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Source: Dept of Health & Human Services, Office of Research Integrity Annual Report 2006 http://ori.dhhs.gov/documents/annual_reports/ori_annual_report_2006.pdf.
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Full Length Research

Information Use by Research Scholars in Multidisciplinary Areas of Science and Technology: A Survey of SantGadge Baba Amravati University, Maharashtra

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The researchpaper tries to illustrate the concept of information use. It highlights the areas of multidisciplinary research in science and technology. Meeting the multidisciplinary needs of research scholars begins with understanding the activities that create these needs and their place in the knowledge system. The intension behind this research survey is to recognize the purpose and frequency of visit to the library by multidisciplinary research scholars in the field of science and technology. The survey was conducted to gain a clear picture of how multidisciplinary research scholars in science and technology seek information, the most used information sources or services by them. It is an attempt to know users awareness and utilization of various information services provided by the university library of SantGadge Baba Amravati University.

Keywords: Current Awareness Service (CAS); Selective Dissemination of Service (SDI); Multidisciplinary Research; Science and Technology; Research and Development.

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INTRODUCTION

Research is a continuous process where each new invention suggestssome new problems. These new problems inspire to new research scholars for their future research(Adithya and Talawar, 2009).The general meaning of information use is that, "it is concerned with understanding what information sources people choose and the ways in which people apply information to make sense of their lives and situations".Brady (2004) stated the role of libraries according to him a library plays a lead role in disseminating research information in any research organization. With the help of libraries research scholars selected their research problems and completed their research in well manner.

It is very difficult to provide valid information to the research scholars and satisfy their information needs in any discipline. According to Popoola (2008) in science and technology discipline providing information within time is not easy task due to many factors such as tremendous growth of scientific literature, subject scope, nature and complexity, scattering of literature, language barriers and multidisciplinary nature, etc.So it is very important to study the information needs of research scholars in multidisciplinary areas of Science and technology. In the campus of SantGadge Baba

Amravati University central library is situated. The library offers both conventional and modern services to its users. The purpose of the research study is to recognize the user awareness and utilization of various information services provided by the central library of SantGadge Baba Amravati University.

OBJECTIVES OF THE RESEARCH STUDY

1. To recognize the areas of multidisciplinary research in the field of science and technology.
2. To recognize the purpose and frequency of visit to the library by research scholars in the field of science and technology.
3. To recognize the nature of information requirement and types of information sources used by research scholars in central library of SantGadge Baba Amravati University.
4. To recognize the nature of communication channels used by the research scholars to share research information.
5. To know users awareness and utilization of various information services provided by the central library of SantGadge Baba Amravati University.

Review of past studies

Ranganathan (2011) in the case study of Bharathidasan University, Tiruchirappalli, about use of information sources by the personal attributes science faculty members and research scholars in a university environment stated that, scientific periodicals, abstracting and indexing journals, bibliographic databases and newspapers were the resources of information which were most frequently used.According to Bates (1996), many people in well defined disciplines such as chemistry are in fact working in multidisciplinary fields and exhibit high citation rates outside their own fields. Kumar and Reddy (2014) in their article, 'Use of E-Journals by Research Scholars in University Libraries in Andhra Pradesh' assessed the type of e-journals used, purpose for which they are used, amount of time spent in using them, problems in accessing e-journals, search methods used in accessing them, satisfaction with print and e-journals, adequacy of e-journals and training obtained in accessing them. Similarly, Palmer and Bates (1996) have done systematic research in information needs of multidisciplinary research. Devarajan (1989) stated that majority of research areas chosen by physical scientists and natural scientists are multidisciplinary in nature. Murphy (2003) stated that the basic research in pure science and technology is on the decrease.

RESEARCH METHODOLOGY AND SAMPLING

The research study is mainly based on the data collected from the central library of SantGadge Baba Amravati University and research scholars from various Science and Technology departments. For this structured questionnaire for University Librarian is constructed and used as prime instrument for primary data. The other questionnaire is designed for the survey of research scholars. The survey questionnaire was includes a Likerttype rating scale with five possible responses. The total 180 questionnaires were distributed out of these 148 research scholars responded to the questionnaires, the response rate is 82.22%. The entire 148 questionnaire were selected for analysis and interpretation of data. Responses to the questions were analyzed using simple statistical techniques and presented in the forms of table and figures.

Limitation of the research study

The study covers the research scholars at various teaching departments of SantGadge Baba Amravati University, registered research scholars at the research centers and central library users those use library for research purpose. The study used simple percentage method for data analysis.

RESULT

Area of multidisciplinary research

Multidisciplinary areas of science and technology are involving several academic disciplines or specializations in an approach to a topic problem Ex. Bioinformatics which is the combination of Biology, Information Science and Mathematics. Multidisciplinary areas of science and technology are classified into various subjects. The data reveals

that the areas of multidisciplinary research in science and technology are industrial Chemistry, Medicinal Chemistry, Informatics, Bioinformatics, Microbiology, Chemistry, Physics, Zoology, Petrochemicals, Oil and Paint Technology, Paper Pulp Technology, Geology, Mathematics, Applied Electronics and Computer Sciences, etc.

Information sources/ Services offered to the research scholars by the Central Library

Both conventional and modern types of information services provided to the research scholars of science and technology. These services includes lending, reference, reprint, photocopying and specialized services such as newspaper clipping service, current awareness service, Selective Dissemination of Information (SDI), OPAC, literature searches of online databases, bibliographic databases, abstracting and indexing, consolidation and repackaging. The N-List consortia, ABI information Complete, SCOPUS database, IEE Xplore database, E-journals, etc. are some important information sources offered to the research scholars of science and technology by the central library.

General Information of the Respondents

The general information of the respondents is shown in Table 1-3.

Age wise distribution of Respondents

The Table-1 gives the age wise distribution of the respondents. It is found that, large number of the respondents representing 41.89% fall into the age group 31-35 years. Followed by 22.29% as 36-40 years, 18.92% as 26-30 age group, 'less than 25' years 8.11% and 'above 40'range 8.79%.

Table-1: Age wise distribution of Respondents

S. N.	Age in Years	Number of Respondents	Percentage of Respondents
1	<25	12	8.11
2	26-30	28	18.92
3	31-35	62	41.89
4	36-40	33	22.29
5	40>	13	8.79
Total		**148**	**100**

(Sources: Filled in questionnaire)

Gender wise distribution of Respondents

Table 2: Gender wise distribution of Respondents

S. N.	Gender	Number of Respondents	Percentage of Respondents
1	Male	92	62.16
2	Female	56	37.84
Total		**148**	**100**

(Sources: Filled in questionnaire)

From the Table-2 it is observed that, out of total 148 respondents 92 (62.16%) were male research scholars and 56 (37.84%) were female.

Educational qualification of the Respondents

The qualification groups are identified and for the better use of research study it is divided into six groups. The Table-3 shows that 72 (48.65%)respondents possess M. Sc. degree followed by research degree i.e. Ph. D. 36 (24.32%). NET (JRF)/SET qualified research scholars were 18 (12.16%) while M. Phil. degree 9 (6.08%). It is noticed that, not single respondent has the highest degree in science i.e. D. Sc. (Doctor of Science).

Table 3: Educational qualification of the Respondents			
S. N.	**Qualification**	**Number of Respondents**	**Percentage of Respondents**
1	M. Sc.	72	48.65
2	M. Phil.	09	6.08
3	Ph. D.	36	24.32
4	D. Sc.	00	0
5	NET(JRF)/SET	18	12.16
6	GATE	13	8.79
Total		**148**	**100**

(Sources: Filled in questionnaire)

Frequency of visit to the central library

The central library plays an important role in providing research information to the research scholars. The regular visit of library shows the efficiency of the central library in meeting the information needs. The Table-4 shows the frequency of visit to the central library and use of library by multidisciplinary research scholars in the areas of science and technology.

Table 4: Frequency of visit to the central library			
S. N.	**Frequency**	**Number of Respondents**	**Percentage of Respondents**
1	Daily	48	32.43
2	Once a Week	31	20.95
3	Twice a Week	13	8.79
4	Once a Month	23	15.54
5	Twice a Month	10	6.75
6	Occasionally	16	10.81
7	Never	7	4.73
Total		**148**	**100**

(Sources: Filled in questionnaire)

From the Table-4 it is clear that, 32.43% of the respondents use the central library daily, 20.95% respondents use ‘once a week’, 8.79% use ‘twice a week’, 15.54% respondents use ‘once a month’ and 6.75% visited the library ‘twice a month’ and 10.81% of respondents are ‘occasional’ users and very few i.e. 4.73% of the respondents never used the central library.

Ranking of use of information channels by Research Scholars

To identify the information channels by research scholars the question asks to the respondents where they seek current valid research information. The responses were calculated and given in the Table-5. It is found that, the articles from print and online journals on science and technology were the means through which all research scholars i.e. 100% obtain current research information. Internet has the second rank 99.32% research scholars use internet while 97.97% respondents communicate with colleagues and 97.29% were in contact with the experts for current information. And the other means in the order of preferences are ‘use of conference proceedings/seminar papers etc. 93.91% and 87.83% research scholars’ visit other institute and so on.

Table 5: Ranking of use of information channels by Research Scholars			
S. N.	**Information channel**	**Rank**	**No. of Research Scholars &Percentage (%)**
1	Journals Article (Print & Online)	1	148 (100%)
2	Internet	2	147 (99.32%)
3	Communication with colleagues	3	145 (97.97%)
4	Communication with colleagues experts	4	144 (97.29%)
5	Attending conferences/seminars/workshops	5	143 (96.62%)
6	Use conference proceedings/seminar papers, etc.	6	139 (93.91%)
7	Other institute	7	130 (87.83%)
8	Audio-Visual Media	8	125 (84.45%)
9	Membership in professional bodies	9	123 (83.10%)

(Sources: Filled in questionnaire)

Research Scholars' awareness and actual use of information services

Table 6 is related to the Information services provided by the central library and research scholar's responses about their awareness and use. Details of user awareness and use of various services by research scholars are given in the table. It is observed that, most of the respondents were aware of and use of 'online search' i.e. 81.76% followed by 81.08% respondents were aware of 'newspaper clipping service' and use it. It is an important current awareness service given by the central library. 13.51% respondents were aware about it but not used while 5.41% respondents still not used this service. More than 70% of the respondents are aware of and use of services like lending, claim on book, reference and inter library loan services. SDI service is a prominent information service offered by central library to research scholars 69.60% are aware of and use this facility while 13.51% respondents are not aware of SDI service. It is notice that the very important service such as literature search through CD-ROM databases and online databases only 66.89% respondents very aware of and used it. Similarly nearly 60% of the respondents are aware of the photocopying, bibliographic services and current awareness services

Table 6: Research Scholars awareness and actual use of information services					
S. N.	**Information services**	**Aware & Used**	**Aware But Not Used**	**Not Aware**	**Total (%)**
1	Online search	121 (81.76%)	18 (12.16%)	09 (6.08%)	148 (100%)
2	Newspaper clipping	120 (81.08%)	20 (13.51%)	08 (5.41%)	148 (100%)
3	Lending	116 (78.38%)	14 (9.46%)	18 (12.16%)	148 (100%)
4	Claim on Book	115 (77.70%)	15 (10.14%)	18 (12.16%)	148 (100%)
5	Reference	112 (75.67%)	12 (8.11%)	24 (16.22%)	148 (100%)
6	Inter Library Loan	104 (70.27%)	24 (16.22%)	20 (13.51%)	148 (100%)
7	Selective Dissemination of Information	103 (69.60%)	25 (16.89%)	20 (13.51%)	148 (100%)
8	Literature search on CD-ROM/Online Database	99 (66.89%)	31 (20.95%)	18 (12.16%)	148 (100%)
9	Photocopying	98 (66.22%)	29 (19.60%)	21 (14.18%)	148 (100%)

Table 6: continues

10	Bibliographic services	98 (66.22%)	30 (20.27%)	20 (13.51%)	148 (100%)
11	Current Awareness Services	95 (64.19%)	35 (23.65%)	18 (12.16%)	148 (100%)

(Sources: Filled in questionnaire)

Use of Libraries other than central library

From the research study it is found that, 28 (18.92%) respondents made use of other libraries in addition to the central library while 120 (81.08%) respondents were depend fully on the central library.

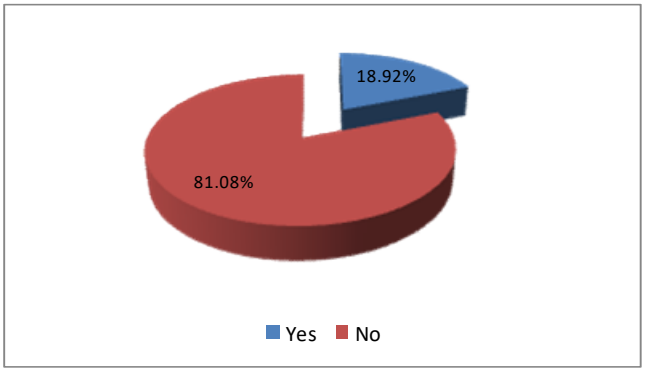

Figure 1: Use of Libraries other than central library

Rating of library services by the Research Scholars

The question was asked to the research scholars to rate the services and overall performance of the central library of SantGadge Baba Amravati University. More than 37.84% of the research scholars rate the library services 'extremely well', 29.72% as 'very well', 18.92% as 'moderately well', 8.11% as 'slightly well' and only 5.41% rate the central library services 'not at all well'.

