library stands to gain from an Institutional Repository:

1.   opening up outputs of the institution to a worldwide audience;
2.   maximizing the visibility and impact of these outputs as a result;
3.   showcasing the institution to interested constituencies –prospective staff, prospective students and other stakeholders;
4.   collecting and curating digital output;
5.   managing and measuring research and teaching activities;
        providing a workspace for work-in-progress, and for collaborative or large-scale projects;
6.   enabling and encouraging interdisciplinary approaches to research;
7.   facilitating the development and sharing of digital teaching materials and aids; and
8.   supporting student endeavors, providing access to theses and dissertations and a location for the development of e-portfolios.

In addition, Institutional Repositories can help libraries to reduce the costs in purchasing academic articles and journals because they can get these articles and journals from another institution's Institutional Repositories (Nykanen, 2011). All of these benefits involve digital curation because they span the information life cycle and involve achieving goals that are central to digital curation, such as "interoperability with the future" and "communication across time" (Bonn, 2014). From a different perspective, Anene et al, (2017) noted that IRs have the potential to increase the visibility and provide a better picture of Nigeria's scientific and technological research outputs and specialization; increase the accessibility and impact of research both in Nigeria and at the global level; and preserve and maintain the research outputs of Nigeria's universities and research institutes.

Challenges Faced in the Development of Open Access Institutional Repositories in Academic and Research Institutions in Nigeria

The emergence of Open Access Initiatives as well as Information and Communication Technologies (ICTs) provides a veritable medium to address the problem of poor visibility of academic research information emanating from Nigeria. The shift from the conventional print publication to the use of digital sources and internet media have provided academic and research institutions in Nigeria with an opportunity to make their grey literature and research output accessible to the outside world (Mohammed, 2013). However, it may be surprising to observe that academic and research institution in Nigeria, are yet to take advantage of the benefits provided by open access institutional repositories (Bashiru, 2010).
Some of the issues identified by existing literatures as being responsible for the slow uptake of Institutional Repositories in Nigeria include lack of knowledge or awareness of Open Access Institutional Repository, poor state of Information and Communication Technology, inadequate advocacy for Open Access Repositories, poor or inadequate funding, copyright and intellectual property rights (Bashiru, 2010).

1. Unawareness of open access publishing

 Many authors have highlighted on the low level of awareness of open access publishing in Nigeria. According to the findings of Ogbomo & Muokebe (2015), 42.6% of academics in University of Lagos (Nigeria), 'strongly agree' that lack of knowledge or awareness of open access institutional repository is an obstacle to the development of institutional repository in their institution. This is in addition to 26.4% who 'agree' (as opposed to 'strongly agree') to the same. Ogbomo & Muokebe (2015), sought to determine the level of awareness of open access institutional repository among his respondents. Without first giving a definition or explanation of an open access institutional repository, the respondents were asked to state their level of familiarity with the term "Open Access Institutional Repository/Archive" with reference to scholarly research. Of the 66 valid response to this question, only 2 (3%) of the respondents were very familiar with the concept of open access Institutional Repository, 15 (22.7%) know very little about the concept and a great majority of the respondents precisely 49 representing 74.3% were completely unfamiliar or know nothing about Open Access Institutional Repository. The questionnaire then went on to define and describe open access Institutional Repository. With this additional information, the respondents were asked to indicate the level of importance of institutional repository to their institution. A total of 55 (78.4%) agreed that the development of Institutional Repository is "very important" for their institution. Ten respondents representing 13.9% of the total response agreed that it is "important", 5 (6.9%) respondents were neutral. None of the respondents sees Institutional Repository as being "unimportant" to their institution. Lack of knowledge or awareness of open access Institutional Repository is not peculiar to the respondents at the University of Lagos. In fact this is the situation in most developing country institutions (Bonn, 2014). Ignorance or lack of knowledge of open access institutional repository seems to be one major issue to the development of Open Access Institutional Repository in Nigeria. It is only when this ignorance is tackled that any meaningful progress can be made.

2. Inadequate ICT connectivity and infrastructure

   The development of open access institutional repositories requires fast and reliable internet connection as well as deployment of adequate information and communication technology infrastructure. The major point of internet access to students and staff at Nigerian universities is through internet cafés (Kunle, 2015). A study of internet usage in Nigerian universities by Kunle (2015) shows that 45.2 percent of the respondents access the internet through internet cafés. The situation is not too different at most Universities in Nigeria. The cafés are usually operated by private entrepreneurs on facilities or buildings leased from the University. The average cost for using the internet facility at the café is about $1 for an hour. Although this may appear cheap, the connectivity is so slow that it may take about 15minutes to access a yahoo mail account. The café are usually fraught with too many restrictions such as prohibition of the use of external storage devices like flash drives. Hence, since users cannot download materials from the internet into any external drive,

they only have the choice of paying to print the materials. This thus makes the café only useful for checking and replying to emails as opposed to research.

This problem is further compounded by the slow speed of internet connectivity. Notwithstanding the growth in internet usage in Nigeria, the speed and reliability of the internet connections still posses a great deal of challenge to most of the institutions in Nigeria. Low internet bandwidth availability in the sub-Saharan African region posses an obstacle to the deployment of institutional repository. It has been observed that institutional repositories require reliable and fast internet connection since the common mode of availability of materials are in the form of Portable Document Format files (PDF Files) (Kunle, 2015). The high cost of internet bandwidth in Nigeria makes it much difficult for academic institutions in Nigeria to afford adequate bandwidth to host digital repositories (Musakali & Moli, 2011). It has been observed that bandwidth allocation in Africa is so expensive that most universities (on their own budget) cannot afford more than 1.544 Mbps which is less than many home broadband users in North America (Musakali & Moli, 2011). African universities pay about $10,000 a month for same internet bandwidth that will cost a consumer in Europe and North America less $100 a month (Moxley, 2013).The problem was well described by Moxley (2013) who claimed that Bandwidth is the life-blood of the world's knowledge economy, but it is scarcest where it is most needed – in the developing nations of Africa which require low cost communications to accelerate their socio economic development. Few schools, libraries, universities and research centres on the continent have any internet access. For those that can afford it, their costs are usually thousands of times higher than for their counterparts in the developed world, and even Africa's most well-endowed centres of excellence have less bandwidth than a home broadband user in North America or Europe, and it must be shared amongst hundreds or even thousands of users (Moxley, 2013).

In 2013, the International Network for the Availability of Scientific Publications (INASP) commissioned a report which compared internet connectivity and cost in selected African universities with a British university. It was observed that several African universities in the study have an internet connection of between 512 Kbps and 1Mbps (as at May 2013). The British University (Bristol) by contrast has a 2.5 Gbps link. This is 5120 times as much as the University of Dar es Salaam, (Tanzania) has. The report further notes that whereas University of Dares Salaam has 2000 computers shared by 11000 users (i.e. an average of 5.5 person per computer), Bristol has 16,000 computers shared by 22,000 users (i.e. an average of 1.3 person per computer) (The Global Information Technology Report, 2016). One of the major factors responsible for the high cost of internet bandwidth in Africa is the use of satellite bandwidth as opposed to much cheaper optic fibre infrastructure (Seaman, 2011).

Hence, as Bonn (2014) rightly observed, unless interventions are made to reduce the cost of existing international fibre links as well as to quickly develop new fibre infrastructures, the continent will be prevented from tapping its latent potential and this will further widen the digital divide.

Another infrastructural problem associated with internet connectivity in Nigerian academic institutions is the problem of electricity power supply (Eke, 2011). An Institutional Repository should be openly accessible 24 hours a day. This will thus imply a sustained and regular electricity supply to power ICT facilities. Electricity supply is one of the major problems in Nigeria. This problem has made the development of projects like an institutional repository in Nigeria much difficult and expensive. Akintunde (2010) has observed that poor electricity supply is a major impediment to the operation and growth of information and communication technology in Nigerian universities. According to him, only a trickle of daily electricity production dribbles erratically into the country's 154 institutions, rendering ICT systems dysfunctional. Universities resort to diesel-propelled generators, but they are expensive and environmentally unfriendly.

Nigeria produces about 2,500 megawatts a day of electricity – ten times less than its daily need. The extent to which this problem affects ICT projects in the Nigerian educational sector is self-evident. For example, in 2001 the National Universities Commission (NUC) in Nigeria commenced development of the virtual library project. The need for the project was to create a central digital repository that will assist the Nigerian university system in terms of acquisition of electronic resources to supplement the resources available in the individual university libraries. In order to deal with the problem of constant shortage of electricity power supply, the server for the project had to be located in far away United Kingdom thus resulting in much higher cost of operation. Another institution that has had to deal with this problem in its effort to develop an Institutional Repository is the International Institute of Tropical Agriculture (IITA). The Institution which is at the final stage of developing an Open Access Institutional Repository also had to locate its server in the United Kingdom due mainly to the incessant problem of power supply in Nigeria.

Various researches have also confirmed that many institutions in developing countries face an unreliable electricity supply, poor Internet connections, as well as lack of adequate computer equipment, appropriate software, and even technological expertise (Akintunde, 2010).

3. Inadequate Funding

Lack of funding is another major problem experienced by developing country institutions in their effort to establish

digital repositories. As has been stated earlier, the state of ICT infrastructure in academic and research institutions in Nigeria is so low to sustain the development of institutional repositories. Hence, a viable digital repository project will first require serious upgrading of the current state of ICT facilities in many academic and research institutions in Nigeria.

Development of institutional repository in developing countries is much a capital intensive project than in developed countries. This is because academic and research institutions in developed countries already have in place a well-established state-of-the-art ICT infrastructure to build on. But in Nigeria, this infrastructure or foundation is not in place and will require huge financial resources to put them in place (Oguche, 2016)

Additionally, the high cost of internet bandwidth in developing countries (previously discussed) further worsens the problem. It is rather curious that Nigeria institutions with far limited financial resources (as compared to their counterparts in developed countries) eventually end up paying more for same bandwidth than their counterpart in developed countries (Bashiru, 2010). These factors contribute to inflate the cost of establishing digital repositories in Nigeria. Most of the universities in Nigeria receive substantial part of their funding from the government's budgetary allocation. This increase in cost of developing digital repositories is even made worse by the fact that the institutions in Nigeria continue to grapple with declining funding from budgetary allocations from the governments (Musa et al, 2014).

A typical cost for developing an institutional repository in Nigeria will cover the cost for a server, subscription for adequate bandwidth, cost for building an alternative energy source, computer staff time for running and maintaining the ICT facilities, costs of purchasing scanning equipment, library staff time in formatting documents etc.

4. Inadequate advocacy

One of the best ways to promote the development of open access institutional repository in Nigeria is through advocacy. For such an advocacy to be really effective, it must be undertaken by the stakeholders in the country.

These stakeholders include lecturers, researchers, librarians as well as students. Effective advocacy presupposes that the advocates or stakeholders are very familiar with the concept. Unfortunately, the knowledge of open access institutional repository is very low among the major stakeholders in the country (Kunle, 2015). Hence, there is need for increased advocacy of open access institutional repository in the developing countries like Nigeria. Advocacy could be undertaken through national and regional workshops and conferences as well as training of stakeholders within the region.

5. Inadequate Skilled Manpower

Ezeani & Ezema (2011) from their findings reported that, the most nagging problem in the digitization project is attracting the required skills for troubleshooting of equipment such as computer systems, scanners among others. Akintunde (2010) while reporting the problem bedeviling the project at the University of Jos stated that lack of skilled personnel to manage the repository was one of their major challenges.

6. Non-Cooperation from academic community

Akintunde (2010) observed lack of Support from the university of Jos academic community, in terms of usage and uploading of content. They stated that the response from the academic community did not meet with their expectations, even after several rounds of sensitization. However, it was evident that more responses have been received after each sensitization programme. So, the library will have to keep going after the user community and content providers.

7. Intellectual property rights / publishing agreements

Another issue that may affect the development of Institutional Repository is intellectual property. Intellectual property right is an aspect of law that covers diverse legal rights that exists in creative work. Intellectual property law embraces such exclusive rights in copyright, patent, trademark, industrial designs, trade secret, trade name, etc. Copyright law determines how a person can deal with a written work such as a journal article or a research paper. Generally, a copyright holder has the exclusive right to authorize the copying, recopying or distribution of the written work. In other words, he has the right to determine whether the work shall be available in a closed or open access format (Oguche, 2016).

i. What is copyright?

Copyright is a collection of legal rights that is attached to an original work when it is created (Charbonneau &

McGlone, 2013). Copyright law is an aspect of intellectual property law that seeks to invest authors with monopoly right or control over their creative work including the right of exploitation to their work as well as the right to "ensure that their work is properly credited and is not changed in a way that harms the author's reputation" (Ridwan, 2015). Copyright protects expressions and not ideas. Hence a work will qualify for copyright protection if it passes the test of originality. Originality does not mean that the work must be novel as in the case of patent, rather the work must originate from the author in the sense that the author must have invested some minimal intellectual effort as opposed to mere copying.

Subject matters which fall within the domain of copyright law include literary work, artistic work, dramatic and musical works. Literary work covers written or printed expressions irrespective of the form in which they exist whether in paper or electronic format. Research articles or papers and written materials in digital repositories clearly fall within the domain of literary work. Although for now, bulk of the contents in many open access digital repositories and electronic journals consists of literally works in the form of written materials, Ridwan (2015) has observed that increasingly in the future, other kinds of materials will be contained in digital repositories and published in electronic journals. Such materials may include images, diagrams and graphs. This ordinarily should fall within the classification of artistic works. However, in discussing copyright as it relates to open access institutional repositories, this paper will focus on literally works.

ii. Ownership and assignment of copyright

Generally, copyright in a work is originally conferred on the author of the work. This is referred to as the first ownership of copyright. There is however an exception to this general rule. One of such exception relates to a situation where the literary work is produced by the author under a contract of service of apprenticeship or under a contract of employment which expressly vest copyright in the work on some person or institution other than the author. For example, copyright in a research paper produced by a researcher in the course of his employment in a research institution or a university will normally vest in the author in the absence of any express agreement to the contrary. Where the literally work is the product of the combined effort of more than one author e.g. a team, copyright in the work will vest jointly in the authors unless the authors have contributed various and distinct part of the work in which case each will retain the copyright in relation to his/her distinct part of the work. Copyright, although intangible is recognized in law as a property and hence capable of transferability. This could be done in any of the following two ways.

a.   Assignment of copyright:

Ownership right in copyright could be transferred by
assignment. Assignment of copyright is the process whereby a copyright holder in a work (assignor) completely divests himself of all rights as it relates to the work by transferring the same to some other legal person (assignee). When copyright in a work is assigned, the original owner henceforth is in the same position as any other person in relation to the work. He cannot exercise any right or use the work except with the consent of the assignee. Otherwise the original owner will be liable for copyright infringement unless the act comes under a statutory exception to infringement. This principle applies in every case where for example, an author of a research paper submits same for publication in a journal and is required to assign the copyright in the work to the journal publisher(s). This is one area where researchers and academics need to be especially cautious to understand the full legal implication of what they are doing.

b. Licensing of copyright

Licensing is a means by which an author may authorize some other person (including a publisher) to exercise one or more of his excusive right to a literary work without divesting himself / herself of all his rights in the work as in the case of assignment. A license is a consent or permission to use intellectual property on the terms specified by the licensor who remains the owner (Kim, 2010). The author still retains all rights to the literary work subject only to the rights granted or licensed. Unlike assignment, a license need not be written; it could even be implied from conduct. Hence by merely submitting a research paper to a journal for publication, the author impliedly grants the journal the right or license to publish the work. A license can be exclusive or non-exclusive. An exclusive license grants the licensee the exclusive right to a particular act in relation to the copyright. The right is exclusive because no other person, not even the author, can exercise the right for the duration in which it is granted. A non-exclusive license grants to the licensee the permission to exercise the relevant right while at the same time permitting the author to grant the same right to some other person and to continue to exercise the right himself.

Challenges facing Nigeria Institutions that have Established Institutional Repository

Although Institutional Repository are relatively quick and expensive open access software, there should be proper

Infrastructure, such as software, hardware, staff who should be properly trained and proper rules and guidelines to maintain the various policies and to manage the system. According to Musa et al (2014) the implications and potential barriers to existing IRs in Nigeria institutions are summarized below:

a. **Difficulties in Generating Content:** A successful Institutional Repository depends on the willingness of authors to deposit their works voluntarily and there may be local barriers and hindrances to overcome the. There are acknowledged difficulties in generating content, especially at the beginning. Unless the value of an Institutional Repository can be demonstrated quickly, the organizations long-term commitment to the project may began to wane. The best way to prove the enduring value of the IR and to ensure its long- term survival is to quickly populate it (Anene, et al, 2017).

b. **Right to Management Issues:** Sometimes researchers are apprehensive about infinfringing publishers copyright and lack adequate awareness about their own intellectual property rights. They may be uncertain about making their work available online before it is published by a traditional publisher.

c. **Working Culture Issues:** Contributing content to user- generated or ''self-service" sites is time consuming and time is something which academics often lack. They may be willing to contribute content but reluctant to do it themselves. This calls for mediated deposits service for them.

d. **Policy Issues:** Experiences suggest that an Institutional Repository will only function to its capacity when a mandate is in place to populate it but clearly researchers can react negatively to any suggestion of compulsion. Seaman (2011) has cautioned that an Institutional Repository should not become a tool for enforcing administrative control over academic work.

e. **Lack of Incentives:** In the absence of any incentive academics feel reluctant to provide even bibliographic details of their scholarly output especially when they know that incentives are available in other institutions.

f.   **Cost:** Initial financial cost for an open source software adopted by most institutions for creating Institutional Repositories is not high but the recurrent costs, especially staff costs (i.e time spent drafting policies , developing guidelines, publicizing, training, supporting users and creating metadata, specialists IT consultancy) may be significant.

Prospects of Institutional Repository to the Host Library

Digitization improves access to library resources.

Providing access to digitized collections can help publicize the materials to other departments and peers, in other institutions around the world and demonstrate the importance of the collections. The digitization of priceless and valuable collections of the institution brings prestige to the whole institution as it creates visibility not only of the library's (institutions) content, but the scholars work within the university in Nigeria. Akintunde (2010) stated that digitization holds great promise for preservation of materials, sharability of resources, and visibility of Nigerian libraries and institutions. The increase in Nigerian content on the Web will enable more meaningful and fruitful researches to be conducted through access to relevant data and literature. Nigerian libraries will also be able to communicate more professionally with colleagues in other parts of the globe. The choice and deployment of appropriate software will particularly bring contents together and provide a common platform for the exchange of knowledge in today's knowledge society. According to Bashiru (2010) today, —the global village is being described on the basis of ICT as information rich northern hemisphere and information poor southern hemisphere of which Nigeria is one. A major characteristic of an information poor society is Low-level ICT with minimum local content on the web for local and global consumption‖. Nigeria can only be part of this global movement by using ICT to bridge the gap and cross over.

CONCLUSION

In the course of discussion, the paper has established the need for Open Access Institutional Repositories in academic and research institutions in Nigeria. Institutional repositories in the 21st Century can revitalize the libraries as information providers, but only if Issues of lack of awareness, inadequate ICT connectivity and infrastructure for implementation, inadequate funding, inadequate advocacy, intellectual property rights, insufficient technological skills epileptic power supply, copyright and licensing can be critically addressed to allow a wide range of libraries to adopt the concept. The researchers believed that if these issues raised are tackled, the problems associated with the poor visibility and access to research output from academic and research institutions in Nigeria will be fully addressed.

RECOMMENDATIONS

The following recommendations are proffered: With regards to the issue of awareness and advocacy, it is highly recommended that the approach adopted in eIFL and SASLI in South Africa be applied also in Nigeria - namely: organizing series of conferences and capacity building workshops to educate and train stakeholders in academic and research institutions in Nigeria. In this way their knowledge of open access will be enriched and they will be in a better position to advocate for change in policies within their institution and at national level. This will create a conducive environment that will nurture the development and growth of open access in Nigeria. Considering the size of the country and number of educational institutions in the country, it suffices to add though the level of resources required here will be more than what was committed in South Africa.

The two major issues in ICT relates to internet bandwidth and electricity supply to power ICT infrastructure. With regards to the first, the short term solution will be to support initiatives such as the Bandwidth Consortium (BWC) aimed subsidizing the cost of internet bandwidth in academic and research institutions in Nigeria. The long-term solution in this area should take the form of increased backing for international optic fibre infrastructure as well as an open access policy to the project so as to provide equal access to all bandwidth providers. To deal with the issue of electricity supply to power ICT infrastructure, there is need to fund research into development and implementation of efficient power generating alternatives to power ICT facilities used in the deployment of institutional repositories.

It was also observed that the development of institutional repository in Nigeria is a capital intensive project. This issue is worsened by the diminution of budgetary allocation from government to the educational sector. There is need for increased funding from international donor agencies to help academic and research institutions in Nigeria to uplift the state of their ICT infrastructure. Other alternative sources of funding that could be researched into includes corporate entities like telecommunication companies operating in the country.

The academics, lecturers and researchers should be motivated to make contents available for upload in the repository as contents constitute a major building block of Institutional Repository.

As regards copyright issues, it is highly recommended that authors within the region should be educated on their rights in relation to their intellectual output. This is very important as these authors continue to sign away their legal right without knowledge of the legal implication of their act. If this problem is not tackled at the moment, their institutions will encounter another difficult problem in filling their repositories should they succeed in developing one sometime in the future.

The researchers further recommend the creation of one National Open Access Repository for Nigeria. This should be accessible in all schools, colleges, universities and research institutions in Nigeria. This will minimize the cost for developing Institutional Repositories all over the country.

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Full Length Research

Applying knowledge management models to managing beads making indigenous knowledge in the Eastern Region of Ghana

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Background: The Krobo beads making industry in Ghana performs a central role in the traditional and economic developments within rural communities, applying knowledge management models to managing beads making IK would help to halt its disappearance, preserve and protect this knowledge.

Objective: This paper sought to assess the application of knowledge management (KM) models in managing beads making indigenous knowledge (IK) in order to improve and preserve beads production activities within the Krobo communities in Ghana. This was done by assessing acquisition, sharing and preservation processes of beads making IK. The study also explored the significance of vision, the future potential of the beads making industry, ICTs, policies, legal framework, and culture in KM practices in the beads producing communities.

Method: Qualitative research design was adopted. Phenomenology strategy was used. Qualitative data was collected using semi-participant observation, semi-structured interview and focus group discussions. The study employed thematic data analysis technique. Data were extracted manually from the transcripts and summarized into various themes.

Results: The study revealed that IK was acquired and shared within socio-cultural practices that existed in the Krobo communities, and that IK was basically stored in the memory of IK holders which is aiding its disappearance. The study developed a KM model that would be applicable in regional IK management within the social-cultural context in developing countries.

Originality: The proposed KM model provides a special context and understanding of the management of indigenous knowledge in regions with rural communities in developing countries. Most of the KM models reviewed were developed based on formal organizational environment with western orientation; consequently they did not capture the needs of regions with rural communities. The proposed model therefore, makes a modest contribution to theory on KM in regions with rural communities in developing countries, and provides the relationships between KM facilitators/principles and KM processes.

Limitations/implications: The model proposed by this study for managing regional IK has not yet been tested. There is therefore, the need to test the developed model against existing KM models, in specific regions with rural communities in the developing world, to determine if it can be used to explain the link between KM facilitators/principles and KM processes.

Key words: knowledge management models, Indigenous knowledge, beads making, Ghana

INTRODUCTION

The potential of traditional/indigenous knowledge in economic development of local communities is highly recognized all over the world (Iyoro & Ogungbo, 2013; WIPO, 2010), as it is seen as a set of techniques, perceptions, information and behavior that guide local community members to use natural resources (Iyoro & Ogungbo, 2013). Indigenous knowledge offers new models for developments that are both ecologically and socially sound (Posey, 1985:139-140), and in community development and poverty alleviation (Ellen & Harris, 1996). Beads making is an indigenous industry in the Krobo communities in Ghana. Apart from agricultural activities, one of the major economic activities engaged in by these rural dwellers is indigenous glass bead making (Lower Manya Krobo District Assembly, 2014; Upper Manya Krobo District Assembly, 2014). It is however, asserted that IK in Africa are being wiped out as a result of the rapid changes accruing from rapidly changing natural environments, and imported economic culture and political development models through globalization (Bray & Els, 2007:3; World Bank, 1997 cited in Mutema, 2013:59). Indigenous knowledge is under threat from modern technology because even in remote areas the powers that push global or just non-local content such as radio and television broadcasting and advertising among others, are much stronger than those pulling local content (Nyumba cited in Mapara, 2009). Again, indigenous and local people are often secretive and scared of documenting their knowledge outside their customary oral exchange (Okorafor, 2010). Consequently, most of the IK have largely remained undocumented in developing countries including Ghana (Mascarenhas, 2004:4). Failure to maintain adequate records and other systems of managing and preserve indigenous knowledge means that much of it is being lost (Agea, Lugangwa, Obua & Kambugu, 2008).

Further, the existing global intellectual property practices inadequately protect indigenous culture and knowledge from development, and often exploitation (Andanda, 2012:549; Anderson, 2010; Simeone, 2004; Wekundah, 2010). This is because the emphasis of the existing western intellectual property rights systems on individual proprietary rights, as well as the time limit within which IPR laws operate do not address the collective nature of traditional knowledge, indigenous clan designs, and rock art that first existed in material form thousands of years ago and remains part of the particular indigenous culture in perpetuity (Janke & Dawson, 2012:10). Therefore, due to the absence of any effective mechanism to protect IK, most of this knowledge has been exposed to what is termed the public domain (Anderson, 2010; Wekundah, 2010), thereby making it available for misappropriation.

ICTs have also been identified as one of the elements that enhance knowledge management process (Small & Tatalias, 2000; UNDP, 2012; World Bank, 2008: 5). This study explored how technology could be used to capture, manage and make IK accessible (Ngulube & Lwoga, 2007), and the possibility of providing content management solutions if it is deployed with proper guidance from policies and knowledge manager (Ngulube & Lwoga, 2007). The purpose of this study was to make a modest contribution to the conceptual development of KM studies on management of indigenous knowledge with the attention on managing beads making IK in the Krobo communities in the Eastern Region of Ghana, and it has proposed a KM model that can be used to manage IK in rural communities.

CONCEPTUAL FRAMEWORK

Conceptual framework of a research explains either graphically or in a narrative form, the main things to be studied-the key factors, constructs or variables and the presumed relationships among them (Miles & Huberman, 1994). Choosing a suitable conceptual approach for KM practices requires an understanding of both the available KM approaches and the knowledge problem involved (Probst, Raub, & Romhardt, 2000). It is also asserted that relying on only one KM approach may limit organisations to a range of possible solutions for KM practices (Probst, Raub, & Romhardt, 2000). Consequently, the conceptual framework of this study was based on nine western oriented KM models (Nonaka and Takeuchi, 2000; Melkas, and Harmaakorpi, 2005; Boisot, 1987; Davenport, 1998; Probst, et al., 2000; Rowley, 2001 Kruger and Snyman, 2005; McAdam and McCreedy, 1999:2000;, 1995; Small and Tattalias, 2000).

Nonaka's (1994) dynamic theory of organizational knowledge creation posits that organizational knowledge is created through a continuous dialogue between tacit and explicit knowledge through four patterns of interactions, socialization, combination, internalization and externalization. Nonaka, Toyama and Konno (2000) further improved the model of knowledge creation which is made up of three elements: (i) the SECI process, the process of knowledge creation through conversion between tacit and explicit knowledge through socialisation, extenalisation, combination and internalization. (ii) *ba* which is a shared context in motion, in other words the environment and conditions within which knowledge is created, shared and utilized.

The extended SECI model of Uotila, Melkas, and Harmaakorpi (2005), added two knowledge conversion phases to the SECI model: potentialisation and visualisation that constitute a third form of knowledge. It emphasis the ability to sense the presence of the potential of particular knowledge, to see what does not yet exist, which is usually associated

with artists. Small and Tattalias's (2000) KM model emphasized that elements such are strategy, measurement, policy, content, process, technology and culture,   can impact knowledge creation activities such as knowledge capture, knowledge exchange, knowledge reuse, and knowledge internalization. Earl (2001) schools of KM on the other hand stressed technocratic, economic and behavioral approaches to knowledge management. Technocratic schools address the idea that specialist knowledge should be validated, mapped, captured, codified, controlled and und updated in knowledge bases. The economic schools place more emphasis on exploitation of knowledge and less on exploration of knowledge while the behavioral schools promote the breaking down of knowledge barriers and sharing knowledge.

McAdam & McCreedy (1999) propose KM processes in a recursive flow, which include: construction of knowledge; embodiment of knowledge, dissemination of knowledge and economic use of knowledge. Rowley's (2001) KM model, the Learning with Knowledge Cycle (LK Cycle), outlines the KM processes in a sequence of a cycle, which includes: knowledge acquisition, creation and construction, knowledge articulation and sharing, knowledge repositories updating, knowledge diffusion, access and dissemination, knowledge use and knowledge revision. The Cycle represents the learning process within organisations and is applicable to both tacit and explicit knowledge.

Probst, Raub and Romhardt (2000) also identified six basic processes of KM principles. These are;   (1). Knowledge identification: analyses and describes the company's knowledge from both internal and external environment.   (2) Knowledge acquisition: imports a substantial part of knowledge from outside sources. (3) Knowledge development: focuses on generating new skills, new products, better ideas and more efficient processes. (4) Knowledge sharing and distribution: gets knowledge to the right place. (5) Knowledge utilization: ensures that the present knowledge is applied productively for the benefit of that organization, and   (6) Knowledge retention: Selects stores and regularly updates knowledge for potential future value; knowledge goals and knowledge assessment which further extends the KM concept into a management system.

Davenport (1998) on the other hand provides ten principles that govern or guide KM in organizations. These principles include KM is expensive; effective management of knowledge requires hybrid solutions of people and technology. Others are KM is highly political; KM requires knowledge managers and KM benefits more from maps than models. In addition, sharing and using knowledge are often unnatural acts, KM means improving knowledge work processes; knowledge access is only the beginning; KM never ends; and KM requires a knowledge contract.