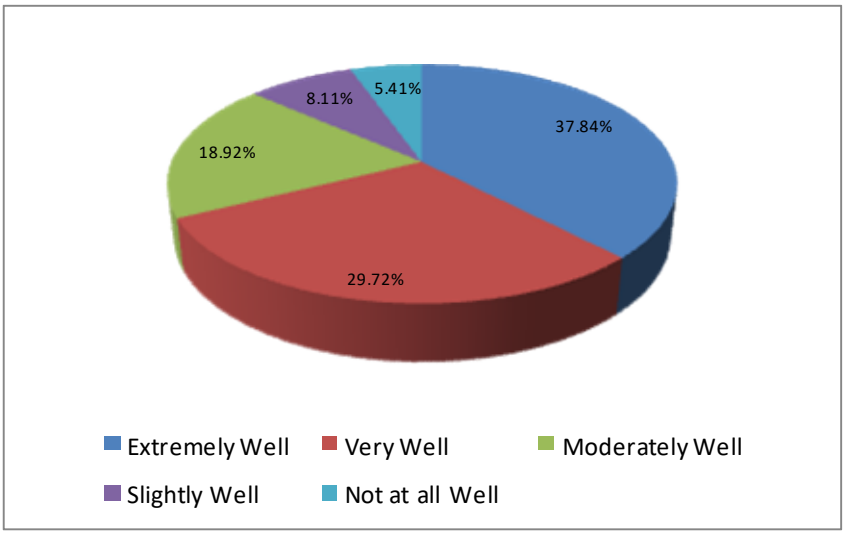

Figure 2: Rating of library services by the Research Scholars
(Sources: Filled in questionnaire)

Demand for specific information sources or services

The question asked to the research scholars whether they demand the central library for any specific information sources or services in relation with their research needs. Out of 148 research scholars 129 (87.16%) gives positive response that they asked the central library for their required research information and 19 (12.84%) respondents never asked for specific information.

Table 7: Demand for specific information sources or services

Opinion	Number of Respondents	Percentage
Yes	129	87.16
No	19	12.84
Total	**148**	**100**

(Sources: Filled in questionnaire)

Time taken to get the demanded information

The two questions were asked to the respondents' one relating to time taken to get the demanded information by the central library and other about their satisfactionin providing the demanded information. The Table-8 reveals that out of 148 respondents 34.46% indicated the time taken is 1-5days, 26.35% indicated 6-10 days while 19.59% have indicated the time taken 11-15 days. Only 8.79% respondents indicated that the central library taken one month to supply the demanded information items.

Table 8: Time Taken to get the demanded information

Time taken to get a document (days)	Number of Respondents	Percentage
1-5	51	34.46
6-10	39	26.35
11-15	29	19.59
16-20	16	10.81
Within a Month	13	8.79
Total	**148**	**100**

(Sources: Filled in questionnaire)

Rating of satisfaction towards the response of the central library

The rating of satisfaction towards the response of the central library is given in the Figure-3. The table reveals that response of the central library in providing the information was very satisfied for 35.14%, satisfied for 33.11% while 15.54% respondents are feeling OK. Only 8.79% respondents were dissatisfied towards the response of the central library and 7.42% are very dissatisfied.

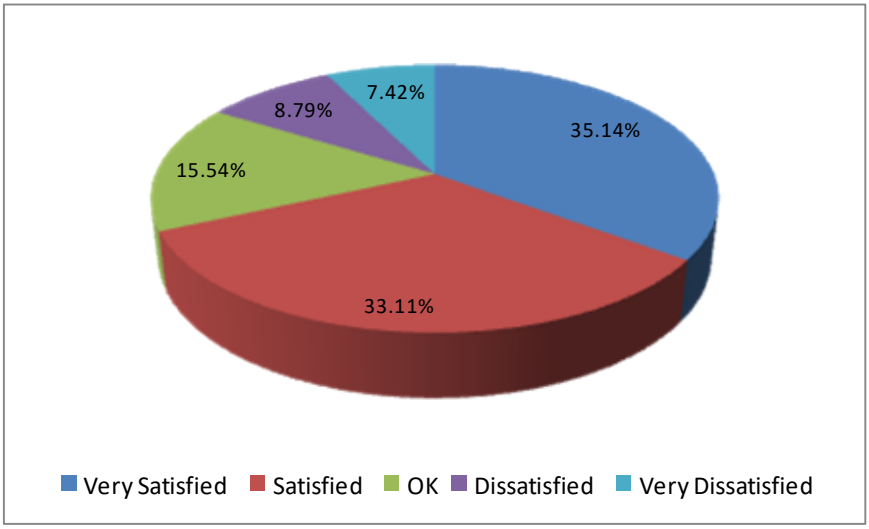

Figure 3: Rating of satisfaction towards the response of the central library. (Sources: Filled in questionnaire)

FINDINGS AND RECOMMENDATIONS

Findings

The findings of the research study demonstrate that highest number of research scholars falls under the age group 31-35 years and lowest number of research scholars are from below 25 years. 62.16% research scholars are male. 48.65% of the total respondents have their highest degree M. Sc. and 24.32% of respondents have Ph. D. in their respective discipline. Majority of research scholars used central library for up-dating their information and knowledge. Articles from print and online journals are the most preferred channel used by the research scholars (100%) to keep themselves up-to-date with multidisciplinary areas of science and technology. It is found that 32.43% of the research scholars visit the central library daily. Both conventional and modern library services are used by the research scholars. Almost 81.08% of the research scholars depend fully on the central library to get research information. 34.46% research scholars get valid information items from central library within 1-5 days. 97% research scholars prefer sharing research information by communication with colleagues and experts.

Recommendations

The research scholars recommended that the both print and online journals and online databases related to the science and technology must be added in the collection of central library. Claim items and information of new arrivals must be communicated to the research scholars within short period.

CONCLUSION

Now a day the research trends move towards multidisciplinary subjects. Most of the research scholars selected their research topics in such area. They need most valid information and update information for their research purpose. The library and information centers are the main sources to provide such information. Information search in the multidisciplinary area is difficult for the research scholars. For this proper instructions for collecting of information must be given to the research scholars. To make right information to the right person at the right time in the right form and within a right manner libraries and information centre are essential.

The central library of SantGadge Baba Amravati University is more concerned with providing specialized information services to its users. The research centers and teaching departments within the university are engaged in research and development activities in multidisciplinary areas of science and technology. In order to increase the use of library facilities by the research scholars, the central library has conducted compulsory user awareness programmed from time to time.

REFERENCES

1. AdithyaKH.,Talawar V G, (2009). Use of referencesources in university libraries of Karnataka: a study. Annals of Library and Information Studies, Vol. 56, pp. 103-116.
2. Bates MJ (1996). Learning about the information seeking of interdisciplinary scholars and students. Library Trends, Vol. 45, No. 2, pp. 155-164.
3. Brady EE and others(2004). Print versus electronic journal use in three science and technology disciplines: What's going on here? College and Research Libraries, Vol. 65, pp. 427-438.
4. Devrajan G (1989). Information needs and use habits of pure scientists: An assessment. In: Vashisth C P, Ed. Library and information services in India: Assessment and effectiveness,34th All India Library Conference, Calcutta, December 20-23, 1988. ILA; Delhi. 1989, pp. 278-283.
5. Kumar M.,Reddy VP (2014). Use of E-Journals by Research Scholars in University Libraries in Andhra Pradesh. Library Philosophy and Practice, pp. 11-31.
6. Murphy J(2003). Information seeking habits of Environmental Scientists; A study of interdisciplinary scientists at the Environmental Protection Agency in Research Triangle Park, North Carolina, Issues in Science and Technology Librarianship. http://www.library.uscb.edu/1st/previous.html. (Visited on: February 20, 2020).
7. Palmer CL(1996). Introduction (Special issue on navigating the Disciplines). The library and interdisciplinary inquiry. Library Trends, Vol. 45, No. 2, pp. 129-133.
8. PopoolaSO(2008). The Use of Information Sources and Services and Its Effect on the Research Output of Social Scientists in Nigerian Universities. Library Philosophy and Practice, http://unllib.uni.edu/LPP. (January 16, 2008). (Visited on: January, 25, 2020).
9. RanganathanC(2011). Use of Electronic Information Resources by Faculty members in Bharathidasan University: A Survey. Indian Journal of Information Sources and Services, Vol. 1, No. 2, pp. 50-55.

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International Journal of Academic Library and Information Science

Full Length Research

Newspaper Reading matters between graduate students of the Sambhram Institute of Technology, Bangalore, Karnataka

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Reading is step towards acquiring the useful wisdom of one's own experience, and it can be an established road to self-detection. Reading gives the staff practice so that the reader can broaden one's perspective, classify, spread, and deepen one's interest and gain a deeper understanding of the nation. Newspapers is also an important source of knowledge for everyone and the daily news of society. The attack was made to analysis in this paper. Newspaper reading habits among graduate students of the Sambhram Institute of Technology, Bangalore, Karnataka.

Keywords: Sambhram College Library, Graduate Students, Newsletter, Newspaper, Reading Habit

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INTRODUCTION

When we think of the media, we think of them as giving us news, when we think of the news, we think of what's going on around us. This is an incomplete summary of the news as well as of the newspapers. A newspaper is not only a source of knowledge; it is a store of information. Reading the daily newspapers is one of the easiest way to stay up to date with the ever expanding globe. Newspapers bring all the relevant news and events of the world to our doorstep. Newspapers are giving us a range of news from around the world.

There is news from parliament that provides details affecting the country. News from around the world comes through reporters for local news stations overseas or through news agencies in various countries. Newspapers may also serve as a platform for readers and authors to hare their thoughts and viewpoints on different subjects. Eading newspapers are therefore important for young learners to be attentive and enlightened people. Unfortunately, though, many of our country's students do not have easy access to newspapers. Modern societies rely on the media, the newspapers of which are an important component in the distribution of current and critical knowledge.

SCOPE AND OBJECTIVES

The study shows the newspaper's reading habits among graduate students of the Sambhram Institute of Technology, Bengaluru, Karnataka.Which involves students from the social engineering, science, humanities, and arts fields for the academic year 2019-2020?The analysis also focuses on leading newspapers such as Kannada PrabhaPrajavani,

Udayavani, Vijaya Karnataka, and Vijayavani (Kannada), Bangalore Mirror, Business Line, Business Standards, Deccan Herald, The Economic Times, The Hindu, The New Indian Express, Times of India, Deccan Chronicle and Mint, (English) E-Nadu, Malayalamanorama, DhinaThanthi, Dinamalar, Rajasthan Patrika, which are being subscribed in the central library of Sambhram Institute of Technology, Bengaluru, Karnataka.

Aims of the study are

• Recognizing the time spent by graduate students reading newspapers;

• Understanding the various areas of concern of graduate students in newspapers;
• Access to the size of graduate students by means of print newspapers rather than the Internet, radio, television and oth er mass communication for news;
• Find out what the students think of reading the newspapers
• Suggestions to encourage the reading of newspaper habits among graduates Students

METHODOLOGY

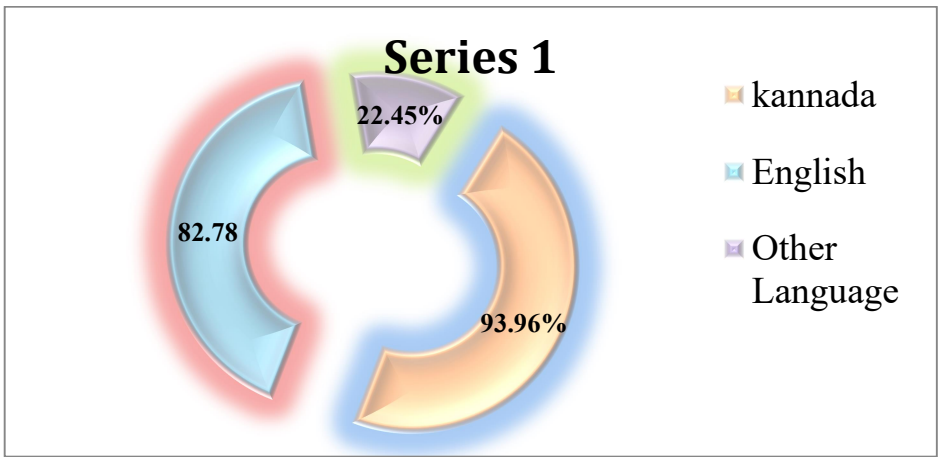
Workutilizes systematic, objective and quantitative analysis methods using a well-structured questionnaire. This is a survey in which the sample was chosen by random sampling to collect the data. A total of 200 questionnaires were distributed tograduatestudents in all disciplines of the institution, of which 169were returned at a response rate of 88.4 %.

Data analysis and interpretation:

The information generated by graduate students is evaluated and presented

Languages Known by Students

Students have been asked about the languages they speak. It is noted that Kannada, being a regional language isdominated by 165 (93.96 %) students. 145(82.78%) students are familiar with English as a medium of instruction and 37 (22.45 %) students are familiar with other languages.



Reading the Newspaper Position

Students read newspapers in various cities. Majority of the students i.e., 112 (64.35%) read newspapers at theLibrary and 57 (33.62%) of the students read newspapers at home/hostel.
Students read newspapers in various cities. The majority of the students i.e., 112 (64.36%) read newspapers at the Library and 57 (33.63%) of the students read newspapers at home/hostel.