Similarly, Kruger and Snyman (2005) proposed that knowledge management strategies will need to adhere to guidelines supplied by knowledge management principles (as encapsulated within policy) and governance supplied by business strategy (as encapsulated within a knowledge strategy). Thus before institutions embark on knowledge management initiatives they should decide on knowledge management principles and that not only should principles be encapsulated within policy, but also that the strategic management process (strategic requirements for knowledge leading to a knowledge strategy) be used to determining the priority of principles i.e. strategy acting as a filter in seceding the allocation of resources to successfully institutionalse principles (Kruger & Synman, 2005:78).

From the discussion of the nine KM models, it can be said that all of these models are based on formal organizational systems and institutions with western orientation. Although the extended SECI was proposed to facilitate regional KM, it was also based on formal institutions. The models also stressed the identification of KM principles that could be used to guide or influence the implementation of KM processes in organizations (Davenport, 1998; Probst, Raub & Romhardt, 2000; Nonaka et al., 2000; Small & Tatalias, 2000; Kruger & Snyman, 2005; Uotila, Melkas, and Harmaakorpi, 2005). Some of these principles are: the development of a policy, vision, future potential of a particular knowledge, strategy, leadership, and legal frameworks (Davenport, 1998; Probst, Raub & Romhardt, 2000; Small and Tatalias, 2000; Uotila, Melkas, and Harmaakorpi, 2005). Other principals include: measurement, content, culture, process and technology (Small & Tatalias, 2000).

Again, it is clear that these models emphasize the implementation of KM processes for the effective management of knowledge in organisations (Probst, Raub and Romhardt; 2000 McAdam & McCreedy, 1999; Small & Tatalias, 2000; Rowley, 2001.). Likewise, Uotila, Melkas and Harmaakorpi (2005) proposed the extended SECI model including self-transcending knowledge which will aid regional knowledge management by creating a vision to synchronise the network. This study adopted KM processes such as knowledge creation, recognition/identification, acquisition, sharing, preservation, and application/utilizing, as well as KM principles such as vision, policy, goals, culture, future potential, a legal framework, and ICTs which were to be used to guide or influence the implementation of KM processes in rural communities.

METHODOLOGY

This study mainly employed qualitative approach. Phenomenology strategy was used. Snowball and

purposeful sampling techniques were used to select the sample for the study. Purposive sampling technique was used to select the three Krobo districts and two villages/towns from each district due to the concentration of beads producers in these areas. The districts selected for the study were Yilo Krobo, Lower, and Upper Manya Krobo. The villages/towns involved in the study were Odumase-Krobo, Otrokper, Somanya, Tsebitɛhe, Siblino, and Ahabaso.   Purposive sampling was also used to select one chief and one queen mother from each of the two Krobo traditional areas. The traditional areas were Manya and Yilo Krobo. Further, purposive sampling procedure was used to select government officials who were directly involved in IK management Snowball sampling technique was used to sample the bead producers in each villiage,   in that they were scartered within the six villages/towns. With this sampling technique the researcher collected data on the few beads producers she could locate, and then asked those individuals to provide information needed to locate other beads producers whom they knew within their villages.

The data collection instruments used were semi participant observation, semi-structured interview, and focus group discussions through information mapping. The semi-structured interview guide focused on how the beads producers acquire, share and preserve beads making knowledge within the communities, where they acquired and share beads making knowledge and how they preserved beads making IK within the communities. The focus group discussions and semi-participants observation were used to supplement data collected from the semi-structured interviews. The different data collection methods were triangulated in order to compare their results for inconsistent, contradictory and convergent findings (Ngulube & Ngulube, 2017), so as to avoid errors or bias and to ensure the trustworthiness of the findings. Participants were recruited and interviewed until no new information is emerging from the participants' stories that is, when saturation was reached (Krueger & Casey, 2000:26; Glaser & Strauss, 1967; Morse, 1995).

A total of 57 beads producers and four (4) traditional rulers participated in the semi-structured interviews and focus group discussions. Forty one (41) participated in the focus group discussions while (20) of them were interviewed. One focus group discussion was held in each village within each district, and each focus group comprised of 6-7 participants. This was made of Yilo Krobo fourteen (14), Lower Manya fourteen (14), and Upper Manya thirteen (13). Again, a total of twelve (12) officials who were involved in IK management were interviewed. The officials included Registrar Generals' Department --1, Copy Right Society of Ghana—1, Folklore Board---1, National Commission on Culture---3, Librarians---3, Education officers—3.

Thematic data analysis strategy was used by the study.

Data were extracted manually from the transcripts and summarized into various themes. This was done by transcribing data, taking note of items of interest, coding across the entire data set, searching for themes, reviewing themes by mapping provisional themes and their relationships, defining and renaming themes, and finalizing analysis. In cases where most participants gave similar strong views to a particular issue during the interviews and focus group discussions three or more separate views from different groups of people were presented in series, and then a single quotation which illustrated the minority view was presented.

THE FINDINGS

The discussion of the findings was done based on the sources of acquisition, sharing and preservation of beads making IK within the communities, application of ICTs in managing beads making IK, the future potential of the beads making industry as well as the various laws available for protecting IK in Ghana.

The participants (Table 1) were made up (21, 34.4%) women and (40, 65.5%) men. The age distribution of the participants were, 18-23 (19, 31.1%), 24-32 (20, 32.7%), 33-40 (11, 18.0%), 41-45 (7, 11.5%), and (4, 6.5%) were 46 years and above. Most of the beads producers (49, 80.3%) had some form of formal education, while (12, 19.6%) did not have formal education. Those who had formal education include (13, 21.3%) primary education, (20, 32.7%) middle or junior high secondary education, (13, 21.3%) senior high secondary education, while (2, 3.2%) were polytechnic students and (1, 1.6%) had university education.

The IK management officials (Table 2) were made up of (7, 58.3%) males and (5, 41.6%) females. Most of them were between the ages of 39-60 (5, 41.6%), three (3, 25%) were between 32 and 38, two (2, 16 %) of them were above sixty years, while (2, 16.6%) were between 25 and 37. Majority (4, 33.3%) had first degrees, followed by (2, 16.6%) senior high secondary education, diploma, (2, 16%.6), M'Phil (1, 8.3%) MA, and (1, 8.3%) PhD.

Acquisition of beads making indigenous knowledge in the communities

The major source of IK acquisition mentioned by most 11 (55%) of the beads producers was family/guardian/parents. As indicated by one participants *"in our community bead making is part of the family,   therefore children in our families*

pick up the skills in bead making by the time they reach adolescent because they are involved in all the processes, they learn from their parents, elderly siblings and other relatives". Other

Table 1: Background of beads producers and traditional leaders

Variable	Categories	Frequency (N)	Percentage (%)
Gender	Female	21	34.4%
	Male	40	65.5%
Age distribution	14-23	19	31.1%
	24-32	20	32.7%
	33-40	11	18.0%
	41-45	7	11.5%
	46 years and above	4	6.5%
Educational background	Non-Formal Education	12	19.6%
	Formal Education	49	80.3%
	Primary School	13	21.3%
	Middle/Junior High Secondary	20	32.7%
	Senior High Secondary	13	21.3%
	Polytechnic	2	3.2%
	University	1	1.6%

Table 2: Background of IK management officials

Variable	Categories	Frequency (N)	Percentage (%)
Gender	Female	5	41.6%
	Male	7	58.3%
Age distribution	25-37	2	16.6%
	32-38	3	25%
	39-60	5	41.6%
	60 and above	2	16.6%
Educational background	Senior High Secondary	2	16.6%
	Diploma	2	16.6%
	First degree	5	41.6%
	MA	1	8.3%
	M'Phil	1	8.3%
	PhD	1	8.3%

sources stated were apprenticeship 4(20%), husbands 3(15%), as one participant recounted *"when I married my husband he was making beads hence, I decided to learn it so that I can also contribute to bring income to the family".* These women have been working with their husbands in the beads industry. Some 2(10%) of the participants indicated beads association meetings. Other sources mentioned were beads festivals 2(10%), friends and neighbours 2(10%), and formal sources, such as seminars, workshops, exhibitions and researchers 2(10%). From the information maps the participants disclosed that most 22(53.6%) of them learnt how to make beads from their immediate family members. Some 7(17.07%) said apprenticeship, others 7(17.07%) mentioned friends and neighbours, some 3(7.3%) stated their husbands. Other sources mentioned were beads making associations 3(7.3%) and workshops and seminars 2(4.9%). This could be attributed to the fact that these sources were readily available and reliable.

Sharing and distribution of beads making IK in the local communities

When the participants were asked to indicate how they shared beads making IK, they indicated that they did so through folklore, cultural practices (child naming and marriage ceremonies, puberty rites for girls, festivals and funeral celebrations), apprenticeship, and beads making associations.

Folklore practices

The major folklore practice mentioned by the participants for sharing beads making IK was traditional dance 8(14.03%), others 5(8.8%) stated songs, some 4 (7.1%) indicated storytelling and appellation; some mentioned proverbs 2(3.5%) while one of them stated dirges 1(1.7%). From the information maps some 22(56.6%) of the participants indicated that the major folklore practice that influence IK sharing in the communities was songs, some 11(26.8%) indicated traditional dance, others 7(17.1%) mentioned storytelling, some 2(4.9%) stated appellation and proverbs while one 1(2.4%) of them mentioned dirges.

Child naming

   According to most 43(70.5%) of the beads producers as well as the traditional leaders beads play a significant role when naming a child within the communities. They said this is because there were some special beads that were used for naming a child. They indicated that these beads were 'kɔli, tovi and nyoli'. According to them one each of these beads are threaded together and put on the right wrist of the new born baby one week after the child was born on the day that the child would be given a name. According to the traditional leaders every family had these beads, and that in cases where a family looses any of them, then the family head would order for it to be made for the family.

Puberty rites for girls

   Most 52 (85.2%) of the participants indicated that the 'dipo' puberty rite performed for adolescent girls was used to share beads IK through its marketing, others 9(14.7%) mentioned its quality and value , some 7(11.5%) stated the wealth of a particular family depending on the quantities and quality of beads such a family had.

Festivals

   According to all the participants the yearly celebrations of the two traditional festivals ('Ngmayem' and 'Kloyosikplem') in the area are characterized by intensive wearing of beads.   According to some 25(40.9%) of the participants during these festival celebrations different types of beads with different designs were used to depict the status and wealth of people in the society. In the words of the paramount chief of Manya Krobo traditional area and one bead producer *"kpɔ or bodom" beads which are the biggest beads are worn by chiefs, queen mothers and some wealthy people in the society during festivals".* Some 7(11.5%) of the beads producers indicated that during the "Ngmayem" festival some of them attended the festival to observe and identify some ancient designs that they could adopt to create their own designs. As one of them illustrated *"during this festival the chiefs put on quality beads with ancient designs"*

Funeral celebrations

According to some 7(29.1%) of the participants who were interviewed during funerals, the corpse is dressed with beads; others 4(16.7%) indicated that sympathizers who come to the funeral also dressed with beads, while few 2(8.3%) of them indicated that the designs of funeral beads tell unique stories as noted by the Queen-mother of Manya Krobo traditional area, *"the designs of the beads that are put on during funerals are sometimes used to identify especially a widow in the case of when one husband dies"* Most 33(82.5%) of the participants who took part in the focus group discussions and the non-participant observations by the researcher confirmed that beads making knowledge were acquired and shared during these socio-cultural ceremonies in that beads were used extensively during all these celebrations in all the three districts surveyed.

Apprenticeships

   According to some 13(54.1%) of the participants who were interviewed beads making IK is shared through apprenticeships in the Krobo communities. Apart from beads making, Gari processing 4(16.6%) (a powered food

processed from cassava), was the predominant form of apprenticeship practiced in the communities, followed by basket weaving 2(8.3%), carpentry 2(8.3%), tailoring/dressmaking 1(4.1%) blacksmith/goldsmith and pottery 1(4.1%). These apprenticeships were location specific; for instance, bead making, blacksmith and basket weaving were practiced in all the three districts, whilst, goldsmith and pottery were found in the Lower Manya and Yilo Krobo Districts.

Preservation of beads making IK

When the participants were asked to indicate how they preserve their beads making knowledge, most 13(65%) of them said they preserved IK in their memory, only few 5(25%) of them said they preserved still pictures of their designs. Others 4(20%) indicated storing still pictures of their designs on their mobile phones while some 3(15%) stated drawing of their designs on walls and in books. Only few 2(10%) of the participants said they had written down the process of making beads in books. From the information maps most 29(70.7%) of the participants said they basically preserved their IK in their memory, only few 11(26.8%) of them indicated that they preserved their knowledge on beads making in the form of still pictures, others 5(12.2%) stated that they stored their designs on their mobile phones, some 5(12.2%) mentioned drawings of their designs on walls and in books, others 2(4.8%) indicated that they had recorded the process of making beads in books, while three 3(7.3%) of them said they stored processes of making beads in the computer. Through the various observations the researcher had realized that few (3) of the participants had written down the processes of producing some of the beads in books.

Culture influence on IK

From the various observations and interviews it was realized that IK was transmitted according to gender due to cultural practices that existed in the local communities. According to most 32(52.4%) of the participants apprenticeship for example, was practiced according to gender in the local communities. Some 21(34.4%) of the participants said although both girls and boys could learn bead making, goldsmith, sewing, and 'gari' processing, young women usually learn pottery and hairdressing, while young men were allowed to learn carpentry, blacksmith, basket weaving, welding, palm wine tapping, and of repairing cars, car tires, fridges, radio, and cycles. One 1(1.6%) of the participants however, said these days some girls learnt some of the trades that hitherto were the preserve of boys. Again, the participants said in the local communities surveyed, puberty rites were performed for only adolescent girls and during this period a lot were learnt about beads. Hence, traditional culture dictated the extent to which women and men could access and share different forms of IK within the communities.

Using ICTs to manage beads making IK

This study explored how ICTs could be used to acquire, share, preserve, manage and make IK accessible to users. The beads producers were asked if they had used ICTs to acquire beads making IK. Some 11(55%) of the participants interviewed indicated using mobile phones to acquire bead making IK, others 5(25%) mentioned radio while a few 2(10%) of them also stated television and Internet 2(10%). According to some 7(35%) of them they used mobile phones to access information on sources and cost of raw materials, colour work, and adoption of colleagues' designs. Others 4(20%) indicated that mobile phone, radio and television were used to find out current prices of beads, while some 2(10%) indicated that they used e-mail to find out about current prices of beads. Some 7(35%) said they used mobile phones to receive and pay monies to their customers and suppliers respectively. From the information maps most 23(56.1%) of the participants confirmed that the main ICT they used to acquire beads making IK was mobile phones, some 13(31.7%) confirmed using the mobile phone to receive and send money to their customers and suppliers, some 6(14.6%) indicated radio, others 3(7.3%) stated television, while a few 2(4.8%) of them said they used Internet and e-mail to acquire IK.

In sharing beads making IK only nine 9(45%) of the participants indicated using ICTs to share their knowledge. This was done through mobile phones 6(30%) while few 2(10%) of them indicated that they used e-mail and Internet to share beads making IK. From the information maps, only 11(26.8%) of the participants said they used mobile phones to share IK, while few 2(4.8%) of them noted using e-mail to share their knowledge on beads making.