Preference of the Language for Reading Newspapers

98(56.53 %) students read Kannada newspapers, while 58 (29.15 %) read English newspapers and 8 (6.25%) students read other languages.

Time spent for the Reading Newspaper

Study has been done to know how much time students spend reading newspapers every day.69(40.33 %) students read newspapers for less than an hour while 85(49.26 %) respondents spentone and half an hour. Followed by around 11(7.92%) spend two hours, and then a few around 4(4.01 %) spend more than two hours a day.

The Newspaper Source

The majority of the students, i.e.78 (45.35%) focus on self-subscription, followed by 91 (52.62 %) students rarely read newspapers in libraries.

Reading the Newspaper Edition

Table 1 indicates that the edition of the newspaper favored by the students. Most students, i.e., 156 (88.93 %) prefer to read printededition of newspapers, and only 13 (9.04 %) prefer to read on the internet.

Table 1. Format/Version of Newspaper reading

SlNo.	Format/Edition	No. Respondents with a percent
1	Internet edition	13(9.04%)
2	Print Edition	156 (88.94%)
Total		**169 (100%)**

Choosing the News in the Magazine

Table 2 displays the student's choice of news to read in the newspapers. The top number 131 (74.96%) students prefer educational news, followed by 91 (52.62%)students prefer Sports News, Regulation News 99 (57.09 %), worldNews 93 (53.73%), Health related News 71 (41.44%), Sensational News 27(16.86%), Publishing 21 (13.51%), Entertainment 135 (77.20%), Advertising and Business Purpose 111 (62.02%). In addition, only 24(15.19 %) of respondents are favoured for agriculture-related news. The least favoured parts of the news are letters from reader, i.e. 11 (7.92 %).

Table 2. Choosing the News in the Magazine

SlNo.	Choice of News	No. of respondents with %
1	Sensational News	27(16.86 %)
2	Advertising/ Business	106 (61.02%)
3	Publishing Page	21 (13.51 %)
4	World	93 (53.73 %)
5	Regulation	99 (57.09 %)
6	Sports	91 (52.62 %)
7	Entertainment	135 (77.20%)
9	Education	131 (74.96%)
10	Agriculture	24 (15.19%)
11	Health	71 (41.44 %)
12	Letters	11 (7.92 %)

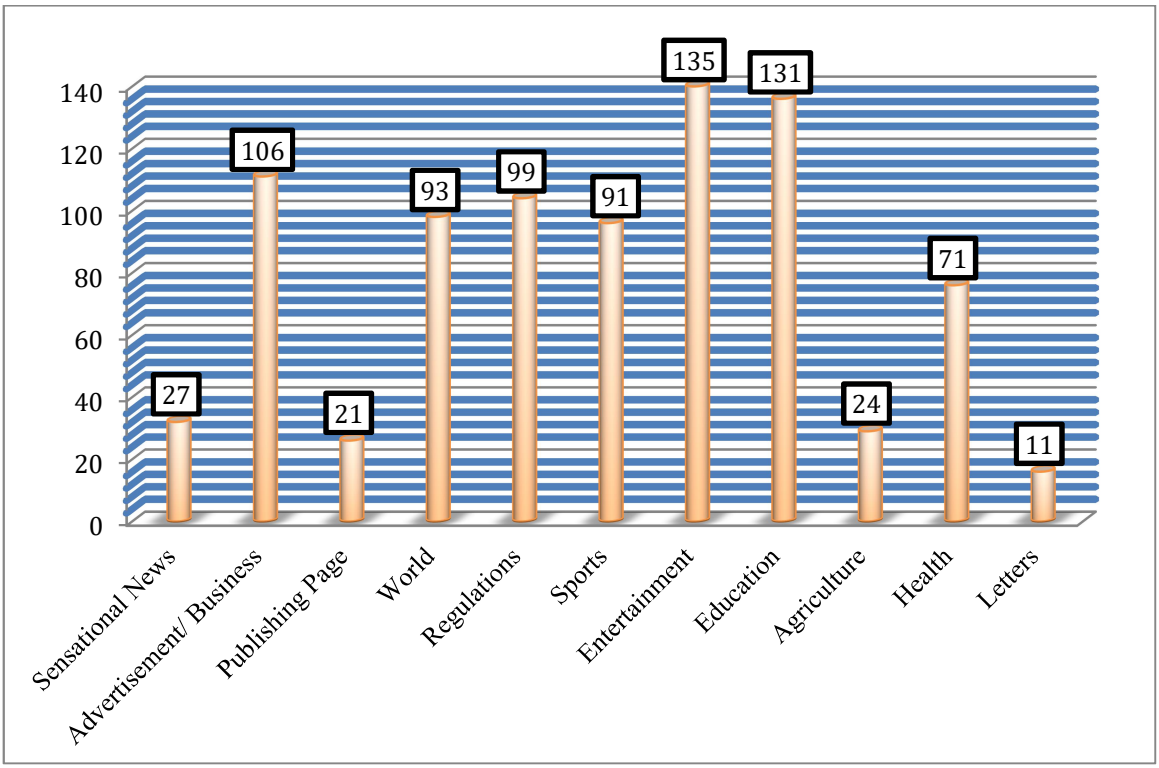


Figure 1. Choice of News items in the Paper

Purpose of the Reading Newspaper

Newspapers are a critical source of knowledge for enlightened communities, offering the most recent information to readers. Newspapers have various roles with different types of consumers. Students were asked about the various motives of reading the newspapers and offered different reasons for reading newspapers. Table 3 shows that majority of respondents, i.e.129 (73.85 %) read newspaper for facts, while 87 (50.38%) read newspaper for general knowledge and 80 (46.47%) of respondents read for educational purpose. The least number of respondents, i.e., 26 (16.31%) read the newspaper as it is there as usual task of the day as a leisure activity and also to obtain various scholarship details.

Table 3. Aim of the Reading Newspapers

SINo.	Aim	No. of Respondents with a %
1	Get your Details	129 (73.85%)
2	Extend the Horizon of General Information	87(50.38%)
3	Looking for New Jobs	52 (30.83%)
4	Educational Aim	80 (46.47 %)
5	Entertainment	56(33.06%)
6	News in Sports	49 (29.15%)
7	Normal duty of the day	18 (11.83%)
8	Outdoor Sports	33 (20.21%)
9	Boost self-reliance in society	14 (9.60%)
10	Keep up with the present Activities of the entire community	84 (48.71%)
11	Getting details on the scholarship	11 (7.92%)
12	Read Health – Related News	27 (16.86%)

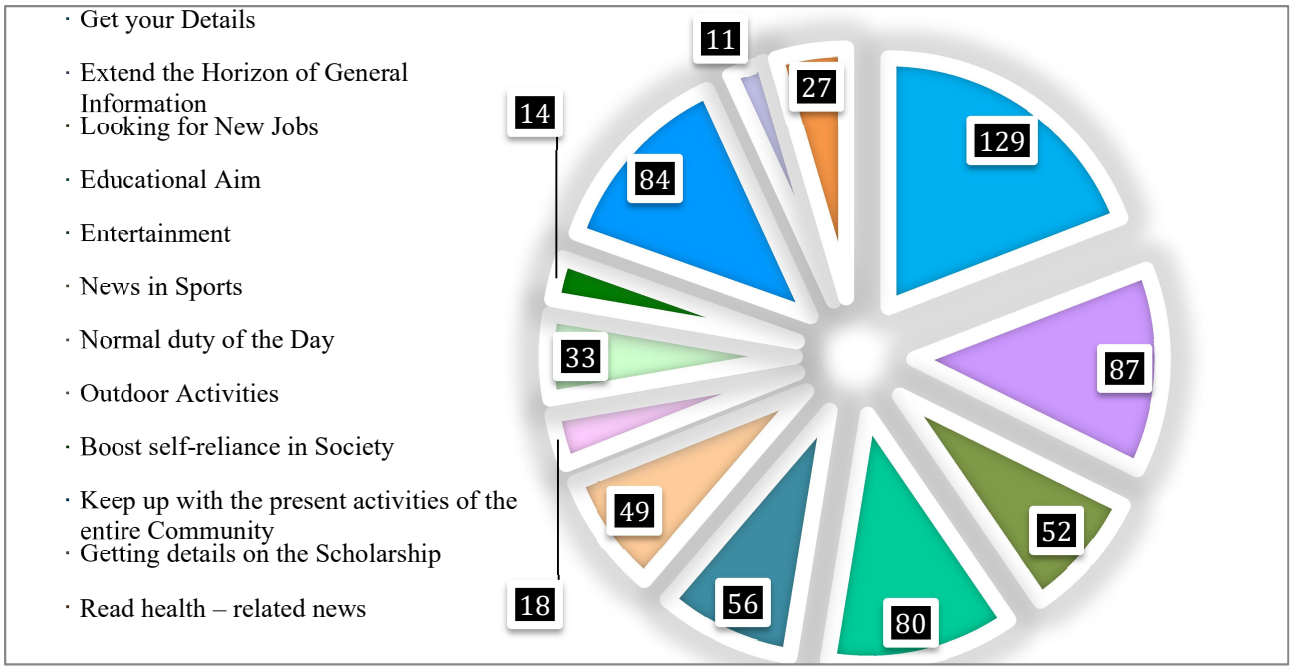


Figure 2. Aim of the Reading Newspapers

Preferred Time to Read Newspapers

Most of the respondents i.e., 123 (81.12 %) read morning newspapers, while 29 (17.99 %) read at any time of day, 5 (5.08 %) read in the evening and just12(8.49%) read in the afternoon.

Restrictions/Constraints in Reading the Newspapers

Majority of respondents, i.e., 142 (76.55 %) feel that time is a big significant constraint because they do not have time to read the newspapers, while 27 (16.87 %) feel that newspapers are not available at the right time and position.

Usage of the Internet to read the Online Newspaper

The development of information and communication technology (ICT) has led to the wide spread use of the Internet in almost every day human life. People can use the Internet to access newspapers all over the country. In study found that 37 (22.46 %) students had access to the internet for reading online newspapers, while 132 (71.53 %) respondents had not read online newspapers.

Newspapers The role of developing Language and Communication Skills

The role of newspapers in developing language and communication skills has been analysed. 152(86.70 %) believe that reading newspapers reading plays an important role in developing their language and communication skills, although 31 (19.11 %) of students do not accept.

Sources of News Successful

With the benefit of Information and Communication Technology, there are a variety of different sources of news. Here an attempt has been made to know which news source students feel more successful. Table 4 indicates that the majority of students i.e., 151(88.15 %) believe that televisions an effective news source, 97 (55.98 %) believe that Newspaper, 82(47.60 %) believe in online News, and 18 (11.84 %) believe that radio is an effective news of source.

Table 4. Important News Outlets

SINo.	Sources	No. of Respondents with a %
1	Newspapers	97 (55.98%)
2	Television	151 (86.15%)
3	On-line News	82 (21.90%)
4	Radio	22 (14.08%)

Aims of accessing the Internet on mobile devices

The study analyse that the majority of the students, i.e., 118 (67.71 %) have access to the internet to read newspapers on their mobile phones, while very few students, i.e., 51(30.28%) do not read newspapers on their mobile phones. Table 5 Indicates that there are various purposes of accessing the internet on their mobile devices. The majority of respondents who use the internet for general knowledge, i.e., 73 (42.57%), while48 (28.60 %) of respondents use the internet for social networks, 25 (15.75%) of respondents use the Internet for entertainment, followed by 13 (9.05%) of respondents using news outlets.

Table 5.Aim of using the Internet on Mobile Devices

Sl No	Purpose of Using Internet on Mobile	No. of respondents with %
1	Entertainment	25(15.75%)
2	Social Networks	48 (28.60%)
3	General Knowledge	73(42.57%)
4	News Outlets	13 (9.05%)

Observations and Suggests

The majority of students, i.e., (93.97 %) read kannada newspapers, and most of them read Library Newspaper at (64.36%). 49.27 % of students spend an hour and a half a day for reading a newspaper. 45.36% of students are newspaper self-subscribers, (17.13%) of students who receive library newspapers are marginal. Almost all students seem to be tech-savvy, in this digital world, but 88.94 % of students prefer print newspapers and just 9.05% of them read online newspaper.

The study reveals that 77.21% of students favour Entertainment News, followed by educational news. The majority of respondents, i.e., 129 (73.86 %) read newspaper for information purpose, while 87 (51.39%) read newspaper for general knowledge and 80 (46.48%) read for educational purposes.

(86.15 %) of respondents agree that television is an important news source, (76.55 %) feel that time is a big restriction because they do not have time to read the newspapers, and 75.53 %) of respondents do not read newspapers online.

A number of important suggestions have been made on the data analysis and opinion provided by the respondents, which will help to promote the newspaper reading habits among undergraduate students of Sambhram Institute of Technology, Bengaluru, Karnataka.

(a) The library should increase the subscription of newspapers and encourage students to use newspapers in the library through user education programmes.

(b) Awareness-raising of the value of newspaper reading and newspaper sections must be generated among undergraduate students to help them stay up-to- date with current affairs around the world.

(c) There must be knowledge about the use of online newspapers, which can potentially help to protect the environment.

(d) With so many news portals available online, students must be encouraged to choose news portals to instant news of their interest.