Further, some 8(40%) of the participants said they had preserved beads making IK (pictures of their designs) on their mobile phones, while few of them 2(10%) indicated using computers to preserve bead making processes, as well as pictures of their designs. From the information maps most 31(75.6%) of the participants indicated that they did not use ICTs to preserve IK, while few 10(24.3%) of them indicated using mobile phone and computers to preserve IK in the form of designs, methods and processes of making beads. The findings illustrate that the major ICT used by the participants to manage IK was the mobile phone. This findings also revealed that some 19(31.1%) of the participants

indicated that they did not use ICTs to manage IK due to lack of initial money to acquire smart phones, television, computer and its accessories, other modern means of communication as well as maintenance cost, lack of electricity, lack of ICT infrastructure and technical know-how.

Vision

In order to be able to create and manage knowledge successfully, there is the needs to have a vision which directs the knowledge creating and management process. When the knowledge intermediaries were asked to indicate their visions for the beads industry/IK in general, some 3(25%) of them visualized a system where all the departments and agencies dealing with IK within and outside the region would be automated to facilitate interaction among them. Others 2(16.6%) indicated that their vision was to see a situation where IK in the region is recorded and preserved in written format in order to halt IK disappearance, to some 2(16.6%) their vision was that the cultural villages should be built, while others 3(25%) also wanted to see the inclusion of beads making in the curriculum of basic schools to help preserved its knowledge.

Future potential of the beads industry

The knowledge intermediaries were asked to rate the future potentials of the various IK industries within the region. According to some 6(50%) of the knowledge intermediaries among the indigenous industries in the Eastern Region of Ghana bead making had future potential followed by plant medicine 3(25%), carpentry and joinery 2(16.6%), cane basketry 1(8.3%), wood curving 1(8.3%), pottery and ceramics 1(8.3%). According to some 6(50%) of the participants the beads industry had a vibrant future potentials, in that bead is a jewelry that is recognized and used throughout world, and that Krobo beads are well known all over the world. The beads producers said currently a lot of beads traders from other countries such as Nigeria, Cote D'evoir, Niger and the USA come to buy beads from Ghana. According to the officials of the National Commission on Culture, the three Districts involved in this study are blessed with a lot of tourism sites such as the Boti Falls in the Yilo Krobo Distirct and the "Ancestral Home" of the Krobo on the Krobo Mountain in the Manya Krobo District. To them if the cultural villages were built and well managed it would have impact on other clusters such as tourism, traditional catering, fashion and design, the hotel industry, and emergence of new markets which would bring in foreign exchange and eventually create jobs to alleviate poverty.

Importance of policies and laws in IK management in Ghana

The traditional authorities were asked if they had put some policies/laws in place to protect IK. According to the participants there were no formal traditional policies or laws put in place to facilitate beads making IK protection/management in the area. When the knowledge intermediaries were asked if there were laws that protected IK in Ghana, according to the official of the Folklore Board the Copyright Act of 2005 (Act 690**)** protects folklore in Ghana. This includes verbal expressions such as folk tales, folk poetry and riddles; expression by musical sounds such as folk songs and instrumental music; expression by human body such as folk dances, plays and artistic forms of rituals; and in the last category were drawings, paintings, carvings, sculptures, pottery, terracotta, mosaic, woodwork, mental ware, jewelry, basket weaving, needle-work, textiles, carpets, costumes, musical instruments and architectural forms (National Folklore Board, 2005). However, beads making had not been included in the list of folklore activities that were covered under the copyright act of 2005. Again, according to the official of the Registrar General's Department the technology of producing these folklore products were not covered by the Act. According to the participant currently, Ghana has no laws on traditional knowledge and genetic recourses, and that the drafted Bill on plant breeders' right (plant varieties protection) which was first prepared in 2002 had not yet been passed by Parliament.

DISCUSSION OF FINDINGS

The findings of the study established that the main type of beads making knowledge within the communities was tacit, in that according to the bead makers they acquired this knowledge from local sources such as family/guardian/parents, apprenticeship, husbands, neighbors and social groups gathering.   The participants made little use of formal sources, such as seminars, workshops and bead exhibitions to acquire IK. Likewise, printed materials such as books were not consulted so much by the bead producers in their bead making process. These findings were in consistent with Akullo et al. (2007) and   Lwoga (2010) who reported that local sources were the major sources of agricultural IK by farmers as compared to formal sources of knowledge in Uganda and Tanzania respectively**.** Probst, Raub and Romhardt (2000) on the other hand indicated that indigenous knowledge could be acquired from within and outside the communities of IK users

Again, according to the beads producers they share IK within the communities through apprenticeship, bead making associations, folklore practices (songs, traditional drumming and dancing, appellations, dirges), and cultural practices (naming ceremonies, puberty rites, marriage, festivals, initiation of chiefs and queen mothers). Lwogah, Ngulube and Stilwell (2010) reported that similar practices were used to share IK within the communities in Tanzania.

The participants also said they basically preserved beads making IK in their memory which is highly prone to its gradual disappearance due to memory lost and death. Out of the fifty seven (57) bead producers involved in the study 42(73.7%) said they basically stored their knowledge in their memory. Only 15(26.6%) reported preserving their knowledge in explicit form. This finding supports Mearns and du Toit (2008) study which showed that the rate of indigenous knowledge conservation at cultural villages was rated as fairly poor in South Africa.

Likewise, Lwoga (2010) reported that only (24, 13.3%) out of 181 respondents indicated preserving their knowledge in explicit form.

Further, the findings revealed that only few of the beads producers used ICTs to acquire, share and preserve bead making IK. This finding supports Mwakaje (2010) cited in Arua (2016) who noted that even though 72% of the respondents owned mobile phones only 23% of them used ICTs to access market information.

Harmaakorpi and Melkas (2005) and Uotila, Melkas, and Harmaakorp (2005) posits that Visualisation is where self-transcending knowledge is embodied from the abstract to visions, feelings and mental models. The findings established that most of the knowledge intermediaries visualized a system where all the departments and agencies dealing with IK within and outside the eastern region of Ghana would be automated to facilitate interaction among them. Others indicated that their vision was to see a situation where IK in the region is recorded in explicit form in order to aid its preservation to halt IK disappearance. To some their vision was that the cultural villages should be built as well wanted to see the inclusion of the beads making in the curriculum of basic schools to help preserve its knowledge.

The Extended SECI model indicated that potentialisation forms the basis for sensing the future potentials of the beads making industry and seeing what does not yet exist (Harmaakorpi & Melkas, 2005; Uotila, Melkas, & Harmaakorpi, 2005). According to knowledge intermediaries the beads industry had vibrant future potentials, in that Krobo beads are well known all over the world. The participants said currently a lot of beads traders from other countries such as Nigeria, Cote D'evoir, Niger and the USA come to buy beads from Ghana. They said if the cultural villages had been built in the Krobo three districts, and well managed it would have impact on other clusters such as tourism, traditional catering, fashion and design, the hotel industry, and emergence of new markets which would bring in foreign exchange and eventually create jobs to alleviate poverty.

The findings also established that Ghana had no laws that protect IK and that the most weakest part of IPRs system in the country was its enforcement, which had resulted in misappropriation of IK by both nationals and foreigners under the pretence of intellectual property rights. Likewise, Ojomah and Onoyeyan (2015) revealed that indigenous knowledge in Ilishan Remo in Nigeria at various points in times had been misappropriated and that Ilishan community protects its IK by restricting non indigenes from viewing and participating in their indigenous practices. Further, they indicated that local laws used in deterring third parties from having knowledge of the community's culture is not supported by the government's law in Nigeria.

CONCLUSION

The findings of the study revealed that the KM models reviewed were developed based on western and formal institutions orientation. Consequently, they did not capture issues pertaining to rural communities. The study revealed that IK was acquired and shared through various socio-cultural practices within the communities, and that it was preserved in the memory of participants.   Hence, some of the participants said they have lost the techniques of producing some ancient designs. Again, the findings showed that only a few of the participants acquired, shared and preserve IK using ICTs. It also showed that vision, policy, laws, culture and future potential of IK are relevant in facilitating management of IK in developing countries with rural communities.

Proposed regional IK management model

Based on the findings, this study is proposing a KM model for managing regional IK in local communities, which stipulates that the potential of knowledge for the development of the beads making industry be conceptualized within the framework of the targeted community. Since majority of the bead producers' knowledge is tacit and it is woven in oral communication and cultural practices, rather than in knowledge asserts or ICTs. According to the beads producers they basically acquired and shared IK through face-to-face communication, while they preserved IK in their memory. Acquisition and sharing of IK were done between individual beads producers and amongst beads making association's interactions, as well as through folklore, and cultural and religious practices in the local communities.

The knowledge intermediaries at the centre of the model interact with the bead producers (at individual and group

levels) to aid them collect and preserve this knowledge while at the same time helping the beads producers to acquire new skills such as product finishing, product branding/packaging, marketing and ICT skills. The knowledge intermediaries are NGOS, librarians, information centres, researchers, and government officials such as the National Commission on Culture and the Folklore Board who work directly with the beads producers. Policy makers in the bigger circle coordinate the activities of the beads producers and the knowledge intermediaries. This is important because without their oversight responsibility and provision of resources the anticipated vision for IK management within the region may not be achieved.

Based on the review of the various KM models and the findings of this study, the KM model proposed by this study for local communities in regional IK management in developing countries is emphasizing that the principles (facilitators) at the top of the model should first be determine in order to facilitate KM process in the local communities and the region. Knowledge vision gives a direction to the knowledge-creating process and the knowledge created in it, as well as defines the value system that evaluates, justifies and determines the quality of knowledge that the network creates. Policy emphasized management of knowledge and guides the strategy that brings about the infrastructure that manages and preserves IK.

The goals guide the activities of the key stakeholders within the knowledge management processes; identification of future potentials of a particular IK helps to identify knowledge clusters within the region that a particular IK management initiative may influence. This will help to identify activities that will be initiated to develop those clusters too. Mapping helps in identifying and selecting relevant knowledge that needs to be supported, developed and knowledge barriers. Committed leadership coordinates KM activities, relevant ICTs facilitates acquisition, sharing and preservation of IK, culture of the local people influence KM activities to be perused; and conducive context and space supports knowledge creation. ICTs are relevant in fast tracking the activities of KM, however, unavailability of ICTs in the communities should not be a hindrance to embarking on IK management projects in the local communities, since according to most of the beads producers they acquired, shared and preserved IK through oral communication and the various socio-cultural practices within the communities. Thus, IK is rooted within certain socio-cultural norms and practices in their localities.

Further, the KM processes are presented in a cycle beginning with knowledge recognition or identification, knowledge acquisition, knowledge development/generating, knowledge validation, knowledge application, knowledge sharing/distribution, and knowledge preservation. With this process each stage of the process incorporates both tacit and explicit sources of indigenous knowledge within the communities. (Figure 1)
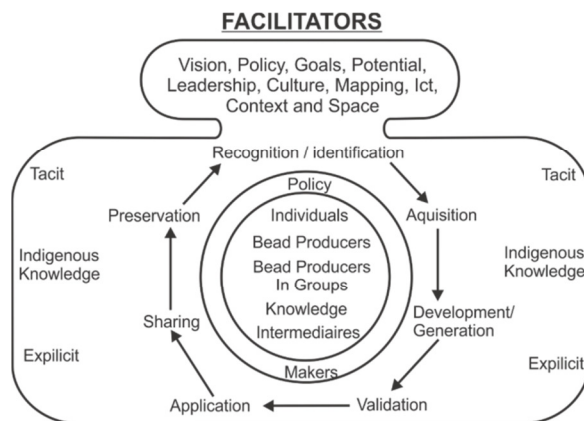

Figure 1. Proposed regional IK management model

LIMITATIONS OF THE MODEL

The proposed KM model by this study is expected to explain a means of understanding and managing IK within regional innovation programmes in developing countries. The proposed model has not yet been empirically tested. There is therefore, the need to conduct a research study through a qualitative approach using the proposed model. This should be done in comparison with other tested existing KM models in specific context such as regions with indigenous communities in developing countries to determine whether it can be used to explain the relationship between KM facilitators/principles and processes. The relationship between KM facilitators/principles (vision, policy, goals, future potential, leadership, mapping, culture, ICTs, space and context) and KM processes (knowledge recognition/identification, knowledge acquisition, knowledge generation/development, knowledge validation, knowledge application, knowledge sharing, and knowledge preservation) need to be studied to help improve upon the model. Again, the model was developed to be applied in managing indigenous knowledge in regions with rural communities.

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Full Length Research

Challenges and Information Seeking Behaviors of Cancer Patients: A Qualitative Case Study of Cancer Patients in Lere Local Government Area of Kaduna State, Nigeria

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Cancer is one of the delicate diseases that require extra careful attention to individuals who were diagnosed with its complications. As such this study aims at finding out the challenges and sources of information consulted by cancer patients in Lere local government area of Kaduna state, Nigeria. In order to achieve this unique objective, qualitative research methodology was adopted and interviewed five (5) participants. Findings of this study revealed that insufficient fund, inadequate cancer specialist and poor family support were the challenges faced by cancer patients in this case study. Furthermore, co-cancer patients, religious leaders, and residents' neighbors were the sources of information consulted by cancer patients in Lere local government area of Kaduna state, Nigeria Metropolis. Finally, the researchers proposed some recommendations for practical intervention.

Keywords: Challenges, information seeking behavior, Cancer Patients, Health related information, qualitative case study, thematic analysis.

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INTRODUCTION

Cancer is one of the deadly diseases that accommodate a subject of concern in the field of medical profession and societal development. Even though cancer is a deadly disease, there are possible signs which an individual needs to be familiar with such as lump, abnormal bleeding, prolonged cough, unexplained weight loss and a change in bowel movements. National Health Service (2018) claimed that over 90.5 million people are diagnosed with cancer complications, while about 8.8 million cancer patients reported death around the globe (World Health Organization, 2018). Moreover, there are cases of cancer complications in Africa. For example, in Nigeria about 80,000 Nigerians lost their precious lives as a result of cancer complications annually (W.H.O., 2018).

In order to address the issue of cancer complications, several scholars approached the problem from different perspectives. For instance, the study of Arora N., Johnson P., Gustafson DH., McTavish F., Hawkins RP. & Pingree S. (2002) identified the barriers to information access among cancer patients. While, Ashing & Lim (2004) identified and discussed the emotional outcome of cancer patients. On the other hand, Deering (1996) identified the health information demands and delivery for cancer patients. While, Luker KA., Beaver K., Leinster SJ.&Owens RG (1996) identified the information needs and sources of information for women with breast cancer.

Even though these studies have helped for better understanding of cancer approaches, to the best of our knowledge at the time of conducting this study there is no one single empirical study that view cancer complications from the perspective of the challenges and sources of information cancer patients consults specifically in Lere local government area of Kaduna state, Nigeria.

What is known?

Scholars from different profession have discussed the concept of cancer, types of cancer, signs of cancer, causes of cancer, effects of cancer, information needs of cancer patients and cancer medications.

What is Unknown?

In this study, the researchers confirmed that at the time of conducting this study there is no one single empirical study that identified and discussed the challenges and sources of information cancer patients consulted in Lere local government area of Kaduna state, Nigeria.

METHOD

In order to collect relevant data for this study, qualitative case study approach was adopted and design semi-structured interview for cancer participants. Qualitative case study is an excellent approach for clear understanding of individuals' inner-pains and real-life experiences (Cohen D. &Crabtree B., 2006).

Procedure

Relevant data for this study was collected through face to face interview with cancer patients in Lere local government area of Kaduna state. Initially, before the commencement of the interview the researchers seek the participants' consent and explained to them in details about the study aims and objectives. The interview was conducted at various participants' choice of locations within Lere metropolis. Questions were asked about the challenges they face with regards to cancer complications and the sources of information they consulted in order to overcome the challenges.

Analysis

All data collected in this study was analyzed based on thematic analysis phases. Thematic analysis is a qualitative analytical method for identifying, analyzing and reporting patterns, themes, phrases and key words in minimally organized and describable data in rich and detail. (Braun V. & Clarke V., 2006).

Phase 1: The entire voice recorded interview was transcribed into written document while later, the researchers carefully read and re-read the data more than five times with the help of highlighter pen in order to search for themes or phrases which directly answered the research questions.
Phase 2: Open codes (themes or phrases which directly answered the research questions) were identified from the participants narratives.
Phase 3: Open codes were condensed together and formed sub-categories.
Phase 4: Sub- categories based on a particular research question were grouped together (related sub-categories) and formed several themes.

Ethical Considerations

Ethical considerations in research refer to a designated policy protecting the reputation of participants under investigation. For the purpose of this study, the researchers explained the study purpose, objectives and the whole research process to the participants before obtaining their consent to participate. Moreover, the researchers assured the

participants that should anyone of them wants to discontinue during the course of the research he/she will be free to do so. Confidentiality and anonymity was censured by protecting the privacy of the research participants for not exposing their names at any stage in this research.

RESULTS

The raw data collected and analyzed from the interview conducted with five cancer patients in Lere local government area of Kaduna state with regards to the challenges they are facing and which source of information they consult in order to overcome the challenge emerged the following themes as described below.

The table1 represents the challenges facing cancer patients in Lere local government area of Kaduna state.

Table 1. Challenges Facing Cancer Patients in Lere Local Government Area of Kaduna State, Nigeria

Investigation	Themes
What challenges are facing cancer patients in Lere local government area of Kaduna state, Nigeria?	Poor family Support
	Inadequate cancer specialist
	Insufficient fund

Table 2. Sources of Cancer Information Consulted By Cancer Patients in Lere Local Government of Kaduna State

Investigation	Themes
What sources of information do cancer patients in Lere local government of Kaduna state consult to overcome their challenges?	Cancer patients
	Resident Neighbors
	Religious leaders

The table1 consist three (3) themes which were explained below.

Poor family support

Poor family support was one of the challenges facing cancer patients in Lere local government area of Kaduna state. For example in the words of participant he narrated how difficult he usually found himself as a cancer patient due to absent of family members' supports when he stated that:

"Ah, you (the interviewer) see most of the time at night I found it very difficult to go the toilet, I usually spoil my cloth. This happen to me because my family members don't care about my wellbeing ever since I was diagnosed with cancer (paused for a while and share tears)"

Similar complain was reported by another participant when he stated that:

"Am, sir my major challenge with is this disease (cancer) is that I have no designated and assigned individual from my family that would be staying with me at home and also who will be escorting me to the hospital for medical checkup"

Inadequate cancer specialists

Another challenges claimed by cancer patients in this case study was inadequate cancer specialists in their community. This claim was evident in the confession of one participant when he stated that:

"Well, as you can see in our village we lack specialist that will attend to our cancer complications so am really suffering when am in pain. We have to travel from Lere to A.B.U Teaching hospital in Shika Zaria and seriously is not easy at all."

Contrary to the above narration another participant stated how trusted he usually became when he stated that:

"Eh! One of my problems with this cancer disease is that we don't have enough professionals that specialized with cancer diseases. So whenever I go to our local hospital they refer me to big hospital in the city and sometimes I don't even have enough money to buy three square meals talk less of travelling expenses."

Insufficient fund

The most prominent challenges of cancer patients in Lere local government area at the time of conducting this study is insufficient fund. This claim can be trace in the narration of one cancer patient when he stated that:

"Ah, you (the interviewer) see we are living in a small village and my occupation is farming and am just a small scale farmer. I don't have much money to cover up my medical expenses that is why some times I prepare to buy traditional medicine."

Another participant with different perception stated that:

"uhm! You know the economic hardship we are facing now presently in our country. So I found it very difficult to have money to buy even traditional medicine."

Table 2 represents the voices of cancer patients with regards to sources of information they consult that may help them overcome their everyday life challenges, which consists the following elaborated themes:

Cancer patients

One of the sources cancer patients in Lere local government area of Kaduna state consults was their prior experienced co-cancer patients at their disposal. For example in the word of one participant he claimed that:

"uhm. When I have new experience about this diseases (cancer) I normally call my people that are diagnosed with this cancer disease and ask them about some advices or information that may help me overcome the overwhelming challenge."

Another patient narrated how convenient he became when consulting his cancer patients with regards to any challenge he encounter when he stated that:

"Ah! My major source of information is noting rather than my partners in crime, am talking about cancer patients because I believe they will have best information that would assist me to overcome any challenge I faced."

Resident Neighbors

Cancer patients claimed that they also consult their neighbors with regards to any advice or information that may help them. For example one participant stated that:

"Well, like I told you earlier no one is taking care of me among my family members. So I normally ask my neighbors for help in terms of mobility and any other little they can offer for me to go to the hospital."

Another participant shared his point of view about his neighbors as a source of information when he stated that:

"Ah, sometimes I ask my neighbors to lend me money in or any information about any one that can assist me with money. So the information they gave me usually helps."

Religious leaders

One unique findings of this study is how one of the cancer patients in Lere local government area of Kaduna state consulted a respected religious leader in their community when he stated that:

"Ah, there was a time I told one Imam (Islamic leader) in our mosque to help me talk to my family members about my conditions, and believe me his intervention really helps because now some of them are really helping me in one way or the other."

Data discussion

The findings of this study were discussed below:

1. This study found that poor family support has negative impact to cancer patients. Poor family support in African culture to any kind of disease usually leads to desperations, anxiety and loss of hope from health quick recovery. Moreover, inadequate cancer specialists was another challenges faced by cancer patients in this case study. Inadequate specialists to a particular disease in every human community is a very set back to health systems that may leads to health complications such as wrong diagnosis and sudden death. Furthermore, insufficient fund has been reported as one of the challenges facing cancer patients in this study. Insufficient fund to cover medical bills has negative consequences to patients' physical and mental stabilities.

Contrary to above findings, the study conducted by Bingham A, Bishop A, Coffey P, Winkler J, Bradley J, Dzuba I & Agurto I. (2003) found out that ineffective infrastructure as well as long distance between facilities and clients' homes increase transportation costs and delay reporting results as challenges facing cancer patients in low-resource settings.

2 Co-cancer patients in this study were mentioned as one of the sources of information consulted by cancer patients in Lere local government area of Kaduna state. This indicates a good reasonable trust and respect to co-cancer patients because there are positive beliefs and comforts whenever individuals ask people who share the same social boundaries and common interest about a particular issue (challenges of cancer disease). However, Resident Neighbors were also sources of information cancer patients consulted in this study. This is not supersizing because in a typical Hausa community like Lere, people view their residents' neighbors as brothers' keepers that is why cancer patients in this case study consulted their resident neighbors to source for information that may help them to overcome their challenges. Meanwhile, Religious leaders were also reported as source of information in this study. Religious leaders are highly respectable personalities that have the privilege of dictating their followers' everyday life style including relationship with family members. Religious leaders in Lere local government area of Kaduna state are regards to semi-Gods that is why whatever decision they made it remains valid and no one would double cross their decision making. This unique personality they possess made them a good source of any kind of information (including cancer information).

Opposite of the above findings, the study accomplished by Kaplan C.P., Anna N., Sharon D., Monica L., Rena L., Toman J.L & Eliseo J. (2016) found that physicians, nurses, family/friends, printed materials and internet were the sources of cancer information consulted by Spanish-speakers in California.

CONCLUSION/RECOMMENDATIONS

This study concludes that cancer patients in Lere government area of Kaduna state experienced some challenges in their everyday life activities which include poor family supports, inadequate cancer specialist and insufficient fund. Moreover, the study found out that those cancer patients in this case study consult only their resident neighbors, religious leaders and co-cancer patients as sources of information to overcome their possible challenges. Therefore, the researchers made the followings recommendations for implementation.

1. There is a critical need for government officials and stakeholders of Lere government area of Kaduna state to be frequently organizing sensitization programs that would be capturing the challenges of cancer patients and how they can overcome the challenges effectively.

   2. Informational programs should be organize by health workers and communicate it to cancer patients in Lere government area of Kaduna state in order to create more awareness on how to cope with any everyday life experiences cancer patients may encounter.

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Declaration of conflicting interests

We declare that there is no any conflict of interest between the researchers and the cancer patients in this study.

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Full Length Research

Information and Communication Technology Training Needs of Academic Staff in Universities: A Window into Faculty of Medical Sciences, University of Jos, Jos, Nigeria

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This study determined the Information and Communication Technology training needs of academic staff in University of Jos, using the academics in the Faculty of Medical Sciences as a focal population. The study was guided by seven objectives. Survey research design was adopted for the study. The target population was all the 222 academics in the Faculty of Medical Sciences, University of Jos. Since, the population (222) was manageable, there was no sampling. Hence, all the academics were adopted in the research. The research instrument adopted was questionnaire. Data collected were analyzed using frequency counts and percentages. The findings of the study revealed among others that: the respondents have previous knowledge in the use of e-mail services; the type of training they received was through attending workshops; the training method they preferred was one to one instruction; the academics need training in Internet and online activities like browsing for materials for project writing, teaching and learning; incessant power failure was the major challenge the academic faced in the use of ICTs. However, it was recommended that: there is the need to expose these staff of the faculty to ICT training to enhance their skills in the use of ICTs. Efforts should also be made by the University management to look beyond development of programmes that merely focus on the training of academics in the operation of computers and ICT literacy per se but plans to work actively towards enabling Faculty of Medical Sciences academics to master ICT as an effective tool to improve teaching, research and learning in the university. The research therefore, conclude that the academics in Faculty of Medical Sciences, University of Jos, need training in the use of ICTs facilities especially, in the area of Internet and online activities.

Key words: ICTs, Training, Needs, Academics, University, Jos, Nigeria.

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INTRODUCTION

Mohamed & Osman (2014) defined training in the field of education as a planned program which consists of learning

opportunities offered to faculty members in the educational institution in order to improve their performance in their specific work. Maduna (2014) defined it as a regulator and as a planned voltage to provide manpower in the organization of certain knowledge, improving and developing their skills and capabilities, and changing its behavior and trends positively. However, Boon, Lutz & Marburger (2015) defined it as a planned activity designed to bring about changes in the individual and in the community in terms of information and experiences, skills, levels of performance, ways of working, and behavior and trends. Thus, this makes individual or group to be effective in doing their jobs in high production efficiency. Chan (2010) believes that the basic function of the training is to contribute in making the changes that will help in solving a large number of problems faced by the various institutions, including universities. Lyad (2015) pointed that the training needs is a group of changes and developments that are required regarding a person's information, skills, and attitudes. Thus, this was aimed at meeting the business requirements and confronts the problems that occur in the organization. Furthermore, Omotunde & Ajie (2017) believes that training needs must be determined in accordance with the foundations of objective criteria, based on scientific facts in light of the reality of work and personnel problems. Thus, it would help to address future problems because it is a preventive measure in protecting against these problems. In addition, it helps in determining the cost, time, and effort. Training needs is not something constant which is measured and determined once. Thus, it is a flexible concept (Dynamic) which varies according to the experiences of faculty members and their abilities. It is also affected by variables, local, and global developments which affects the educational institution. Therefore, training needs must be identified in any institution on a regular basis, so that training efficiency will be adapted with contemporary changes and requirements (Liu, 2015).

The training needs of the University and faculty members can be classified into three main categories which are necessary for every educational institution and every educational system. These training needs are namely: regular frequent needs; needs that relate to the problems of work arising from the lack of knowledge, skills and innovation; and needs that aims to meet the future needs in response to the requirements of the environment (Omotunde & Ajie, 2017). Hence, the lack of attention to these needs, both in terms of identifying them, or hand counted and assembled, often leads to loss of time, effort, and money (Maria & Rafael, 2010). This is confirmed by Saeed & Othman (2014) who accurately determined that the needs of the trainees must precede the design of any training program, until the program achieve the desired goals. The interest in identifying training needs provides information which contributes to the development of plans. Hence, this leads to the precise objectives of the training, and help in designing a targeted training program that bridges the gap between the current performance of the faculty member and the hoped performance (Alsabbag, 2014).

Information and Communication Technology (ICT) is increasingly becoming more wide spread throughout university education worldwide (Nwokedi & Nwokedi, 2018). This is in line with UNESCO's policy paper for change and development in higher education which urges higher education institutions to make greater use of the advantages offered by the advancement of communication technology to improve the provision and quality of their education (Lamtara, 2014). It is difficult and may be even impossible to imagine future learning environments that are not supported, in one way or another, by Information and Communication Technologies (ICT). When looking at the current widespread diffusion and use of ICT in modern societies, especially by the young – the so-called digital generation – then it should be clear that ICT will affect the complete learning process today and in the future (Liu, 2015). ICT has been proven to be a very important aspect of the teaching learning process. According to Veiga-Simₚo, Flore, Barros, Fernandes & Mesquita (2015) the quality of teaching depends on the quality of the teachers/lecturers which, in turn, depends to some extent on the quality of their professional development. Without well trained, qualified and committed teachers, it is impossible to deliver effectively functioning educational systems (Al-Asmar, 2009). In fact, to meet the challenges of globalization, lecturers are required to gain the necessary skills and knowledge. Although lecturers in tertiary institutions consider themselves to be knowledgeable and confident, due to the new expectations and challenges, they have a perception of a gap between their current knowledge and what they need to know to enhance their research and teaching. Training therefore became inevitable, training is generally seen to be a good thing; it is not too easy to send someone on an expensive ICT training course without being sure that the course is worthwhile, or even that, it is the right course for the person. Before this is done, it is quite important to take into account the lecturers' own perceptions about the areas in which they feel proficient, those in which they feel there is need to be trained and those areas in which they have deficiencies but they are completely unaware of them. This process should be based on a well-designed needs analysis phase. A needs analysis may identify more than one training need. These needs should be prioritized, and either placed into a formal training plan, or prepare a database for future training.

The use of electronic resources has in recent time been adopted by most higher learning institutions in Nigeria. However, the appropriate training for academic staff on how well to integrate it into their research output, learning and teaching process is at a worrisome state. Hence, the need to identify the ICT training needs required of the lecturers in Faculty of Medical Sciences, University of Jos, Nigeria, for effective teaching, research and training.

Background Information on the Faculty of Medical Sciences, University of Jos

The Faculty of Medical Sciences, University of Jos, started in October, 1977. It has twenty one departments – see table 1. The total number of lecturers in the Faculty of Medical Sciences, University of Jos, was two hundred and twenty two (222) as at the time of this investigation (University of Jos, Academic Planning Annual Report, 2016/2017 Academic Session). The faculty has a library (Medical Library) which is located few kilometers (3km) away from the faculty. However, the main library which the lecturers often preferred to visit (University of Jos Main Library) has a computer laboratory with 80 desktops all with free internet access for staff and students.