(e) Most of the students are not aware of news portals. Libraries can therefore encourage the use of different news portals among library users by building awareness through orientation programmes.

CONCLUSIONS

As is well known, reading is an important practice in the learning process, which can shape a positive personality, a good idea, a good capacity for reasoning, and contribute to a shift in individual attitudes. Newspapers are in particular, the main conveyors of current knowledge to people. Despite the availability of many other news outlets, such as books, magazines (Print Media), radio, television, electronic media, etc., newspapers continued to dominate as the key. However,

as the primary channel of current information, newspaper continued to dominate. Newspapers not only have update news, but also survive thought-provoking and insightful posts, features, editorials and sub, commentary and comments. In today's highly competitive environment, newspapers will provide students with the required content, expertise and perspectives that will offer them the much needed advantage to be successful not only in competitive exams or work interviews, but also in the future. But also in their economic and social professional life. Newspapers are also important for university students.

This study shows that most graduate students are used to reading newspapers, but are still unaware of the advantages of online newspapers and news portals that can spontaneously refresh their awareness by providing up-to-date and evolving content. Library professionals must also raise awareness of certain news sources, and libraries must ensure that students have access to a wide range of newspapers. To allow students to read their favorite newspapers and improve their knowledge base, which will encourage them to be effective in their academies and lead a responsible life in society.

REFERENCES

(1) Palmer, B., Fletcher, H. & Shapley, B. (1994).“Improving reading for students, writing with newspaper-based training”.Res. newapaper Uh, J. Vol. 15, No.2, pp.50-55, 1994.

(2) C. Keshava, Krishnamurthy, &Patil, A.S. (2011).Pattern of usage of knowledge by D.Ed. Colleges students in Dharwad City: A report. In collection Management in the Evolving Context: Concerns and Prospects," edited by Kannappanavar, B.U. Paper presented by Kuvempu University College Librarians Association Shimoga at the National Seminar, pp. 37-46, 19-20 August 2011.”

(3) ShoDeen, (2005). A.’Forsting a passion for reading.’ Bulletin of the ILA, Vol.41, No.1, 5-9,2005, pp

(4) Sahai, S. (1970). “The reading habit of newspapers and magazines and their relationship to character traits”.The Heralds Library, Vol.12, No.3, pp.167-77, 1970.

(5) Ross, C.S.(2002).“In the Modern Age, reading.In the digital factor of information resources and libraries”, edited by G.E. Gorman. London: Facet Publishing, 2002.

(6) Street, C. (2002). “Newspaper Teaching”.Social Studies, pp.131-40, 2002, Vol.93, No.3.

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Gender and Self-Efficacy as Factors Influencing Use of Electronic Resources by Law Undergraduates in Private Universities in South-West, Nigeria

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The study was carried out to assess the influence of gender and self-efficacy on use of e-resources by law undergraduates in private universities in South-west, Nigeria. Descriptive survey research design was adopted for the study. The population comprised 2,823 law undergraduates at 300, 400 and 500 level in the ten private universities offering law programme in South-west, Nigeria. Purposive sampling technique was used to cover law undergraduates at these levels since it is at these levels that law undergraduates are exposed to court attachment, legal research methods, while 500 level undergraduates are expected to write their project reports using up-to-date literature, which are the essential features of the e-resources. A sampling fraction of 50% was further employed using simple random sampling technique and this gives a sample size of one thousand, four hundred and sixty seven (1467). Out of 1467 copies of questionnaire distributed only 1089 copies which constitute 74.2% return rate were found usable for the study; it was analyzed with the aid of frequency counts, percentages and correlational methods. The results revealed that the law undergraduates in private universities use e-resources to obtain information on trending legal issues, to obtain complementary learning materials and for research development. The findings further indicated that gender does not influence their use of e-resources. However, there was significant influence of both gender and self-efficacy on the use of e-resources by law undergraduates in the studied universities. The implication of the findings is that an improvement in the level of self-efficacy of law undergraduates would result in corresponding increase in the use of e-resources by law undergraduates in private universities in South-west, Nigeria. The study appears to be the first among its kind and output of the study would add to the body of knowledge in the area of gender and psychological wellbeing of undergraduates towards the use of information resources particularly among the law undergraduates.

Keywords: Gender, Self-efficacy, e-resources, Law undergraduates, Private universities

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INTRODUCTION

Electronic resources aredescribed as the kind of information resources that require computer or other electronic gadgets' access or any electronic product that delivers a collection of data in full text bases, CD-ROMs and other digital networks (Adeniran, 2013). They are more useful owing to their inherent capabilities such as provision of cheaper

access to information, time saving, low storage requirement and capability for representing important component of the collection building activities of libraries. Electronic resources usually consist of e-books, e-journals, e-databases such as LexisNexis, Legalpaedia, IEEXplore, AGORA, ECONLIT, LANTEEL and CD-ROMs, which serve as an alternative to the print media. Law undergraduates are expected to make use of these information resources for the enhancement of learning activities, research development as well as for obtaining trending news in the field of legal education. However, the context observations revealed usage problems of e-resources among law undergraduates in private universities owing to factors largely attributed to poor search ability, low awareness about available resources and mismatch of interests without recourse to the influence of gender and self-efficacy of user of such information.

Gender connotes a range of characteristics pertaining to, and differentiating between, masculinity and femininity. It is used to explain the state of being male or female. Gender also cut across the cultural and social construction of a personality, which manifest in qualities and behaviour of men and women (Steinerova and Susol, 2007).The two facets form the basis upon which gender construct is measured to date. Several scholars over the years have paid attention to the influence of gender on the use of ICT based information resources. For instance, Ahmed (2015); Steinerova and Susol (2007) noted that research on gender differences remains the subject of academic discourse. The authors averred that literature is replete with studies on human information behaviour which shows tendencies of men and women to display differences in the characteristics when using electronic-based resources. Though, nowadays, some males claim femininity and vice versa particularly in the use of electronic-based information resources.

Gender appears to have played a great part on an individual's acceptance and use of information systems. Venkatesh, Morris, Davis and Davis (2003) cited in Hamzat and Mabawonku (2018); Fallows (2005) have shown that women appreciate especially the communicative features of the Internet, while men are more likely to use online transactions, get information, play games and use it for other entertainment purposes such as aesthetic and beauty appreciations. Gender manipulates factors such as income, time constraints, literacy, education, language, and cultural context and may affect access to facilities, training and development in the use of electronic resources. In elaborating the issue of gender equilibrium in the use of e-resources, Akande (2015) carried out a study on gender differences in information retrieval skills and use of electronic resources among information professionals in South–Western Nigeria. The author remarked that developing information technology skills and competency in using electronic resources transcends gender boundary as both sexes need skills to navigate the information landscape. The author however concluded that gender as a variable should not be considered a significant criterion in determining fitness for the use of ICT enabled resources, recruitment, opportunities for training, improved education and capacity building in an ICT environment rather equal provision should be made for both sexes. Based on this line of argument, it therefore, follows that while studying the use of electronic resources, the concept of gender influence should not be kept in abeyance. Rather, there is the need to investigate the roles of gender in the use of electronic resources particularly among the law undergraduates in Nigerian private universities.

Another factor presumed to influence the use of e-resources is self-efficacy. Self-efficacy entails an individual's confidence in his/her ability to perform the behaviour required to produce specific outcome. The concept is considered to directly impact the choice of an individual to engage in a task, not minding the effort that will be expended and the persistence that will be exhibited (Sam, Othman &Nordin, 2015). Self-efficacy is an individual's belief in his or her innate ability to achieve goals. Bandura (1986) cited by Sadiku and Kpakiko (2015) described self-efficacy as an individual's personal judgement of how well he/she can execute courses of action required to deal with prospective situations. The term 'self-efficacy' has been shown to influence choice of whether to engage in a task, the effort expended and the persistence shown in accomplishing such task.

Self-efficacy is concerned with understanding important aspects of self and identity, people's beliefs about their personal capabilities and how these beliefs influence what they try to accomplish, how they try to accomplish it, and how they react to success and setbacks along the way. Though, the expectations of self-efficacy may determine whether an individual would be able to exhibit coping behaviour and how long an effort would be sustained in the face of obstacles. Thereby, individuals who possess high self-efficacy will exert sufficient effort that, if task is well executed, it may lead to successful outcomes, whereas those with low self-efficacy are likely to cease effort early (Tara, 2012). Self-efficacy affects every area of human endeavour and has strong influences on both the power an individual has to face challenges competently and the choices made. These effects are particularly noticeable and compelling with regards to behaviours or approach to issues. It also contributes immensely in predicting effective performance through increase in motivation, task focus, effort and decreasing anxiety and self-defeating of negative thinking.

Talsma, Schüza, Schwarzer and Norris (2018) averred that self-efficacy is believed to enhance performance through a range of mechanisms. They remarked that individuals with high levels of self-efficacy set more difficult goals, expend more effort, persist for longer with challenges, and show resilience in the face of adversity. Self-efficacy is quite important in predicting effective utilisation of electronic resources by law undergraduates. Law undergraduates' self-efficacy in the use of e-resources can further be explained in terms of imaginal experiences and social influence.

Imaginal experience is a terminology used to describe a visualisation or an exercise that allows someone to envisage future success in details by overcoming challenges that may hinder goals. Imaginal experience is the art of visualising oneself behaving effectively or successfully in a given situation. It involves identifying models that can assist someone to complete challenging tasks and mastering of perceived difficult tasks. Tsang, Hui and Law (2013) defined imaginal experience as a kind of visualised rehearsal of successful or unsuccessful performance, be it deliberate or otherwise and that are capable of improving an individual coping strategy and enhance self-efficacy. Individual undergraduate's imaginal experiences include beliefs in one to explore e-resources for effective academic task. Hirschman (2018) described imaginal experience as individuals' perceptions about the activities they engage in and that permit them to self-project into a particular role or character. Imaginal experience is widely seen as role-play in typical online games such as World of Warcraft (WoW) and the popular three-dimensional virtual world named Second Life where players can choose to play particular roles and characters.

Self-efficacy of law undergraduates in private universities in South-West, Nigeria can also be measured in terms of social influence. Social influence comes from individual observation of people around, especially people considered as role models such as lecturers, senior colleagues, and peers among others. Seeing individuals similar to oneself succeeding by their sustained effort raises someone' beliefs that he too possesses the capabilities to master the activities needed to be successful in the use of e-resources for enhancement of his/her law undergraduate's academic activities. Social influence connotes external pressures that can be exerted upon an individual or group of individuals to act in a particular way. It reflects the influence of some variables (opinions of family, close friends, and colleagues) on use behaviour. The construct simply explained the role of opinions of close associates of a user in enhancing his/her use of any information system (Venkatesh *et al* 2003). The term social influence is also used to represent the degree to which individuals perceived the importance of using new technology/information system by others. Hence, the construct could exert different influence on law undergraduates' *vis-á-vis* electronic resources use. The rate at which law undergraduates make use of electronic resources might be functions of many factors. It could be for obtaining information on cases, digest, statutes and other academic purposes. As a result, there are concerns about how law undergraduates use e-resources and how self-efficacy can influence their search strategies. This development therefore, calls for the need to assess the influence of gender and self-efficacy of law undergraduates with reference to private universities in South-west, Nigeria.

OBJECTIVES OF THE STUDY

Specifically, the study sought to:

i. determine the purpose to which e-resources are being used by law undergraduates in private universities in South-West, Nigeria;
ii. ascertain the influence of gender on e-resources use among law undergraduates in private universities in South-West, Nigeria;
iii. examine the influence of self-efficacy of law undergraduates on the use of e-resources in private universities in South-West, Nigeria; and
iv. establish the combined influence of gender and self-efficacy on e-resources use by law undergraduates in private universities in South-West, Nigeria.

HYPOTHESES

In this study, the following null hypotheses were tested at 0.05 levels of significance:

1. There is no significant influence of gender on use of e-resources by law undergraduates in private universities in South-West, Nigeria.
2. There is no significant influence of self-efficacy on use of e-resources by law undergraduates in private universities in South-West, Nigeria.
3. There is no combined influence of gender and self-efficacy on law undergraduates 'use of e-resources in private universities in South-West, Nigeria.

LITERATURE REVIEW

Law undergraduates in private universities like their counterparts in science and other disciplines areexpected to make use of electronic resources and other sources for the enhancement of their class and home assignments,

formulation of term papers, projects and for the performance of other academic activities. Gender and self-efficacy were recognized as important variables of study out of plethora of factors that could enhance use of these resources. Gender involves a range of characteristics pertaining to, and differentiating between, masculinity and femininity. Gender can be regarded as cultural and social construction of a personality, which manifest in qualities and behaviour of men and women (Steinerova & Susol, 2007). It is used to explain the state of being male or female.

Gender remains the most important issue to be studied because the concept has not been given adequate attention in the existing literature. In most cases, the issues of gender are frequently embedded within larger topics, such as multiculturalism and diversity. Another factor considered to influence use of e-resources by law undergraduates is self-efficacy. Self-efficacy reflects an individual's confidence in his/her ability to perform the behaviour required to produce specific outcome. Bandura (1997) defined self-efficacy as a personal judgement of how well an individual can execute courses of action required to deal with prospective situations. According to Tsang Hui and Law (2012), self-efficacy can be defined as the individuals' beliefs about their ability to perform in different situations and functions. It could be regarded as a multi-level and multi-faceted set of beliefs that influence how people feel, think, motivate themselves and behave during various tasks. Animashaun and Ojo (2012) described self-efficacy as an individual belief in his/her ability to change his behaviour. Hashemi and Ghanizadeh (2011) noted that students with low in self-efficacy could display less persistence and effort expenditure in the use of any system. Users with low self-efficacy often avoid uncertain and challenging tasks, display lack of intentionality, and possess attributions that are nonrealistic and maladaptive.