SIGNIFICANCE OF THE STUDY

The findings of this study are significant to the University of Jos management, NUC and the Federal Ministry of Education. This is because the findings from this research expose the ICTs training needs of academics in a university setting in Nigeria. This will help the Faculty and University Managements to identify the kind of ICTs training, the academics in the Faculties need. So that, they will focus their training workshops and conferences in that direction. The finding of this investigation is also significant to NUC because it will assist it in designing appropriate Policies that will back-up the training of staff in that direction. The results of this study is also significant to Ministry of Education because it will help it know the training needs of university academics and through the NUC, make funds available for training university academics in that direction. Nevertheless, the findings of this study will also contribute to the wealth of existing literature on ICTs training needs of university academics in Nigeria.

OBJECTIVES OF THE STUDY

The main objective of this investigation was to assess the Information and Communication Technology (ICT) Training Needs of Academic Staff in the Faculty of Medical Sciences, University of Jos, Nigeria. Specifically, this research seeks to determine the:

1.   Previous knowledge and skills in using ICTs facilities by Lecturers in the   Faculty of Medical Sciences, University of Jos, Jos;
2.   Type of training received by the lecturers;
3.   Training methods preferred by the lecturers;
4.   Need for training based on the ranks of the lecturers;
5.   How ICTs training needs of lecturers were identified;
6.   ICTs training needs of the lecturers;
7.   Problems Associated with ICTs use to improve teaching and learning.

LITERATURE REVIEW

   Omotunde & Ajie (2017) in their research titled 'Information Communication Technology Training Needs of Academic Staff in Universities in Ekiti State, Nigeria', pointed out that the use of electronic resources has in recent time been adopted by most higher learning institutions in Nigeria. They further stated that the appropriate training for academic staff on how well to integrate it into their research output, learning and teaching process is at a worrisome state. Griffith & Rubera (2014) submitted that teacher training in the use of ICT is the best starting point in the ICT policy of a country because they are the key to making learning happen. In a study by Bonsode & Viswe (2015), lack of interest, limited access to ICT facilities and lack of training opportunities were among the obstacles to ICT usage among academic staff.

   Akinnagbe & Baiyeri (2011) worked on 'Training needs analysis of lecturers for Information and Communication Technology (ICT) skills enhancement in Faculty of Agriculture, University of Nigeria, Nsukka' and asserted that despite coming of age with the internet and other technology, many university lecturers lack the Information and Communication Technology (ICT) literacy skills necessary to navigate and use the overabundance of information available today. Their research assessed the ICT skills and the areas of ICT training needs to improve teaching and research of lecturers in the faculty of agriculture, University of Nigeria, Nsukka. Data for the study were collected from 66 out of 104 academic staff of the faculty through the use of questionnaire. Data were analyzed using percentage, mean statistic and charts. The results of the study revealed that, lecturers were skilled in general windows operation (M = 1.79), word processing (M = 1.81) and internet/on-line activities (M = 1.74). They were not skilled in slides preparation / presentation (M = 1.15), spreadsheets preparation (M = 1.26), and data analysis using computer software (M = 0.84). The highest demand for ICT training need by the lecturers was data analysis using computer software like SPSS, GENSTAT, Excel, E-view etc

(95.0%). The study therefore, recommended that academic staff of the faculty should be exposed to ICT training to enhance teaching and research in the university.

Azuh & Modebelu, (2013) in their research titled

Table 1: Distribution of the Faculty of Medical Sciences Academics into Gender and Departments

S/N	DEPARTMENTS	FREQUENCY (No.)		TOTAL	PERCENTAGE (%)
		MALE	**FEMALE**		
1	ANAESTETICS	02	01	03	1.35
2	ANATOMY	10	05	15	6.75
3	COMM.HEALTH	09	08	17	7.65
4	BIOCHEMISTRY	13	04	17	7.65
5	FAMILY MEDICINE	08	02	10	4.50
6	RADIOLOGY	06	00	06	2.70
7	MEDICAL LAB SCIENCE	09	02	11	4.95
8	OBSTETRICS & GYNAECOLGY	15	02	17	7.65
9	PAEDIATRICS	10	07	17	7.65
10	HAEMATOLOGY	01	02	03	1.35
11	PHYSIOLOGY	10	02	12	5.40
12	SURGERY	20	01	21	9.45
13	CHEM. PATHOLOGY	03	00	03	1.35
14	PSYCHIATRY	11	00	11	4.95
15	MEDICAL MICROBIOLOGY	04	05	09	4.05
16	NURSING SCIENCE	10	04	14	6.30
17	PATHOLOGY	04	00	04	1.80
18	MEDICINE	13	04	17	7.65
19	OTORHINOLARYNGOLOGY (ENT)	04	00	04	1.80
20	OTHOPAEDICS/TRAUMA	04	00	04	1.80
21	OPTHALMOLOGY	04	03	07	3.15
	TOTAL	**170**	**52**	**222**	**100**

Source: University of Jos Academic Planning Annual Report for 2016/2017 academic session

'Academic Staff Challenges to Effective Utilization of Information and Communication Technology (ICT) in Teaching/Learning of Agricultural Education' examined the academic staff challenges to effective utilization of ICT in teaching and learning of Agricultural Education in Federal Universities in South East geopolitical zones of Nigeria. Forty respondents were purposively sampled from universities and used for the study. Three research questions guided the study. A 35-item researchers' developed questionnaire was used for data collection. Instrument validation covered face and content validity by two experts in educational management and agricultural education. While reliability index values of 0.86, 0.85 and 0.92 were obtained using Cronbach alpha. Means and grand means were used to analyze the research questions. The findings revealed a low extent utilization and inadequate ICT tool literacy among the academic staff in the federal universities in south east geo-political zone of Nigeria. It was therefore, recommended that the academic staff avail themselves the opportunity of various conferences and workshops to acquire the needed skills for effective utilization of ICT tools.

Abouelenein & Mohamed (2016) in their research titled 'Training needs for faculty members: Towards achieving

quality of University Education in the light of technological innovations', was designed to identify training needs of university faculty members, in order to achieve the desired quality in the light of technological innovations. A list of training needs of faculty members was developed in terms of technological innovations in general, developing skills of faculty members in the use of technological innovations and promoting university faculty members in quality assurance skills. The study followed the descriptive-analytic design in presenting the literature.

The data collection was based on a questionnaire developed to assess university faculty members' needs in four areas, these are: teaching, scientific research, community service and promoting quality assurance procedures. The participants were 135 university faculty members chosen from different Saudi universities. Results were statistically analyzed using SPSS. The results revealed the need for university faculty to be trained in the light of technological innovations. The study recommends a program for training faculty members, to use technological innovations, meet their scientific research needs, university teaching, and community service and meet course requirements in terms of quality standards and performance indicators.

Stukalina (2012) investigated the level and depth of use of computers by university staff in Nigeria. Findings revealed 58.5% use computers for word processing, 32.2% use it for spreadsheet and data processing and 20.5% use it for programming. 66.9% use it for email/ Internet while 9.4% use the computer for other purposes apart from the aforementioned. Ademodi and Adepoju (2009), conducted a study in Ondo and Ekiti states in Nigeria and found that, the rate of computer skills and competence among ICT trainers working with libraries was low.

In a related study conducted by Casanova, Moreira & Costa (2011) on E-competence and use of ICT for teaching and learning among academic staff both studies concluded that, students and academic staff need to be aware of, and understand, the innovative potential of the technology that is available for their teaching, learning, research and consultancy; and that they need to develop specific, appropriate and new competences to cope with the technological challenges. Emiri (2015) argued that university teachers in Africa have undergone little or no training for their role as lecturers, let alone training for ICT usage. He concluded that it is as if higher education institutions in Africa are using imported ICT staff development approaches in the training of its employees which means, Africa is not only importing ICT facilities, but also ways of training their own people.

As part of the ongoing drive to reposition the University of Jos as a Center for Academic Excellence and Learning in the 21st century, the University of Jos Management built computer Laboratories in all its faculties and provided free Internet services for both staff and students. Nevertheless, the university management also subscribed to so many relevant Internet databases for its staff and students. In addition, the university management has been organizing series of workshops, lectures and seminars for the lecturers in the faculties on the awareness, use and relevance of the subscribed Internet databases for teaching and research activities on campus. However, the academics on campus hardly utilized the subscribed database (University of Jos Library annual report, 2017). Could it be that the academics do not possess enough ICT competence to access the subscribed databases? It was on this background that this research was designed to assess the specific ICT Training Needs of Academic Staff in University of Jos, using the Faculty of Medical Sciences academics as a focal population.

METHODOLOGY

Research Design

Survey Research Design was adopted for this study. According to Busher & Harter (1980) survey research design enables specific issues to be investigated through information gathering on people's opinions and believes over a wide population. This technique is relevant to this study because it involved sampling of opinions of Academics in the Faculty of Medical Science, University of Jos, on their Information and Communication Technology (ICT) Training Needs.

Population of the Study

The targeted population for this study comprises all the 222 Academics in the Faculty of Medical Sciences, University of Jos. Since, this population (222) is manageable; there was no need for sampling. Hence, all the academics were adopted (Complete Census) in the research - see table 1.

Research Instrument

The instrument used for data collection was questionnaire. A 52 items structured questionnaire was designed. The questionnaire was divided into 2 sections. Section 'A' sought for information on personal (Demographic) data of the

respondents. Section "B" sought for information on the lecturers in the faculty of Medical Sciences, University of Jos, previous knowledge and skills in using ICT facilities; type of training the lecturers received; training methods preferred by the lecturers in learning about electronic information resources; need for training based on the ranks of the lecturers; how ICTs training needs of the lecturers were identified; ICTs training needs of the lecturers; problems associated with ICTs use to improve teaching and learning.

Validation of the Instrument

The questionnaire went through content validity check. Copies of the questionnaire were given to senior colleagues in the profession. The essence of this exercise was to ensure that the questions were clear, simple and appropriate for the study. On the basis of their suggestions and modifications, some of the items were modified to suit the objectives of the study. A final draft of the questionnaire was then prepared and used for the study.

Pretest:

A pretest of the study was conducted using test and retest method. Twenty (20) lecturers from the Faculty of Medical Sciences, University of Maiduguri, were used to test the reliability of the questionnaire. The reliability coefficient of $r=0.86$ was obtained, and the coefficient was considered high enough for reliability (Tiraieyari, Idris, Uli & Hamzah, 2011). This enabled the researcher to ascertain whether or not the questions asked were able to generate the required data. The questionnaire was then distributed.

Administration of Questionnaire

Based on the total number (222) of the lecturers in the Faculty of Medical Sciences, University of Jos, 222 copies of the questionnaire were produced and administered to the lecturers in their offices and collected the next day.

Method of Data Analysis

Data collected were analyzed using descriptive statistics of frequency counts and percentages for answering the research questions. Tables were also provided where necessary.

Response Rate

Two hundred and twenty two (222) copies of the questionnaire were administered to the respondents in their offices. Out of the 222 copies distributed one hundred and ninety eight (198) copies were filled, returned and found usable. This gave a response rate of 89.18%. (Table 2).

DATA ANALYSES

Table 2, shows the response rate of the respondents. This revealed that out of 222 copies of the questionnaire distributed, 198 were filled correctly and returned. This gave a response rate of 89.18%.

Table 3, shows the distribution of the respondents by rank. This revealed that the highest proportion 92 (46.46%) of the respondents were Lecturers I and II. This was followed by Professors and readers with 56 (28.28%) respondents, Senior Lecturers 42 (21.21%) respondents, Assistant Lecturers 6 (3.03%) respondents and Tutors (Others) 2 (1.01%) respectively.

Table 4, illustrates the respondents' previous knowledge in using ICT facilities. This showed that the highest proportion 51 (25.76%) of the respondents indicated that they had previous knowledge in using e-mail. This was followed by 48 (24.24%) respondents that claimed downloading/uploading a file from the internet; 41 (20.70%) of the respondents submitted word processing; 22 (11.11%) of the respondents indicated power-point design and presentation, 14 (7.07%) of the respondents affirmed using WWW search engines; 9 (4.54%) of the respondents indicated spread sheet programmme; 8 (4.04%) of the respondents stated graphic design, respectively.

Table 5, shows the type of training received by the respondents. This revealed that more than half 103 (52.02%) of the respondents submitted attending workshop, this was followed by 51 (25.75%) of the respondents that indicated got help from friends/associates; 25 (12.62%) respondents said computer assisted instruction; 12 (6.06%) respondents claimed classroom instruction; 7 (3.54%) respondents affirmed one to one instruction, respectively.

Table 6, revealed the training method preferred by the respondents. This showed that the highest proportion 71

(35.85%) of the respondents indicated one on one. While 51 (24.76%), 40 (20.20%), 32 (16.16%) and 4 (2.02%) of the respondents submitted that the training method they preferred were classroom demonstration, workshop, classroom assisted instructions and printed sheets/manuals, respectively.

Table 7, shows the need for training based on the respondents' ranks. This indicated that all 2 (100%) of the Tutors (others) agreed that they need more training on the ICT use. Also, all 6(100%) of the Assistant Lecturers; 81 (88.04%) Lecturers I and II; 28 (66.66%) Senior Lecturers; and 18 (32.00%) Professors/Readers admitted that they need further training in the use of ICT facilities, respectively.

Table 8, reveals how training needs of the lecturers were identified. The highest proportion 92 (46.46%) of the respondents claimed that it was by various discussions with colleagues. While 45 (22.72%), 33 (16.67%) and 28 (14.14%) of the respondents affirmed that it was by the faculty computer instructor, by my-self and by appraisal of knowledge of EIR by the faculty, respectively.

Table 9, shows the percentage distribution of respondents ICT needs. This revealed that majority (98.12%) of the respondents indicated Internet and online activities like browsing for project materials. This is followed by those that submitted E-mail accessing / usage (91.20%), Data analysis using computer software (e.g SPPF, GENSAT, Excel etc.) (86.02%), preparation of slides (83.04%), Word processing (76.10%), General windows skill (72.02%), and Excel spread sheet (71.02%), respectively.