Self-efficacy could be defined in terms of an individual law undergraduate's confidence in his/her ability to use e-resources to obtain legal information on statutes, digest, cases, and proceedings in order to achieve effective academic tasks. The concept is thought to directly impact the choice of an individual to engage in a task, as well as the effort that will be expended and the persistence that may be exhibited. Overtime, psychologists have studied self-efficacy from several perspectives, and reportedvarious paths in the development of the concept, the dynamics of self-efficacy, interactions between self-efficacy and self-concept as well as the habits of attribution that contribute to, or detract an individual from self-efficacy.

Empirically, Jayanthi and Saravana (2013) tested gender differences in e-resources usage among the students of engineering institutions in Kanchipuram District. One thousand, two hundred and fifty (1250) valid copies of questionnaire were collected and then data was analysed, tabulated, interpreted, presented based on frequency counts and percentages. The results of the study demonstrated and elaborated various aspects of e-resources use such as, frequency, frequently used place, various online services and satisfaction level of users with the e-resources facilities provided in the Engineering colleges with recourse to female users. It is observed from this study that the majority of the respondents are satisfied in using the e-resources and services, the ICT based resources, and services have become an indispensable as well as unavoidable commodity.

Bassi and Camble (2011) reported that there exists a statistical difference between males and females in the use of electronic resources as female users have more difficulty in finding information online than males. Ono and Zovadry (2003) also found women to be less frequent and less intense users of the internet. In Nigeria, Ozoemelem (2009) conducted a study on the use of electronic resources by postgraduate students of the Department of Library and Information Science, University of Abraka. The author reported that male and female postgraduate students made use of e-resources for academic activities irrespective of their gender differences. On self-efficacy of e-resources use among undergraduates, Köseoğlu (2015) analysed self-efficacy and academic achievement of Turkey university students. The author employed motivated strategies learning questionnaire, implicit theories of intelligence scale, achievement goal inventory scale, and self-reported grade point averages for predicting academic achievement. A multivariate analysis of co-variance (MANCOVA) carried out indicated that students with low self-efficacy were inclined to believe that intelligence is inherent and cannot be changed. It also indicated that students with high self-efficacy preferred mastery goals, which entailed challenges and new knowledge, as well as performance goals that comprised good grades and surpassing others.

METHODOLOGY

Descriptive survey research design of was adopted for this study. The population comprised 2,923 law undergraduates at 300, 400 and 500 level in the ten private universities offering this programme in South-west, Nigeria. Law undergraduates at these levels were purposively selected because it is at these levels that the students are exposed to court attachment, legal research methods, while 500 level undergraduates are expected to write their project reports using up-to-date literature, which are the essential features of the e-resources. Since it appears that the population of students at these levels is too large to study, a sampling fraction of 50% was drawn using simple random sampling technique and this gives a sample size of one thousand, four hundred and sixty seven (1467). However, the analysis was based on 1089 copies of questionnaire retrieved and found usable for the study. Moreover, adapted questionnaire

was the instrument used for data gathering and the instrument was divided into five sections namely A, B, C, D and E. Further, the response rate to the questionnaire distributed was presented in Table 1.

Table 1: Questionnaire administration

S/N	University	No. of copies distributed	No. of copies returned	%
1	Adeleke University, Ede	165	119	72.1
2	AfeBabalola University, Ado-Ekiti	189	123	65.1
3	AjayiCrowther University, Oyo	117	92	78.6
4	Babcock University, Ilishan-Remo	150	115	76.7
5	Bowen University, Iwo	98	73	74.5
6	Crescent University, Abeokuta	93	71	76.3
7	Elizade University, Ilara-Mokin	57	42	73.7
8	Joseph Ayo Babalola University, Ikeji-Arakeji	230	179	77.8
9	Lead City University, Ibadan	206	153	74.3
10	Redeemers university	162	122	75.3
	Total	**1467**	**1089**	**74.2**

Out of 1467 copies of the questionnaire administered, 1089 copies were returned and found usable for analysis. This represents a response rate of 74.2% as shown in Table 1.

RESULTS PRESENTATION

Table 2: Socio-demographic profiles of the respondents

S/N	Variables		Number	Percentage (%)
1	Gender	Male	386	35.4
		Female	703	64.6
		Total	**1089**	**100.0**
2	Age range	16 to 20 years	501	46.0
		21 to 25 years	336	30.9
		26 to 30 years	145	13.3
		Others	107	9.8
		Total	**1089**	**100.0**
3	Level of Study	300	422	38.8
		400	313	28.7
		500	354	32.5
		Total	**1089**	**100.0**

From the data provided in Table 2, it could be observed that the gender distribution of respondents revealed that there were 386(35.4%) male respondents as against 703 (64.6%) female. This implies that there were more female law undergraduates than their male counterparts in private universities in South-west, Nigeria. Also, the distribution of respondents by age showed that 501 (46.0%) of the respondents were aged between 16-20 years, 336 (30.9%) were aged between 21 to 25 years and only 107(9.8%) of the respondents were above 30 years which was classified as “Others”. On level of study, 422 (38.8%) were in 300 level, 354 (32.5%) were in 400 level and 313(28.7%) were in 400 level. The implication of the findings on demographic profiles of respondents point to the fact that the law undergraduates who participated in the study were well informed to be able to respond appropriately to the questions posed in the questionnaire used in the study. The distribution also shows that demographic characteristics of law undergraduates in the ten private universities under review were homogeneous

Objective One: The study sought to determine the purpose to which e-resources are being used by law undergraduates in the universities offering the course and the results is as presented in Table 3. Note: SA= Strongly

Table 3: Purpose of e-resources use by law undergraduates use e-resources in private universities in South-West, Nigeria

	Purpose of e-resources use	SA		A		D		SD		Mean	S.D
		Freq.	%	Freq.	%	Freq.	%	Freq.	%		
1)	I use e-resources to obtain information on statutes or statutory instruments	536	49.2	389	35.7	128	11.8	36	3.3	3.38	0.805
2)	I use e-resources for gathering materials for Legal Research and Legal Writing	644	59.1	300	27.5	136	12.5	9	0.8	3.65	0.740
3)	I use e-resources for collation of materials on reported cases and digest	516	47.4	421	38.7	134	12.3	18	1.7	3.51	0.972
4)	I use electronic resources to obtain information on trending issues in the field of legal education	435	39.9	314	28.8	222	20.4	118	10.8	3.30	0.835
5)	I use electronic resources to obtain information for class and home assignments	395	36.3	363	33.3	184	16.9	147	13.5	3.28	0.806
6)	I use electronic resources to obtain information for Gathering materials for term papers	184	16.9	306	28.1	517	47.5	82	7.5	2.93	0.960
7)	I use electronic resources to obtain information for writing projects reports	228	20.9	387	35.5	238	21.9	236	21.7	3.09	0.801
8)	I use electronic resources to obtain information for gathering materials needed in preparation for examinations	383	35.2	392	36.0	166	15.2	148	13.6	3.11	0.853
9)	I use electronic resources to obtain information for updating my knowledge	324	38.9	516	47.4	131	12.0	118	10.8	3.17	0.747
10)	I use electronic resources to obtain information for personal self-development	209	19.2	403	37.0	326	29.9	151	13.9	3.15	0.740
11)		Weighted mean= 3.23									0.826

Source: Researcher's Field Survey, 2020

Agree, A=Agree, D= Disagree, SD= Strongly Disagree. *S.D=Standard Deviation*

Results on purpose of use of e-resources by law undergraduates as presented in Table 3 indicated that majority of the respondents used e-resources for gathering materials for Legal Research and Legal Writing (Mean=3.65, S.D=0.740). This was indicated by 644(59.1%) of respondents who claimed that they used e-resources very often for this purpose while only 9(0.8%) indicated that they never used e-resources for gathering materials for Legal Research and Legal Writing. Also, e-resources were used by majority of respondents for collation of materials on reported cases and digest (mean=3.51, S.D=0.972). In fact, 516(47.4%) of the respondents posited that they used e-resources very often for collation of materials on reported cases and digest while only 18(1.7%) indicated that they never used e-resources for this purpose. Additionally, most of the respondents hinted that they used e-resources to obtain information on statutes or statutory instruments (mean=3.38, S.D=0.805). This was evident in the response format where 536(49.2%) of the respondents claimed that they used e-resources to obtain information on statutes or statutory instruments very often while only 36(3.3%) claimed they never used e-resources for this purpose.

Other purposes for which law undergraduates in private universities in South-west, Nigeria were to obtain information on trending issues in the field of legal education (mean=3.30, S.D=0.835), to obtain information for class and home assignments (mean=3.28, mean=0.806) and to obtain information for updating my knowledge (mean=3.17, standard deviation=0.747). On the other hand, purposes such as to obtain information for Gathering materials for term papers and to obtain information for gathering materials needed in preparation for examinations were ranked least in terms of mean score of responses. Thus, it could be deduced that law undergraduates in private universities in South-west, Nigeria made use of e-resources for legal research, case reporting and digest, to obtain information on statutes or statutory instruments, for class and home assignments and to obtain information on trending issues in the field of legal education.

Objective Two: The second objective of the study aimed at ascertaining the influence of gender on use of e-resources by law undergraduates in private universities. The results are presented in Table 4.

Table 4: Correlation analysis showing influence of gender on use of e-resources in by law undergraduates in private universities in South-West, Nigeria

Variable	Mean	Std. Dev.	N	r	P	Remark
Gender influence	16.25	5.184	1089	0.184*	.070	Not Sig.
Use of e-resources	84.99	29.977				

Source: Researcher's Field Survey, 2020
*Sig. at .05 level

The result of the hypothesis as shown in Table 4 using the Pearson Correlation Coefficient (r) revealed that there was a weak linear relationship between gender influence and use of e-resources by law undergraduates in private universities in South-west, Nigeria (r=0.184; P> 0.05). It could be noted that the p-value is 0.070 which is greater than 0.05 level of significance, hence the relationship is not statistically significant. Thus, the null hypothesis which states that there is no significant influence of gender on law undergraduates 'use of e-resources in private universities in South-West, Nigeriais hereby accepted. This means that gender does not significantly influence the use of e-resources by law undergraduates in private universities in South-west, Nigeria. By implication, both the male and female law undergraduates have the tendency to use e-resources given the same condition.

Objective Three: The third objective of the study aimed at ascertains the influence of self-efficacy on use of e-resources by law undergraduates in private universities. The results are presented in Table 5

Table 5: Correlation analysis showing influence of self-efficacy on use of e-resources in by law undergraduates in private universities in South-West, Nigeria

Variable	Mean	Std. Dev.	N	R	P	Remark
Self-efficacy	40.84	10.074	1089	0.369*	.000	Sig.
Use of e-resources	84.99	29.977				

Source: Researcher's Field Survey, 2020
*Sig. at .05 level

Table 5 presents that the mean of self-efficacy of law undergraduates 40.84 with standard deviation score of 10.074. Also, the mean score of e-resources use by law undergraduates was 84.99 and the standard deviation was 29.977. It could be noted that the correlation coefficient obtained was 0.369 with p-value < 0.05. The result showed a positive and moderate correlation between self-efficacy on law undergraduates 'use of e-resources in private universities in South-West, Nigeria. The correlation is statistically significant at 5 percent significance level. This implies that there is a moderate, positive and significant influence of self-efficacy on law undergraduates 'use of e-resources in private universities in South-West, Nigeria as shown in Table 5 as (r = 0.369, N = 1089, p < 0.05). As such, the null hypothesis is therefore rejected and the alternative hypothesis is accepted. This means that an improvement in the self-efficacy of law undergraduates will enhance their use of e-resources in private universities in South-West, Nigeria. In other words, an improvement in the level of self-efficacy of law undergraduates would result in corresponding increase in the use of e-resources by law undergraduates in private universities in South-west, Nigeria.

Objective Four: The fourth objective of the study aimed at establishing the combined influence of gender and self-efficacy on e-resources use by law undergraduates in private universities in South-West, Nigeria. The results are presented in Table 6.

Table 6: Multiple Linear Regression Showing combined influence of information seeking behaviour, gender and self-efficacy on law undergraduates 'use of e-resources in private universities in South-West, Nigeria

Model	Sum of Square	Df	Mean Square	F	Sig. (*p* value)	Remark
Regression	246.052	3	82.017			
Residual	361.101	1085	0.333	246.437	.000	Sig.
Total	607.153	1088				
R=.637 R^2=.405 Adj. R^2=.404 Std. Error of the Estimate= .57890						

Source: Researcher's Field Survey, 2020

*Sig. at .05 level

Table 6 presents the resultsof the combined influence of gender and self-efficacy on law undergraduates 'use of e-resources in private universities in South-West, Nigeria. The result revealed that gender and self-efficacy have significant combined influence on e-resources use of law undergraduates in private universities being investigated. The table also shows that the analysis of variance (ANOVA) for the regression yielded an *F*-value of 246.437 and *p*-value of 0.000 (significant at 0.05 level). This implies that the combined influence of gender and self-efficacy on use of e-resourceswas significant. In other words, gender and self-efficacy had combined significant influence on law undergraduates 'use of e-resources in private universities in South-West, Nigeria.

CONCLUSION

The results of the study demonstrate that electronic resources are an important information source used by law undergraduates for the enhancement of their learning and research activities. It is noted that gender has no significant influence on the use of e-resources by law undergraduates in private universities in South-west, Nigeria. Though, there was a moderate, positive and significant influence of self-efficacy on law undergraduates 'use of e-resources in private universities in South-West, Nigeria. Therefore, there is need to up-scale efforts at enlighten the students on varying search strategies they could inculcate to enhance their self-efficacy towards the use of e-resources for learning and research capability.

REFERENCES

Adeniran, P. (2013). Usage of electronic resources by undergraduates at the Redeemer's University, Nigeria, *International Journal of Library and Information Science*, 5(10), 319-324.

Ahmed, H. M. (2015). Gender differences in students' utilization of electronic information resources in Ramat Library, University of Maiduguri, Nigeria, *Information Impact* | 6(1), 118-123.

Bandura, A. (1986). *Social foundations of thought and action*: A social cognitive theory, Englewood Cliffs, NJ: Prentice-Hall.

Bandura, A. (1997). *Self-efficacy: the exercise of control*. New York, NY: W.H. Freeman.

Bassi, M. D., & Camble, E. (2011). Gender differences in use of electronic resources in University Libraries in Adamawa State, Nigeria.Available at http://digitalcommons.unl.edu/cgi/viewpoint.

Fallows, D. (2005). How women and men use the Internet. Washington, D. C:pew internet and American Life project. Retrieved October 25, 2010 from http://www.pewinternet.org/pdfs/pip-women and men.online.pdf

Hashemi, M. R. & Ghanizadeh, A. (2011).Emotional Intelligence and Self-Efficacy: A Case of Iranian EFL University Students. *International Journal of Linguistics*, 3(1): E29

Jayanthi, G., &Saravanan, T. (2013). Gender differences in e-resources usage among the students of Engineering Institutions in Kanchipuram District: A Study, Asian *Journal of Information Science and Technology,* 3 (2),72- 75.

Köseoğlu, Y. (2015). Self-efficacy and academic achievement: A case From Turkey, *Journal of Education and Practice*, 6 (29), 131-141.

Ono, H., &Zavodny, M. (2003).Gender and the internet. *Social Science Quarterly*, 84(1), 111-121.

Ozoemelem, O. A. (2009). Use of electronic resources by postgraduate students of the Department of library and information science of Delta State University Abraka, Nigeria.

Sadiku, S.A. &Kpakiko, M.M. (2017).Computer self-efficacy and use of electronic resources by students in Nigerian University Libraries.*Journal of Applied Information Science and Technology*, 10 (1), 91-99.

Sam, H. K., Othman, A. E. A., &Nordin, Z. S. (2005).Computer self-efficacy, computer anxiety, and attitudes toward the internet: A study among undergraduates in Unimas. *Educational Technology and Society*, 8 (4),

205-219.
Susol, J. &Sterinerova, J. (2007).User's information behaviour-a gender perspective. *Information Research* 12 (13) Retrieved January 12, 2017 from http://www.Information.net/ir/12- 13/paper.320.html
Talsma, K., Schüza, B., Schwarzer, R. & Norris, K. (2018). I believe, therefore I achieve (and vice versa): A meta-analytic cross-lagged panel analysis of self-efficacy and academic performance*, Learning and Individual Differences,* 61, 136-150
Venkatesh, V., Morris, M. G., Davis, G. B. & Davis, F. B. (2003).User acceptance of information technology: Toward a unified view.*MIS Quarterly*. 23(3), 425-478.

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Use of Library Ergonomics to Boost up Working Efficiency of Library Professionals

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This paper focused on the improvement of working efficiency in the library staff in contest of library workplace design and environment by applying ergonomics principles in their daily work activities. Library Ergonomics is to fit the task to the individual, to use the Library workplace, facilities, and equipment's properly. Practicing good library ergonomics archives increased productivity, improved health and safety, higher job satisfaction. The ignorance of these important Library work environments will lead to work stress. Implementation of Library ergonomics make library professionals more efficient by creating an environment that allows for good postures, less exertion and better height, reaches to create a much more productive staff.

Keywords: Library Ergonomics, Benefits, Library workplace design and environment.

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INTRODUCTION

Ergonomics is Concern with interaction between users and their technical tools and environment; it is a science of designing workplace or work environment to provide healthy, comfortable environment to its users and make it more efficient as well as effective (IEA, 2000).

Ergonomic design focused on physical and mental capabilities of its users can be influence by the facilities provided to him as well as workplace environment. Ergonomic design of workplace promotes good posture, less repetitive motions, easier height and reaches, and less exertion to enhance work quality and efficiency. It improves work involvement and morale by avoiding fatigue, mind absenteeism and discomfort during their work day.

However, Zafir, Durrishah and Mat Rebi (2007) stated if management does not address discomfort, an employee will act on a subconscious level, adapting behaviour to lighten the pain, thus affect performance and it becomes safety issue. The safety issues are such as work stress, absenteeism, and low productivity. Work stress was defined as the harmful physical and emotional responses that occur when job requirement do not match the worker's capabilities, resources, and needs (National Institute of Occupational Safety and Health, 1999).

The Occupational Safety and Health Centre (2009) reported that the exposure to ergonomic hazards made up the bulk of reported occupational complaints. The increasing number of workers affected by poor work design make ergonomic issues important. According to Atkins (2005) achieving an ergonomic work environment entails checking and changing the layout of the work area, deploying ergonomic equipment and tools, and implementing education and training programs to promote safe work practices.

REVIEWS OF PAST RELATED STUDIES

In highly competitive academic environment, the library is an essential component of an institutions intellectual expression. Libraries must design there space in such a way to support learning, Study and research. Ergonomics is an important aspect of design ergonomics is a scientific discipline concerned with improving productivity, Health, Safety and Comfort, and helping people and technology work together. Ergonomic Design Should Support humans in achieving operational objectives (Chandra et al. 2009).

Ergonomics is the study of how working conditions and equipment can be arranged in order that people can work with them more efficiently. As computers are probably the most omnipresent type of machine in today's work and learning environments, the issue of ergonomically sound interaction with them has become evident. In general, computers are clean, quiet and safe to use. However, poor interaction with and poor positioning of computer equipment can lead to health problems, such as eyestrain, swollen wrists and backache. Problems can be avoided by good workplace design and by good working practices. Prevention is easiest if action is taken early through effective analysis of each workstation. There are a number of practical steps that can be taken to achieve an ergonomically positive environment and, furthermore, to promote a safer learning environment. (Mahalakshmi and Sornam, 2011)

LIBRARY ERGONOMICS: A CONCEPT

Today, library and knowledge resource centers are moving with rapidly changing technology. More and more works are done with the machines that apparently speed up work but, sometimes they can workless, motivating and boring. Technical library tasks such as cataloging, indexing and Circulation Service are done with computers because of the acclaimed repetition of these machines for efficiency and high productivity. On other hand, there is an important and vital element and evidently the most unpredictable in a workplace system – the human, have the ability to make and use technological tools such as computers that need human intervention to completely attain their full potential when they used in libraries.

A library is an organized collection of information resources made accessible for reference or lending. It provides physical or digital access to material and may be a physical building or room, or a virtual space or both (Allen, 1984). A library collection can include books, periodicals, newspapers, manuscripts, films, maps, prints, documents, microform, CDs, cassettes, videotapes, DVDs, e-books, Audio books database and other formats. Libraries range in size from few shelves of books to several items. Library is a place in which literary and artistic materials such as books, periodicals, newspapers, pamphlets, prints, records and tapes are kept for reading, reference, or lending, hence the library can be generally described as an essential part of an institution and research. It serves an academic environment, therefore the comfort of users of the library is paramount as this would ensure optimum output of its users such as increasing academic performances of students, encouraging effective study and research; hence it is necessary for every institution to consider ergonomics while designing its Library as this would affect its overall productivity.

BENEFITS OF LIBRARY ERGONOMICS

There are numerous benefits by using library ergonomics design. The primary benefits are given below.

- **Maintain Employees Health:** One of the most important benefits of ergonomics is that it helps to keep the Library staff healthy. It saves them from many physical hazards like back pain, wrist pain, neck pain and many more. An office meeting the parameters of ergonomics will have energetic individuals with lesser risk of medical issues. For example, if you have a comfortable seat and adjustable PC, your body mechanics will work fine avoiding muscle strains. On the other hand, an uncomfortable workspace will increase your chances of getting aches or falling sick.

- **Improvement in Work Quality:** When the working conditions are challenging, the employees are more vulnerable to mistakes. For example, if you have to squint to look at your computer screen, there is a possibility of messing up. An irritating seat or an uncomfortable footrest can also throw you off, inducing mistakes. Therefore, a comfortable workplace is essential in keeping you alert and minimizing the chances of errors.

- **Employees Interest and Engagement:** no one would like to go regularly to an office where spending time is a struggle. Everyone wants their workspace to be according to their requirements. If you are lucky enough to have this luxury, you will like to spend more time on your desk. By doing so, you will explore many new aspects of your job that is impossible otherwise. So, having an ergonomically-optimized environment makes the employees interested in their workspace and eventually their job.

- **Increases Productivity:** The comfort of a staff can have a huge impact on his performance. An unfavorable environment of the workplace takes a toll on a person's ability to concentrate. Ergonomics provides an appropriate atmosphere for the employees at the workplace. Having a good posture, straightened eye level, limited effort and motions can have a positive impact on your body. When you feel healthy, you are more likely to be creative and productive. Without ergo-friendly environment, you are most likely to have tired and frustrated employees. An employee facing any discomfort will be more focused on discomfort instead of his work. Due to this reason, their quality of work also drops down along with their productivity. Ergonomics helps the employees to be mentally and physically relaxed, keeping them motivated. This way, they put in more effort in their work resulting in better quality.

- **Reduce Compensation Claims:** Making Library workplace ergonomically-optimized might seem to be costly, but it is not. It can save the library from spending loads of money on compensation or medical bills. In a challenging workspace, the employees are prone to injuries and other health issues. These conditions can affect the productivity of the organization due to the frequency of Library employee's absence. A lesser number of employees showing up at work mean a lower return on investment for an organization. The best part is that ergonomics requires a one-time investment that can have a long-lasting impact on the Services. So, it is important to provide employees with a favorable environment to generate outstanding Results.

- **Strong Work Culture:** The Library employees working at a place suitable for them in all aspects tend to be in better moods. The reason is that their minds are in peaceful state that keeps them content with their job. They not only interact with their higher authority cordially but amongst each other as well. It leads to friendly and high-spirited work culture. When everyone is in good terms with each other, it creates a positive vibe within the Library office. Employees share ideas and help out one another with good intentions. Optimistic and healthy working environment keeps employee works up to their full potential.

- **Enhances Loyalty:** When you have physically and mentally suitable environment for your employees, they respect you for that. It strengthens the loyalty of the employees for the Department, and they are likely to stay for a long time. On other hand a challenging workplace will have bitter employees with no regard. They don't find any reason to be faithful with their Department and will cash on any opportunity to leave.

- **Motivation:** There is no chance of progress if the library employees are in any discomfort whether it's mental or physical during their working hours. The performance and dedication of employees are directly related to their well-being. If they are unhappy their workspace, they will never work efficiently. A workplace meeting all the demands of ergonomics can produce more constructive ideas and motivated individuals.

LIBRARY WORK ENVIRONMENT

Ergonomics used to design Workstations and workspaces for maximum Comfort and healthy environment. Workspace arrangement of the individual workspace is important especially when the work is performed in either the sitting or standing position. It depends largely on the type of work being done and the equipment being used. The physical arrangements must permit correct and appropriately supported work posture and unimpeded movements by each library staff. This has two benefits: it allows the employee more space and encourages them to get and move about from time to time.

The following requirements need to be focused for library workplace design

- horizontal work area;
- work height (the height at which the hands are working);
- adequate viewing distances and angles;
- sufficient leg space for seated or standing work;
- sufficient head space for adequate clearance for the tallest person when standing straight;
- reach distances should not exceed those of the smallest people;
- seat – area needs to be sufficient for easy access and correct adjustment;
- hand tools – both use and storage;
- all loads including tools should be stored so that they can be handled close to the body and at about waist height. Avoid deep storage bins; low, deep or high shelves for heavy or awkward items and ensure that walkways are kept clear;
- fixed and moveable equipment – proximity to the work area, access, use and storage; (McPhee Barbara, 2005)

Horizontal work area- These spaces need to include the use of materials, tools and equipment in the primary and secondary work areas and in the seldom repeated activities in the tertiary work areas. The bench or desktop should be as thin as possible where people are seated, usually no more than 50 mm. This allows the arms to hang by the side and manipulative tasks to be carried out at a comfortable height (about 500mm below elbow height) (McPhee Barbara, 2005)

Working position-a sitting position is generally preferred for fine manipulation, and accurate control work; continuous light manual work; close inspection (visual) work; and where foot controls are regularly used. In sitting there should be enough space between the underside of the work surface and the seat for the legs and to allow movement. For standing work toe space should be at least 150mm in depth and height.