Table 10, shows the problems associated with ICTs

Table 2: Response Rate

No. of Copies of Questionnaire Distributed	No. Returned (Frequency)	Percentage (%)
222	198	89.18

Source: Field Work

Table 3: Ranks of the Respondents
N=198

S/N	Ranks	Frequency (No.)	Percentage (%)
1	Professor /Readers	56	28.28
2	Senior Lecturers	42	21.21
3	Lectures 1 & 11	92	46.46
4	Assistant Lecturers	06	3.03
5	Others (Tutors)	02	1.01
	TOTAL	**198**	**100**

Source: Field Work

Table 4: Respondents Previous knowledge in Using ICT Facilities
N=198

S/N	Pervious knowledge in using ICT facilities	Frequency (No.)	Percentage (%)
1	Word processing	41	20.70
2	E-mail	51	25.76
3	Using a www search engine	14	7.07
4	Downloading/uploading a file from the internet	48	24.24
5	Online discussion	05	2.52
6	PowerPoint design and presentation	22	11.11
7	Spread sheet programme	09	4.54
8	Graphic design	08	4.04
	TOTAL	**198**	**100.00**

Source: Field Work

Table 5: Type of Training Received by Respondents
N=198

S/N	Types of Training	Frequency (No)	Percentage (%)
1	Attending workshops	103	52.02
2	Got help from friends/associates	51	25.75
3	Computer assisted instruction	25	12.62
4	Classroom instruction	12	6.06
5	One to one instruction	07	3.54
	TOTAL	**198**	**100.00**

Source: Field

Table 6: Training Method Preferred by Respondents
N=198

S/N	Preferred Training Methods	Frequency (No.)	Percentage (%)
1	One to one instruction	71	35.85
2	Classroom demonstration	51	24.76
3	Computer assisted instruction	32	16.16
4	Workshop	40	20.20
5	Printed sheets/manual	04	2.02
	TOTAL	**198**	**100.00**

Source: Field Work

Table 7: Need for Training Based on the Ranks of the Respondents
N=198

S/N	Ranks	Number of Respondents	Yes	Percentage (%)	No	Percentage (%)
1	Professors/Readers	56	18	32.00	38	68.00
2	Senior Lecturers	42	28	66.66	14	33.34
3	Lecturers 1/11	92	81	88.04	11	11.96
4	Assistant Lecturers	06	06	100	00	0.00
5	Others (Others)	02	02	100	00	0.00
	TOTAL	198	135	68.18	63	31.81

Source: Field Work

Table 8: How Training Needs of Respondents were Identified
N=198

S/N	Statements	Frequency (No.)	Percentage (%)
1	By various discussion with colleagues	92	46.46
2	Identify my own training needs by myself	33	16.67
3	By the faculty computer instructor	45	22.72
4	By appraisal of knowledge of EIR by the faculty	28	14.14
	TOTAL	198	100.00

Source: Field Work

Table 9: Percentage Distribution of Respondents ICT Training Needs.

Area of Training Needs	Yes (%)	No (%)
General windows skill	72.02	27.98
Word processing	76.10	23.90
Excel spread sheet	71.20	28.80
Preparation of slides	83.04	16.96
E-mail accessing / usage	91.20	8.80
Internet and online activities like browsing for project materials	98.12	1.88
Data analysis using computer software e.g. SPSS, GENSTAT, Excel, E-view etc	86.02	13.98

Source: Field Work

use to improve teaching and learning by the respondents. The highest proportion 28 (14.14%) of the respondents indicated incessant power failure, while 26 (12.13%), 25 (13.62%), 24 (14.12%), 23 (15.61%), 19 (6.59%), 14(7.07%),13 (8.65%),12 (9.06%),9 (10.54%),3 (11.51%) and 2 (12.01%) of the respondents submitted that the problems they faced in the use of the ICTs were high cost of ICT equipment, inadequate ICT facilities, poor internet connectivity, lack of internet access, non- availability of ICT training centres to update ICT knowledge, financial problems, poor attitude towards acquiring ICT skills, lack of competence in internet searching skills on the part of many lecturers, too busy schedule, lack of awareness on the various analytical software and priority issues on the part of both the faculty and the university, respectively.

DISCUSSION OF FINDINGS

Table 4, shows that the highest proportion 51 (25.76%) of the respondents claimed that they have previous knowledge on the use of e-mail. This finding could possibly be because e-mail is used for communication and it is the fastest means of communication, because of this, the lecturers were forced to acquire the e-mail skill. This finding corroborates the works of Manduna (2014) and Liu (2015) who on separate occasions submitted that email services is one of the services that encouraged academics to exchange ideas on their researches with colleagues and friends, and even send their articles for publication. They further claimed that the knowledge and

Table 10: Problems Associated with ICTs use to Improve Teaching and Learning by the Respondents
N=198

S/N	Problems associated with ICTs use to improve teaching and learning	Frequency (No.)	Percentage (%)
1	Non availability of ICT training centers to update ICT knowledge	19	9.59
2	Inadequate ICT facilities like computer, electronic board in the faculty	25	12.62
3	High cost of ICT equipment	26	13.13
4	Incessant power failure	28	14.14
5	Lack of internet access	23	11.61
6	Poor internet connectivity	24	12.12
7	Too busy schedule	09	4.54
8	Lack of awareness on the various analytical software e,g SPSS, STATA etc	03	1.51
9	Poor attitude towards acquiring ICT skills	13	6.56
10	Priority issues on the part of both the faculty and the university	02	1.01
11	Financial problem	14	7.07
12	Lack of competence in internet searching skills on the part of many lecturers	12	6.06
	TOTAL	**198**	**100.00**

Source: Field Work

use of email serves amongst the academics is higher than that of any other profession.

Table 5, shows the type of training received by the respondents. This revealed that majority 103 (52.02%) of the respondents indicated they acquired the ICT knowledge through attending workshops. This observation could be because most academics are usually sponsored to attend workshops by their Institutions. Hence, majority of the academic submitted attending workshops. This finding is in line with the works of Chan (2010) and Griffith and Rubera (2014) who on different occasions pointed out that workshops are one of the effective means of imparting knowledge.

Table 6, shows the training method preferred by the respondents. Highest proportion 71 (35.85%) of the respondents affirmed, that one to one instruction. This could be because one to one instruction involves one instructor teaching one learner. One to one instruction normally gives room for more interaction and learning between the instructor and the learner. This observation supported the woks of OZcan (2013) and Mohammed & Osman (2014) who independently concluded in their researches that one to one method of imparting knowledge is the best effective method to impart knowledge because it creates room for more questioning and explanation (interaction). Hence, it creates room for total understanding of any issue under discussion/training.

Table 7, reveals the need for training based on the ranks of the respondents. This showed that all the 2 (100%) Tutors (others) and all the 6 (100%) Assistant lecturers agreed that they need more training in the use of the ICTs faculties. This finding could possibility be because the ranks of Tutors (others) and Assistant Lecturers are usually considered as a learning/training positions. Most of them are engaged in one programme or the other. Hence they are ready to undergo any training. This situation is just the opposite as one moves to a higher rank. This observation corroborates the reports of Alshaghadi, Greener and Loveless (2014) and Mohammed & Osman (2014) who on separate occasions pointed out that training need of academics are usually inversely proportional to their ranks. That is, as the rank of a worker goes higher, less likely will the worker like to undergo training or learning new ideas.

Table 8 illustrates how training needs of the respondents were identified. The highest proportion 92 (46.46%) of the respondents claimed that they identified their ICTs training needs by various discussions with colleagues. This finding could be because latest developments or issues in any profession, are often discussed when colleagues come together in a meeting (Faculty Board Meeting) or in conferences and workshops. However, this observation is in line with the works of Kecetep & Ozcan (2014), Casanova, Moreira & Costa (2011) and Khallaf-allah (2010) who on separate occasions affirmed that academics training needs are usually identified through discussions with colleagues, usually in gatherings, conferences, workshops, seminars and informal meetings.

Table 9, shows the areas the respondents need ICT training. This revealed that majority 98.12% of the respondents admitted that they need training in internet.

This finding could be because the internet hosts large amount of information resources in all filed of knowledge. Hence, the academics want to be able to access these resources in the internet for teaching, research and learning. Hence, they all express their desire, by submitting that they need training in internet use. This finding supports the works of Lyad (2015) and Omotunde & Ajie (2017) who submitted that most academics are usually interested in acquiring internet skills. They further claimed that internet skills of academics often correlate positively with their research output. This observation was also confirmed by the works of Nwokedi & Nwokedi (2018), and has further amplified the importance of internet skills to academics.

Table 10, illustrates the problems associated with ICTs use to improve research, teaching and learning. The highest proportion 28 (14.14%) of the respondents indicated incessant power failure. This finding could be because electricity power is needed to power the ICT facilities before they can be put into use. The electricity power situation in Nigeria is embarrassingly very low (Emiri, 2015). At times, some parts of Nigeria may go on without electricity power supply for weeks and even months (Abouelenein & Mohamed, 2016). This finding is in line with works of Nwokedi & Nwokedi (2018) who on different occasions submitted that one of the major challenges of using ICTs facilities in Nigeria was constant electricity power outages and slow internet access respectively.

SUMMARY OF MAJOR FINDINGS

1. The highest proportion 51 (25.76%) of the respondents have previous knowledge in the use of E-mail services;
2. Majority 103 (52.02%) of the respondents indicated that the type of raining they received was through attending workshops;
3. Highest proportion 71 (35.85%) of the respondents agreed that the training method they preferred was one to one instruction;
4. All the 2 (100%) Tutors (others) and all the 6 (100%) Assistant Lecturers stated that they need more training in the use of ICTs facilities;
5. Highest proportion 92 (46.46%) of the respondents affirmed that they identified their ICT training needs by discussions with colleagues;

6.   Majority (98.12%) of the respondents submitted that they need training in Internet and online activities like browsing for materials for project writing, teaching and learning.
7.   Highest proportion 28 (14.14%) of the respondents indicated incessant power failure as the major challenge they faced in the use of ICTs to improve teaching and learning in the Faculty of Medical Sciences, University of Jos.

CONCLUSION AND RECOMMENDATIONS

Following the establishment of internet and subsequent migration of information resources to the internet, it becomes mandatory that academics must acquire skills that will enable them to access the resources in the internet, if they are to remain relevant in their chosen career. Hence, Lecturers need continuing professional development in order to maintain and upgrade their ICT skills. They also need to exemplify a willingness to explore and discover new technological capabilities that would enhance and expand learning experiences. Therefore, for a satisfactory teaching and research in the university, it is absolutely essential that lecturers, as the most valuable human resource in the educational sector, should improve their ICT skills properly. They need a wide variety of educational opportunities to improve these ICT skills. The highest demand for ICT training need by the academics was improvement in the use of internet and online activities. However, challenges such as Incessant power failure, High cost of ICT equipment, and Poor Internet connectivity could hamper teaching, research and learning in the University. Hence, there is the need to expose these staff of the faculty to ICT training to enhance their skills in the use of ICTs. Efforts should also be made by the University management to look beyond development of programmes that merely focus on training academics in the operation of computers and ICT literacy per se but plans to work actively towards enabling Faculty of Medical Sciences academics to master ICT as an effective tool to improve teaching, research and learning in the university.

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Full Length Research

Assessing the Health Information Needs of Internally Displaced Persons in Camps in Benue State

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This study was designed to assessing the health information needs of internally displaced persons in camps in Benue State. four objectives were set and four research questions raised. Population for this study was 76 health personnel employed in the management of health-related issues in IDP camps across Benue state and was used as sample. Data was collected and analysed using mean and standard deviation. Findings for the study revealed Research question 1 was on the health information needs of internally displaced persons in camps in Benue State. Findings revealed that health information needs of internally displaced persons in camps, the extent at which information services provided by public libraries to meet the health needs of internally displaced persons in camps in Benue State is low. Findings also revealed that stakeholders have major roles in dissemination health information needed for internally displaced persons in camps. It was also found problems encountered in the provision of the health information needs of internally displaced persons in camps in Benue State. the study concluded that health information is highly needed by IDPs for good health. It was recommended that Government and non-governmental organizations should embark on proper awareness creation on health issues, there should be strict monitoring of health and proper setup of health programmes for IDPs and Government should ensure that finances are provided for procurement of drugs and other health facilities.

Keywords: Assessment, Health Information, Internally Displaced Persons and Camps

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INTRODUCTION

Information is integral to development. For any nation to develop, it needs to have and provide relevant and adequate information. Libraries play a great role in agricultural development through the support they offer to the farmers by supplying relevant information in multiple formats as to how to apply fertilizers, use of modern implements, herbicides, how to plant their crops, ways of storing their produce etc. Library is a key source of information to citizens. For example, this could be educational, social, leisure, health, political, agricultural information and so on. Trochim (2006) stresses that library assemble information from countless sources and places them at the command of individual user, and supports and sustains individual freedom of enquiry and opinion. Rubin (2010) aver that Libraries satisfy a fundamental need of society: the need to have the society's record readily accessible to the citizenry, and society continues to need access to organised information more than ever before. Urquhart, Trumer, Durbi Ryan, (2007) argues

that all professionals' skills are products of information dissemination progress through different libraries. Miller & Sim (2004) insists that libraries are integral to community development as they provide access to information and works of imagination in a variety of formats. Meyer (2005) stresses that libraries go beyond formal education; they encourage and sustain literacy, and support development. For example, this development is not restricted to health and education alone but other areas of Endeavour like agriculture as well. Rubin (2010) stated that the Cooperation and assistance of librarians is a basis for any nation to gain development. By this cooperation and the provision of useful information in economic, cultural, social and political contexts, development becomes possible. Beran, Yudikin & Decourten (2006) highlights the dynamism of the role of librarianship when he posits that libraries and librarians have evolved to become facilitators of information and lifelong learning opportunities with an emphasis on service, identifying user needs and communicating solutions. The role of the libraries in the provision of information for development of agriculture is crucial. No nation can achieve any meaningful development without relevant information to drive its developmental sustainability. This could be in education, agriculture etc. The business of libraries is the acquisition, organization, dissemination and preservation of information for development. The rural farmers require access to appropriate information to guide their agricultural practices and fight poverty and the establishment of libraries rooted in the communities they serve is one way of ensuring that rural farmers have access to information. Libraries can purposefully facilitate provision and access to agricultural information.

Information has consistently been a significant element in the development of human society and has shaped over a long period of time the way in which we think and act (Burton, Howard & Beveridge 2005). Information is crucial for increasing agricultural production and improving marketing and distribution strategies (Wilson, 2006). Information also opens windows of giving out experiences, best practices, sources of financial aids and new markets. By the same token, information enables farmers to make informed decisions regarding production and marketing and managing their lives successfully to cope with everyday problems and to realize their opportunities (Ge, 2010). As discussed by Aina et al (2006), information has a vital part to play in improving and sustaining agricultural production of any country or nation.

The importance of information to the success of any academic institution should not be underestimated. Ukachin (2007) affirms that in an academic community, information is used for learning, teaching, research and leisure. Information according to Bestrand & Certain (2000) is used primarily for academic purposes.

Every living created by God needs information to pursuit his cause. Health is the general well-being of a people. Every human being desire and hopes for good health. The World Health Organization (WHO) in Edwor (2010) has defined health as "a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity". Adequate and relevant information provide the informal base for making choices. This is a major component of health promotion targeting increase in knowledge and information services relating to health.

Internal displacement describes situations in which individuals and groups are compelled or obliged to leave and remain away from their homes, but remain within the borders of their own countries. The latter element differentiates them from refugees, who are also compulsorily evacuated but across internationally recognized state borders. Internal displacement occurs characteristically in reaction to armed conflict, oppression, situations of widespread violence, natural and human-made tragedies, etc. The scale of internal displacement and the inevitable problem and nature of the response have become far more momentous in contemporary times.

Internal displacement already occurred in Nigeria 30 years ago, during the Biafran war (1967-1970) some two million people died and ten million people became internally displaced. While displacement of this magnitude has not been repeated since, approximately 500,000 people were forced to flee their homes after ethnic violence rocked Nigeria in October 2001, the majority of whom returned to their homes by mid-2002. Available figures suggested that towards July 2002, a total of at least 30,000 people remained internally displaced in Nigeria. This figure is mainly composed of a remnant of the June/July 2001 clashes involving Tivs in Nasarawa and Taraba states, as well as people still displaced after the October 2001 violence in Benue state involving Tivs and the Jukun/military. The exact extent of displacement is difficult to estimate, because many internally displaced seek shelter within social networks and relocate to other towns and communities to join other family and clan members.

The plight of displaced persons has in recent years become a formidable problem of global significance and implications (Nnaji, 2001). The total number of displaced persons is currently estimated around fifty million worldwide, with the majority of these people in Africa and Nigeria particular. Displacement across the country is a common result of both communal violence and internal armed conflicts. While some of the conflicts appear to be caused by religious or ethnic differences, benefits of a political, social and economic nature are generally behind the violence in the country with endemic poverty, low levels of education and a huge and alienated youth population. Nigeria regularly experiences displacement as a consequence of natural disasters such as flooding or soil erosion. Nigeria has been affected by recurrent internal conflicts and generalized violence since the end of military rule and the return of democracy in 1999. The systematic and overlapping patterns of inequality in the country have been described as "breeding grounds" for conflict (Ekpa, Shedrack Dahlan, Nuarrua, 2016; Oduwole, Tajudeen, Fadeyi and Adebayo 2016).

The roots of conflict and displacement have existed since long in Nigeria, but military regimes, and especially the authoritarian regime of General Sani Abacha from 1993 to 1998, kept the underlying tensions in check. With the coming into power of Olusegun Obasanjo as president in May 1999 and the introduction of democracy, the Nigerian people were given an opportunity to express their anger and frustration. It is therefore not surprising to see a rise in inter-ethnic and intercommoned conflicts. These can be summarized into five broad categories: ethnic rivalry, religious violence, land-conflicts, conflicts related to the demarcation of administrative boundaries, and conflicts linked to oil-production.

First of all, ethnic rivalries are closely interwoven with the four other categories of causes. Nigeria is host to 250 ethnic groups and an important factor fuelling communal violence was the emergence during the 1990s of militant groups affiliated to specific ethnic groups. In April 2002, President Obasanjo drew up "The Prohibition of Certain Associations Act 2002", in an effort to curb ethnic violence. The Act seeks to ban any "association of individuals or quasi-military groups" formed "for the purpose of furthering the political, religious, ethnic, tribal, cultural or social interests of a group".

Religious clashes are also a cause of displacement. They occur mainly in the North between Muslims and Christians and are related to the introduction of the Islamic legal system, Sharia, in several northern states, but involves an ethnic dimension as well. In May 2002, Sharia law was introduced in a southern state (Oyo) for the first time.

Agricultural policies have favoured large-scale agricultural projects and have forced farmers away from their land. This resulted directly in communal violence, often of an ethnic character, over borderlands and fishing waters. As a result of increasing desertification on Nigeria's northernmost fringes, many pastoral people have started pushing southwards in search of grazing land, accounting to some extent for the conflict between Tivs and the pastoral Hausa-Fulani people in June 2001. Conflict related to the creation of new administrative boundaries has been another factor of displacement. The new boundaries are often highly contested, especially where it has fuelled tensions between different ethnic groups.

Finally, conflicts related to oil exploration have been a factor behind displacement in the Niger Delta, where the oil exploration has been associated with state violence, communal disputes, environmental pollution and a worsening economic and material situation in the communities.

Specified according to the states which experienced the most displacement in the past year, the following summary of causes and conflicting parties can be given. In Nasarawa State, the conflicting parties are mainly the Tiv and Bassa or Hausa-speaking Azaras, and the roots of conflict are ethnic, economic, or have to do with disputes over land. In Benue State, the Tivs on the one hand and the Jukun or the Idomos on the other have been engaged in fighting, usually centered around ethnic, political or economic issues, or the broader issue of local tribes (indigenes) versus settlers. In Taraba State, the conflict is mainly between the Tiv and the Jukun ethnic groups, and is of a political or demographic nature and also centers on land and the indigene/settler issue. Finally, in Plateau State, the Hausa-Fulani and other ethnic groups are opposing each other, and is of a political, economic, or religious nature, and also here the indigene/settler issue plays an important role.

OBJECTIVE OF THE STUDY

This study is designed to assess the health information needs of internally displaced persons in Camps in Benue State. Specifically, the study seeks to:

i.   Identify the health information needs of internally displaced persons in camps in Benue State
ii.   Determine the extent to which services provided by public stake holders meet health information needs of internally displaced persons in camps in Benue State.
iii.   Examine the role of stakeholders in dissemination of health information to internally displaced persons in camps in Benue State.
iv.   Identify the problems associated in the provision of the health information needs of internally displaced persons in camps in Benue State through stake holders.

RESEARCH QUESTIONS

The following research questions were raised to guide the study:

i.   What are the health information needs of internally displaced persons in camps in Benue State?
ii.   To what extent are the services provided by
        public libraries to meet the health information needs of internally displaced persons in camps in Benue State?
iii.   What is the role of stakeholders in dissemination health information needed for internally displaced persons in camps in Benue State?
iv.   What are the problems encountered in the provision of the health information needs of internally displaced persons in camps in Benue State?

METHODOLOGY

Area of the Study

The area of the study is Benue State. Benue state is in the mid-belt region of Nigeria with a population of about 4, 253, 641 (2006 Census). The State has twenty-three Local Government Areas. Benue State is divided into three (3) Senatorial Zones namely; Zone 'A' 'B' and Zone 'C' with IDP camps established in the zones across the state.

Design of the Study

This study employed a survey research design. This design is suitable because the researcher collected and described the characteristics or facts about the population under study. The survey design also offers research subjects the opportunity to express their opinions based on their experiences and the researcher could collect data from small sample drawn from the population in order to draw inferences.

Population of the Study

The population for this study was 76 health personnel employed in the management of health-related issues in IDP camps across Benue state. The decision to use these categories of people is because they are directly involved in the management of health issues in IDP camps.

Sample for the Study

There was no sampling for the study. The entire population of 76 health personnel employed in the management of health-related issues in IDP camps across Benue state was used for the study as sample because the population size could be handled effectively by the researcher.

Instrument for Data Collection

The instrument for the study is was a structured questionnaire titled "**Health Information Needs of Internally Displaced Persons in Camps** Questionnaire (HINIDPCQ). The instrument was developed by the researcher using the literature reviewed. The questionnaire was divided five sections based on the research objectives. The questionnaire had restricted response options of highly needed (HN), averagely needed (AN), slightly needed (SN), not needed (NN), very great extent, (VGE), great extent (GE), low extent (LE) very low extent (VLE), strongly agree (SA), agree (A), disagree (D) and strongly agree (SD). These have corresponding values of 4, 3, 2 and 1 respectively.

Validation of the Instrument

The questionnaire was validated by two experts; from the Department of Pathology, Benue state University Makurdi. Both content and face validation of the instrument was done.

Data Analysis Techniques

Data collected was analysed using descriptive statistics. Mean was used to answer the research questions. The bench mark for this was 2.50 (4+3+2+1=10/4=2.50). The decision rule was: any item with a mean value of 2.50 or above was regarded as needed while any item with a mean value of less than 2.50 was regarded as not needed.

RESULT AND DISCUSSION

Result in table 1 shows that 8 items had their mean values ranged from 2.73 to 3.17 which is greater than the benchmark of 2.50. this implies that the items are health information needs of internally displaced persons in camps in Benue State.

Result in table 2 shows that 8 items had their mean values ranged from 2.01 to 2.25 which are lower than the benchmark of 2.50. This means that the extent at which information services provided by public libraries to meet the health needs of internally displaced persons in camps in Benue State is low.

Table 1: Mean and standard devotion of respondents on the health information needs of internally displaced persons in camps in Benue State

S/N	Item	SA	A	D	SD	N	Mean	Std. Dev	Remarks
1	Information on infectious agents and vectors present in the IDP camps	13	41	11	11	76	2.73	0.91	Agree
2	Need for consumption of good quality water and good sanitation and overcrowding, as in temporary settlements	13	38	20	5	76	2.77	0.80	Agree
3	Information on hazardous behaviours (e.g. promiscuity and sexual activities	40	15	6	15	76	3.05	1.18	Agree
4	Prevention of natural hazards in the camps	9	56	2	9	76	2.85	0.77	Agree
5	Prevention and control epidemics especially cholera and meningitis which are rampant in the camps	27	26	17	6	76	2.97	0.95	Agree
6	Information on hygiene strategies	36	20	8	12	76	3.05	1.10	Agree
7	Need for consumption of balanced diet	17	38	11	10	76	2.81	0.93	Agree
8	Maintenance of clean environment	30	29	12	5	76	3.17	0.77	Agree

Source: Filed survey, 2019

Table 2: Mean and standard devotion of respondents on the extent information services provided by public libraries meet the health needs of internally displaced persons in camps in Benue State

S/N	Item	VGE	GE	LE	VLE	N	Mean	Std. Dev	Remarks
9	Information on infectious agents and vectors present in the IDP camps	6	8	43	19	76	2.01	0.82	Disagree
10	Need for consumption of good quality water and good sanitation and overcrowding, as in temporary settlements	11	19	24	22	76	2.25	1.03	Disagree
11	Information on hazardous behaviours (e.g. promiscuity and sexual activities	9	10	47	10	76	2.23	0.83	Disagree
12	Prevention of natural hazards in the camps	11	13	11	41	76	1.92	1.14	Disagree
13	Prevention and control epidemics especially cholera and meningitis which are rampant in the camps	2	5	35	34	76	1.67	0.71	Disagree
14	Information on hygiene strategies	11	6	37	22	76	2.07	0.97	Disagree
15	Need for consumption of balanced diet	8	3	5	60	76	1.46	0.98	Disagree
16	Maintenance of clean environment	4	5	10	57	76	1.42	0.83	Disagree

Source: Filed survey, 2019

Table 3: Mean and standard devotion of respondents on the role of stakeholders in dissemination health information needed by internally displaced persons in camps in Benue State

S/N	Item	SA	A	D	SD	N	Mean	Std. Dev	Remarks
17	Awareness creation on health issues	44	26	3	3	76	3.46	0.75	Agree
18	Monitoring the health and setting health programmes for IDPs	31	6	11	4	76	2.84	1.08	Agree
19	Ensuring that regulatory procedures are working properly	35	26	9	6	76	3.18	0.93	Agree
20	Ensuring that finances are provided for procurement of drugs and other health facilities	37	24	8	7	76	3.19	0.96	Agree
21	Ensuring that appropriate health information are reached to IDPs	23	31	14	8	76	2.90	0.95	Agree
22	Protecting patients' safety and welfare in IDP camps	38	23	5	10	76	3.17	1.03	Agree
23	Ensuring broader consumer protection	39	16	3	18	76	3.00	1.23	Agree
24	Monitoring health regulatory effectiveness	21	27	9	19	76	2.65	1.13	Agree
25	Information on infectious agents and vectors present in the IDP camps	20	49	5	2	76	3.14	0.64	Agree
26	Need for consumption of good quality water and good sanitation and overcrowding, as in temporary settlements	21	47	5	3	76	3.17	0.59	Agree
27	Information on hazardous behaviours (e.g. promiscuity and sexual activities	45	22	1	8	76	3.36	0.94	Agree
28	Prevention of natural hazards in the camps	13	60	1	2	76	3.10	0.53	Agree
29	Prevention and control epidemics especially cholera and meningitis which are rampant in the camps	32	26	11	7	76	3.09	0.96	Agree
30	Information on hygiene strategies	38	23	9	6	76	3.22	0.94	Agree
31	Information on infectious agents and vectors present in the IDP camps	22	44	5	5	76	3.09	0.78	Agree
32	Need for consumption of good quality water and good sanitation and overcrowding, as in temporary settlements	21	39	12	4	76	3.01	0.80	Agree

Source: Filed survey, 2019

Table 4: Mean and standard devotion of respondents on the problems encountered in the provision of health information needs of internally displaced persons in camps in Benue State

S/N	Item	SA	A	D	SD	N	Mean	Std. Dev	Remarks
33	Difficulties with transportation	21	39	12	4	76	3.01	0.80	Agree
34	Communication challenges	8	56	6	6	76	2.86	0.69	Agree
35	Shortages of doctors and other health professionals IDP camps	31	33	3	9	76	3.13	0.95	Agree
36	Limited funding and other resource constraints	31	23	13	9	76	3.00	1.03	Agree
37	Diversion of funds meant for provision of health facilities in IDP camps	27	40	6	3	76	3.19	0.74	Agree
38	Inadequate up-to-date information dissemination materials	21	43	10	2	76	3.09	0.71	Agree
39	Inadequate skilled personnel in health sector	5	59	6	6	76	2.82	0.66	Agree
40	Inadequate infrastructure and facilities	37	19	17	3	76	3.18	0.91	Agree

Source: Filed survey, 2019

Result in table 3 shows that 16 items had their mean values ranged from 2.65 to 3.46 which are greater than the benchmark of 2.50. This indicates that the items are roles of stakeholders in dissemination health information needed by internally displaced persons in camps in Benue State.

Result in table 4 shows that 8 items had their mean values ranged from 2.82 to 3.13 which are greater than the benchmark of 2.50. This is an indication that the items are problems encountered in the provision of health information needs of internally displaced persons in camps in Benue State.

DISCUSSION OF FINDINGS

Research question 1 was on the health information needs of internally displaced persons in camps in Benue State Findings revealed that Information on infectious agents and vectors present in the IDP, need for consumption of good quality water and good sanitation and overcrowding, as in temporary settlements, information on hazardous behaviours (e.g. promiscuity and sexual activities, prevention of natural hazards , prevention and control epidemics especially cholera and meningitis which are rampant, information on hygiene strategies, need for consumption of balanced diet and maintenance of clean environment were health information needs of internally displaced persons in camps in Benue State.

Research question 2 was on the extent at which services provided by public libraries to meet the health information needs of internally displaced persons in camps in Benue State. Findings revealed that the extent at which information services provided by public libraries to meet the health needs of internally displaced persons in camps in Benue State is low.

Research question 3 was on the role of stakeholders in dissemination health information needed for internally displaced persons in camps in Benue State. Findings revealed that awareness creation on health issues, monitoring the health and setting health programmes for IDPs, ensuring that regulatory procedures are working properly, ensuring that finances are provided for procurement of drugs and other health facilities, ensuring that appropriate health information are reached to IDPs, protecting patients' safety and welfare in IDP camps, ensuring broader consumer protection and monitoring health regulatory effectiveness were role of stakeholders in dissemination health information needed for internally displaced persons in camps in Benue State.

Research question 4 was on the problems encountered in the provision of the health information needs of internally displaced persons in camps in Benue State. Findings revealed that difficulties with transportation, communication challenges, shortages of doctors and other health professionals idp camps, limited funding and other resource constraints, diversion of funds meant for provision of health facilities in idp camps, inadequate up-to-date information dissemination materials, inadequate skilled personnel in health sector and inadequate infrastructure and facilities were problems encountered in the provision of the health information needs of internally displaced persons in camps in Benue State.

CONCLUSION

Internally displaced people are found in many areas in Benue state. These people need health information just like others who need it. There are illnesses and diseases that commonly attack people in IDP camps. However, there are challenges confronting dissemination of health information to people in IDP camps in Benue state. This study concludes that health information is highly needed by IDPs for good health.

RECOMMENDATIONS

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

1. Government and non-governmental organizations should embark on proper awareness creation on health issues,
2. There should be strict monitoring of health and proper setup of health programmes for IDPs
3. Government should ensure that regulatory procedures are working properly for effective provision of health information to IDPs
4. Government should ensure that finances are provided for procurement of drugs and other health facilities

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