An operator should be seated for constant or repetitive use of foot controls. Where multiple functions are carried out, the foot should be used for the grosser controls and the hand for the finer controls (McPhee Barbara, 2005)

A standing position is preferred where heavier manual handling work is performed; where there is no legroom under equipment; or where there are many controls and displays over a wide area that have to be monitored. Standing work requires even, resilient floor surfaces such as rubber matting or carpet. This also reduces the risks of slipping. Opportunities to sit or stand during the day, preferably as part of the job also should be included. Large and smaller users should be accommodated in these arrangements. This may be achieved with height adjustable seating, height adjustable work benches or an adjustable standing platform.

Work height-preferred work heights depend upon the nature of the task and the need for visual and manual precision as well as the handling of heavy components. In most manual tasks, the work height should be at a level just below the elbow with the upper arm held in a vertical position close to the body. For fine work involving close visual distances, the work height should be raised to achieve this with minimal neck flexion and arm supports provided where appropriate (McPhee Barbara, 2005)

Viewing distances and angles- viewing distances for work should be proportional to the size of the work object. A small object requires a shorter viewing distance and a higher work surface. The most frequently viewed object should be centered in front of the worker. Recommended viewing angles vary depending on the work posture from 45° (forward leaning posture such as at a desk) to 15° (backward leaning such as in a control room) and how long a fixed gaze is required. Bent neck postures should not be maintained for more than a few minutes at a time without change. Distances should enable young and older workers to see properly without strain on the eyes or the muscles and joints

Reach- arm and leg reach should be based on the dimensions of the shortest user and take into consideration the postural, task requirements and working position.

Access and clearance- space allowances for horizontal and vertical clearances and access to The workstation; access to machines and equipment used by operators and for maintenance Personnel must be incorporated into the design of the work stations these allowances must be based on the dimensions of the largest user.

Hand Tools- all tools should be stored so that they can be handled close to the body and at about waist height. Avoid deep storage bins; low, deep or high shelves for heavy or awkward items and ensure that walkways are kept clear.
Tools are devices designed to extend human physical capabilities of reach, force application and precision movement thereby enhancing performance. Unfortunately they can also be a source of injury when inappropriately used or incorrectly designed. Fixed and moveable equipment- proximity to the work area, access, use and storage

CONCLUSION

Ergonomics has been used to design workplaces for maximum comfort, optimal transfer of information, and reduction of noise and vibration. It is used in the selection and installation of appropriate video display units in automated offices. It has led to redesigned hand tools, chairs, and work counters; to improvements in lighting, heat and humidity control, and noise reduction; and to development of principles for the design and layout of offices.

REFERENCES

1. Atkins, S.A. (2005), The pain in storage: Work safety ina high dencity shelving facility. Libraries and the academy, 5(4) pp., 483.
2. Alves, C. (2010), How to use an ergonomic office chair correctly, pp. 1-3.Retrieved on September 9, 2019 from http://ezire.com.
3. Allen, R. E. (1984): The Pocket Oxford Dictionary of Current English, Oxford: Clarendon Press; p. 421
4. Beckett, R., (1995), Are you sitting comfortably? Facilities, 13 (12), pp. 26-27. In Zafir, M. M., Durrishah, I., and Mat Rebi, A. R., (2007), "Ergonomics design on the work stress outcomes," Journal Kemanusiaan, Vol. 9, pp. 50-53. Retrieved on October 11, 2020 from http://eprints.utm.my.
5. Chandra, et al. (2009). Ergonomics issues in Academic Libraries in Kolkata, West Bengal: A Pilot Study. Library Philosophy and Practice (e-journal).Paper 279. Available from http://digitalcommons.unl.edu/libphilprac/279
6. Chelsea, G., (2010), Ergonomic Design, Retrieved on September 5, 2020 from http://www.davincicenter.vcu.edu/about-innovation-3/ergonomic-design/
7. Harel, T., (2008), Waysto have an ergonomic workplace. Retrieved on September 20, 2020 from www.articlesnatch.com.
8. International Ergonomics Association, (2000), Executive Council definition. Available from http://www.iea.cc, (Accessed 10 July, 2020)
9. International Labour Organization (1986), psychosocial factors at work: recognition and control. Occupational safety and health series, No. 56, International Labour Office, Geneva. In Leka, S., Griffiths, A., and Cox, T., (2003), "Work organization and stress," Institute of work stress, Institute of work, health and organizations, No. 3, pp. 1-25. Retrieved on September 5, 2010 from www.who.int.
10. Mahalakshmi and Sornam. (2011), Ergonomics and techno Stress among Library Professionals of engineering colleges of Anna University. Singapore Journal of Library & Information Management. 40. pp., 89-101.
11. McPhee Barbara.,(2005), Practical Ergonomics : Application of ergonomics principle in the work place, pp., 45-48.
12. National Institute of Occupational Safety and Health (NIOSH), (1999), Stress of work. Centres for disease control and prevention, U.S. Department of Health and Human Services, No. 26, pp. 99-101. In Park, (2007), "Work stress and job performance." Retrieved on October 11, 2020 from www.statcan.gc.ca
13. Ogedenge, T.I., (2015). Ergonomic Appraisal of a Nigerian University Library. International Journal of Science and Technology, 4 (2)., pp., 57-64.
14. Park, (2007), "Work stress and job performance." Retrieved on October 11, 2019 from www.statcan.gc.ca. Office Lighting and Computer Work Station. Retrieved on September 8, 2019 from http://ehs.sc.edu/Ergonomics/Office% 20Ergonomics%20-%20Office%20Lighting.htm.
15. Oldham, G.R. and Rotchford, N.L., (1983). Relationship between Office Characteristics and Employee Reactions: A Study of the Physical Environment. Administrative Science Quarterly. 24: 267-284.
16. Zafir, M. M., Durrishah, I., and Mat Rebi, A. R., (2007), Ergonomics design on the work stress outcomes, JournalKemanusiaan, Vol. 9, pp. 50-53. Retrieved on October 11, 2020 from http://eprints.utm.my

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Data Security Factors Influencing the Adoption of Cloud Computing Services by Two Selected Nigerian Academic Libraries

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Cloud computing plays a significant role in academic libraries for improving the efficiency at which information services is handled, processed and delivered. Academic libraries in advance counties have already deployed their information resources to cloud environment and can be accessed by all authorized users any time- anywhere. However, one of the most debating issue discussed in the field of cloud technology is its security aspect; which influences the rate at which the cloud computing services are adopted by academic librarians in both developed and developing countries. Therefore, this study aims at investigating the data security aspect of cloud computing that influences the adoption of cloud computing in Abubakar Tafawa Balewa University Library, Bauchi and Ramat Library, University of Maiduguri, all located in the North-Eastern Nigeria. Quantitative technique using cross sectional survey design was adopted for this study and questionnaires was used as an instrument for data collection. Population of the study comprises all staff of the two libraries amounted to be 328 staff and only 144 sample size were drawn for this study using Krejci and Morgan Sampling table. 136 questionnaires were found to be correctly filled, returned and therefore used in the study. Statistical Package for Social Science version 2.0 was used in analysing the data for both descriptive and inferential statistics. Finding of the study revealed that data integrity, data availability, data confidentiality, perceived ease of use and perceived usefulness are statistically significant data security factors influencing the adoption of cloud computing in selected academic libraries. The study further recommended among others that those significant factors should be given more priority while making decision of cloud computing adoption. Similarly, other security factors associated with cloud computing should be explored in the future in order to have a comprehensive understanding of all the security issues of the cloud computing.

Key word: Cloud Computing, Academic Libraries, Data Integrity, Data Availability, Data Confidentiality, Perceived Ease of Use, Perceived Usefulness

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INTRODUCTION

Academic Libraries have been globally acknowledged to be one of the most important components that their parent institutions cannot do well without them. This is connected to the fact that their roles of providing support to the institution's community are inevitable and always on increasing. Academic libraries according to (Akpohonor, 2005) are libraries attached to tertiary institutions such as Universities, polytechnic, monotechnics, colleges of education, and other research institutes. Singh and Kaur (2009) noted that the main mandate of academic libraries is to preserve and provide access to required knowledge and information, thereby supporting teaching and research activities which is the mission of their parent institutions.

However, library users are constantly expressing dismay with regard to the untimely services, frequent server down time due to electricity outage, un- evenly services to users, in ability to access the library contents remotely etc using current on -premises ICT facilities (Hussaini et al., 2017; Iyal, 2018). These problems can only be solved if the librarians can adopt cloud computing which can offer them scalable, timely and everywhere services at a much-subsidised price when compared with on-premises computing and storage capabilities. Nandkishor. et al. (2012) acknowledge that the newest technology trend in library science is adoption of cloud computing for different intentions and for attaining economic benefits in library functions

Despite understanding that cloud computing adoption is the best option to mitigate such mentioned obstacles in libraries, it has been observed both from the literature (Comfort, 2018; Edwin, 2018; Gervasi et al., 2015; Muthanna & Sang, 2019) and practical point of view that most academic libraries especially in developing countries are not willing to adopt cloud computing in delivering their services to users which is largely attributed to some factors that always figure out data security as the first factor (Iyal, 2018; Mokhtar et al., 2017; Okike & Adetoro, 2019). Data security issues are associated with the confidentiality, integrity and availability of data. Denial of services, un authorise access to information and meta data spoofing attack are frequently experienced by most libraries and organizations (Basu et al., 2018) .

Similarly, Birje et al(2017) further acknowledge that other incidence related to web application and data security issues such as data phishing, data loss, downtime, password weakness etc are still occurring even in some high ranking/renowned companies like Google, Amazon, Microsoft and Twitter. Therefore, Aviamu et al. (2019) and Asadi et al. (2017) stress that investigating the data security factors influencing cloud computing adoption is necessary in order to provide librarians and cloud computing providers with relevant information concerning such security issues, thereby enabling them to find solution to this security issues, hence increasing the rate of adoption which can eventually lead to improved services delivery that will satisfy the information need of library clients.

Base on this background, this study intends to examine the influence of data security factors on the adoption of cloud computing in some selected university libraries, using a theoretical base of technology acceptance model, which is a very powerful model for new technology adoption (Marangunić & Granić, 2015) like cloud computing.

Concept of Cloud Computing

Cloud computing is one of the most fastest growing technology in the 21st century that bring a lot of benefits though not without challenges (Kumar et al., 2018). Cloud computing is defined by different authors base on their different perspectives, however arriving at the same true concept of it. According to National Institute of Standards and Technology (NIST), "*Cloud computing is a model for enabling ubiquitous, convenient, on-demand network access to a shared pool of configurable computing resources (e.g., networks, servers, storage, applications and services) that can be rapidly provisioned and released with minimal management effort and or service provider interaction"* (NIST 2019). Similarly Cloud computing is defined by Gartner (2012) in Senarathna et al (2016)as "a style of computing in which massively client scalable and elastic IT-enabled capabilities are delivered as a service to external customers using internet technologies". Cloud computing has four deployment models that include private deployment model, community deployment model, public deployment model and hybrid deployment model. Similarly, it has three services models that include software as a services (SaaS), Platform as a services (PaaS) and Infrastructure as a service (IaaS) (Alqarni & Barnawi, 2019; Kumar et al., 2018; Oliveira et al., 2014)

Therefore, Kumar et al. (2018) stress that as a well-spread technology, cloud computing is being used by a number of individuals and organizations knowingly and unknowingly, they pointed out how people use Micro soft 365, Gmail, Drop Box etc in their daily routines as an example. Furthermore, attributed the use cloud computing in daily routines as a results of its (cloud computing) advantages associated with any time – anywhere accessibility, very wide geographic coverage at fasted rate and cost reduction in terms of infrastructural procurement (Kumar et al., 2018).

Similarly, librarians also tend to grasp the opportunities being provided by the cloud computing technology, Tuncay, Chao and Wu (2011) acknowledge that cloud computing has enhanced service delivery of libraries

through improved computing competences, provision of enormous storage capabilities, worldwide information accessibility, and drastic decreased in cost of incurring the ICT facilities. Cost minimization is one of the attributes that attract most organizations to adopt cloud computing. Likewise Cloud computing ensures improved productivity and efficiency in data management of organizations such as academic libraries as well as relieving them from owning and maintaining the necessary hardware and software facilities that are prerequisite for information services delivery (Yaokumah & Amponsah, 2017). Therefore, the need to adopt cloud computing is worthy enough to mention.

Concept of Data Security in Relation to Cloud Computing

The foundations of data security are based upon the confidentiality, integrity, availability and accountability (Senarathna et al., 2016). Cloud computing host users' data far away from the location of the users who subscribe to the cloud services. Therefore, trusting the cloud services providers is one of the most important consideration that cloud subscribers always make before adopting and integrating the cloud services in their services delivery (Basu et al., 2018). Subscribers always try to make sure that cloud services providers have taken care of all risk associated factors that can affect the users data confidentiality, integrity and availability (Basu et al., 2018). This can make the cloud subscribers to have peace of mind with the issues related to storing their data in cloud storage. Ahmed (2019) and Kumar et al (2018) stress that the three most fundamental cloud security factors associated with data in cloud are confidentiality, integrity and availability of the data and they are also the three attributes of data popularly known as CIA.

Kumar et al (2018) acknowledge that among all the challenges that cloud computing bring to subscribers, data security challenges are the most disturbing one as well as the most devastating factor that retarding the librarians to adopt the cloud in their services delivery as its loss can bring serious harm to the entire information services delivery processes. Basu et al.(2018) also acknowledge that virtualization leads to some security challenges that goes beyond the boundary of confidentiality, but include also the integrity and availability of data. Birje et al. (2017) concluded that not only on cloud computing, but on all computer related field in general, confidentiality, integrity and availability are the top most challenging factors on data being stored electronically. Therefore, this also motivated the need for exploring the influence of the data security on the adoption of cloud computing services by some academic libraries in Nigeria.

Hypotheses Development

Confidentiality is described as a privacy of data. Confidentiality are designed to prevent the sensitive information from unauthorized or wrong people(kaur. & Singh., 2015). That is, it ensures that sensitive information is made inaccessible to all unauthorized users (Basu et al., 2018). They further attested that organizations must ensure that the confidentiality of their data is fully enforced to restrict all the unauthorised users from gaining access, this can help to ensure secured cloud environment that can attract cloud subscribers. Similarly, geographical location also affects the confidentiality of data stored on the cloud especially when it crosses country boundary that have different laws governing the data storage services. Therefore,Aldossary and Allen (2016) stress the need to have and enforce confidentiality on all data being stored on the cloud in order to safe guard it, hence attract more cloud subscribers.

H1: Confidentiality positively influence the acceptance of cloud computing by academic librarians

Integrity is the assurance given to the digital information is uncorrupted and can only be accessed by authorized users. Thus, integrity entails maintaining the utmost accuracy, consistency and trustworthiness of data throughout its whole life cycle (Kumar et al., 2018). The fundamental properties of data are always ensured and remain un-tempered by the integrity enforcement policy of cloud services providers (Birje et al., 2017). Therefore, if librarians believed that their quality of data stored in cloud will not be tempered by any unauthorised party, they will be eager to accept the cloud computing and integrate it in their services delivery mode. Therefore, this study proposes that:

H2: Integrity is positively associated with cloud computing acceptance by academic librarians

Availability : Availability is defined as the strategy of ensuring the anytime – everywhere access to stored data by all intended users (kaur. & Singh., 2015).Basu et al. (2018)maintain that availability is one of the most important security aspects that requires the attention of cloud services providers for ensuring the full protection of cloud subscribers' data. This is because so many organizations stored their data with a single cloud provider and each client has different users that the data need to be made available to. With the enforcement of availability security policies, timely and reliably access to and use of information will be firmly ensured (Birje et al., 2017), hence increase organizations' readiness to move their data to cloud. Aldossary and Allen (2016) acknowledge that some organizations want their data to

be available all the time, because availability is important to them due to the criticality of services they offer. Furthermore, cloud computing ensure highly data retrieval and availability to all intended users without any restriction (Aldossary & Allen, 2016) . This has made it possible for most organization to consider cloud computing services as reliable. Therefore, this study proposes that:

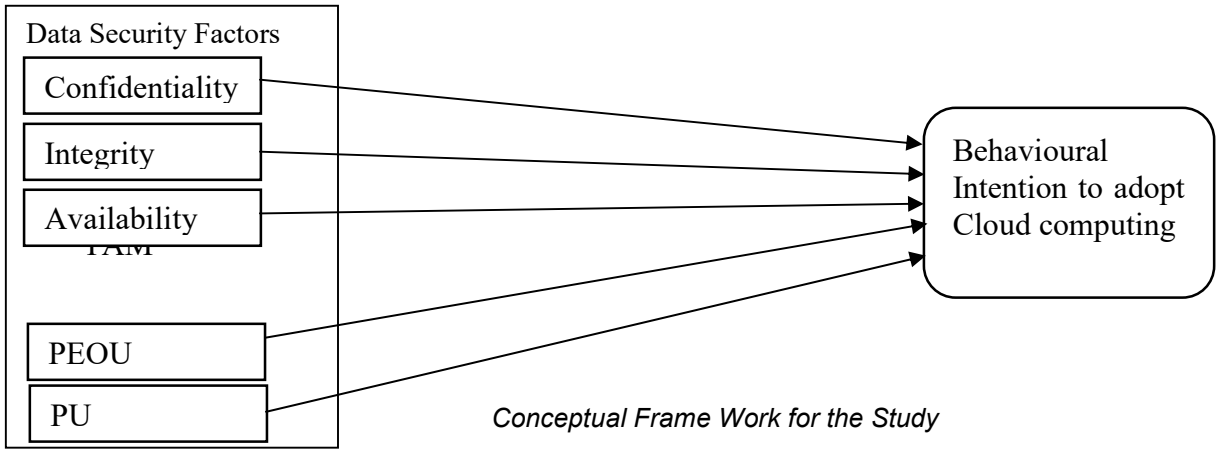
H3: Availability has positive influence on the adoption of cloud computing by academic librarians

Perceived Ease of Use (PEOU): Two important variables are propounded as the basic for technology acceptance model (TAM), these are perceived ease of use (PEOU) and perceived usefulness (PU). PEOU has been describe as a believed a technology user has that using a given technology is simple, flexible and friendly (Marangunić & Granić, 2015; Park & Kim, 2014; Venkatesh et al., 2003). Therefore, for any technology or system to be fully accepted by users, it must be simple and easy to use. Several studies revealed that PEOU influences the adoption of new technology such as cloud technology. For example Tella et al (2020) found that PEOU is a significant factor in the adoption of cloud computing in academic libraries. Likewise Ali et al (2018) discover that PEOU has a positive effect on the adoption of cloud computing for universities services. Similarly, Oliveira et al. (2014), Lai (2017) and Davis et al. (1989) further attested the robustness influence of PEOU on the intention to adopt cloud computing in organization. Szajna (1996) stated that if the technology to be adopted is simple to use, users will be hurry to adopt it without much delay. Meaning, if the cloud computing is simple and less complex, librarians will quickly adopt it in their services delivery. Base on this, this study proposes that

H4: PEOU has a positive influence on the adoption of cloud computing in academic libraries

Perceived Usefulness (PU) is one of the powerful variable of TAM, which is explained as a user believed using a new technology is very important that can improve organizational performance (Ali et al., 2018; Venkatesh et al., 2003). Users most a times rush to accept a technology if the usefulness of the technology is high, and reject it if the usefulness is low. Studies such as (Alharbi, 2017; Alharbi, 2012; Szajna, 1996) propounded that PU is a significant factor that determine the adoption of new technology. Likewise Ali et al (2018)revealed that PU influences the adoption of cloud computing in universities. Similarly, Tella et al (2020) attested that cloud computing significantly influence the adoption of cloud computing in academic libraries. This revealed that once librarian realized that cloud computing offers enormous advantages to their services delivery, they will be eager to adopt it and use it libraries. Therefore, this study proposes that:

H5: PU has a positive influence on the adoption of cloud computing in academic libraries



Conceptual Frame Work for the Study

METHODOLOGY

The technique employed for this study is purely quantitative and the research design adopted for this study is cross sectional survey research design, which is suitable for gathering study data from one point in time and assesses the nature of the relationship between all the variables of the study. The total population of the study is 228 respondents, drawn from the two selected universities libraries in the North eastern Nigeria which are ATBU Bauchi and University of

Maiduguri, where 143 library staff are from Ramat library university of Maiduguri and 85 library staff from A.T.B.U library. Krejci and Morgan sampling table was used to draw the sample size of the population amounted to 144 participants who represented the entire population. 144 sample size is approximately equal to 63.2% of the total population. and (Hair *et al* (2006)stressed that the appropriate sample size for questionnaire method should be 100 or above, therefore the sample size for this study amounted to 144 is adequate enough and satisfy the requirement. However, only 136 questionnaires were found to be useful. Considering the fact that the population of this study was drawn from two academic libraries, proportionate stratified random sampling technique is adopted in selecting the samples. The technique involves categorizing the selected elements into different groups then taking an element from each stratum by means of simple random method (Sekaran., 2006). The researcher therefore, classified the academic libraries under study as strata with samples drawn based on the population of each academic library. Base on that, 90 sample respondents were drawn from Ramat library university of Maiduguri and 54 sample respondents were drawn from A.T.B.U library.

The data collection instrument used in the study was structured questionnaire which was designed base on 5- points Likert scale, ranges from 1 (Strongly disagree) to 5 (strongly agree). Previously tested scales were adapted from related studies to measure all the constructs of the proposed model. Most of the scales were altered to suite the context of the cloud computing adoption in academic libraries. Items scales for confidentiality, integrity and availability were adapted from the work of (Kaur & Mustafa, 2013) while that of intention to adapted cloud computing construct ware adapted from the work of (Asadi et al., 2017). Similarly, the reliability of the constructs was determined using Cronbach alpha measures while the validity of the constructs was carried out by sending the questionnaire to the experts in the field and have all the errors and inconsistencies addressed

The data analysis involved both descriptive and inferential statistics. Furthermore, collected data were statistically analysed by means of percentage, mean score, standard deviation and multiple regressions using Statistical Package for Social Science (SPSS) version 2.0. The results were presented as appropriate as possible.

RESULTS AND DISCUSSION

Respondents Demographic Variables

Qualification of Respondents

Table 1 presented the qualifications of respondents who participated in this study. Most of the respondents of this study are Degree/HND holders which are represented by 54.4%, followed by Masters holders represented by 20.6%, then Diploma/NCE holders who are represented by 19.9%. Similarly, PhD holders and other qualification holders apart from the ones mentioned constituted 2.9% and 2.2% respectively. This implies that most of the respondents are suitable to participate in this study.

Table 1: Qualification of the Respondents

qualifications	Frequency	Percent	Valid Percent	Cumulative Percent
Others	3	2.2	2.2	2.2
Diploma/NCE	27	19.9	19.9	22.1
Degree/HND	74	54.4	54.4	76.5
Masters	28	20.6	20.6	97.1
PhD	4	2.9	2.9	100.0
Total	136	100.0	100.0	

Source: Field Survey 2020

Respondents Years of Experience

As indicated in table two below, the respondent's years of experience reported 11-15 years as the highest which was represented by 37.5%, followed by 16-20 years represented by 26.5%, then 6-10 years which are represented by 16.2%. Equally, respondents who spent 20 and above years in service are represented by 11.8% and those with 1-5 years are represented by 8.1%. This result indicated that the respondents who participated in this study have much years of experience and as such they can appropriately respond to the questionnaires given to them

Table 2: Years of Experience of the Respondents

Years of Experience		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1-5 years	11	8.1	8.1	8.1
	6-10 years	22	16.2	16.2	24.3
	11-15 years	51	37.5	37.5	61.8
	16-20 years	36	26.5	26.5	88.2
	20 years and above	16	11.8	11.8	100.0
	Total	136	100.0	100.0	

Source: Field Survey 2020

Accessing Factorability of the Constructs

Table 3 below aimed at presenting the results of factor analysis. Kaiser-Meyer-Olkin's measure of Sampling Adequacies (KMO), the Bartlett's Test of Sphericity and anti-image correlation results of all the variables meets the requirement. This is because all KMO-MSA values of this research study are greater than 0.5 andKaiser (1974)recommended that KMO values greater than 0.5 is acceptable. Similarly, results for the Bartlett's Test of Sphericity also revealed 0.000 for all the constructs which is very good and reliable

Table 3: Accessing Factorability of the Constructs

Constructs	KMO-MSA	BTS Sig	Minimum anti image
Confidentiality	0.717	0.000	0.654
Integrity	0.755	0.000	0.660
Availability	0.746	0.000	0.721
Perceived Ease of Use	0.834	0.000	0.784
Perceived Usefulness	0.738	0.000	0.690
Intention to Adopt Cloud	0.836	0.000	0.805

Source: Field Survey 2020

Eigenvalues, Range of Factor Loading, % of Variance Explained and Cronbach's Alpha

From table 4 below, the reliability of constructs items was checked using factor loading and Cronbach alpha values. All the loading factor found in this study revealed a factor loading greater than 5, and(Hair *et al* (2006) suggested that any construct item that has a factor loading greater than 5 is considered as good and appropriate. Likewise, all the 1steigen values of the construct items revealed values greater than 1, which is quite good and met the requirement. Similarly, the % of variance explained except for Availability revealed the needed requirement as stated by and (Hair *et al* (2006). furthermore, the results of Cronbach alpha revealed the needed requirement, as all the results are greater than 0.6 and (Nnnually, 1978). stated that any Cronbach alpha value greater than 0.6 is considered acceptable. Base on this therefore, all the construct of the study are normal and can be statistically regressed as they are all reliable

Table 4: Eigenvalues, Range of Factor Loading, % of Variance Explained and Cronbach's Alpha

Constructs	1st (factor) eigenvalues	2nd(factor) eigenvalues	Ratio	Range of factor loading	% of variance explained	Cronbach's Alpha
Confidentiality	2.476	0.802	3.093	0.568-0.780	58%	0.710
Integrity	3.117	0.972	3.210	0.498-0.812	69%	0.804
Availability	2.674	0.941	2.839	0.503-0.590	45%	0.743

Continuation of Table 4

Perceived Ease of Use	3.279	0.760	4.309	0.512-0.708	54%	0.822
Perceived Usefulness	2.538	0.914	2.779	0.562-0.604	52%	0.724
Intention to Adopt Cloud	3.201	0.853	3.756	0.526-0.618	54%	0.708

Source: Field Survey 2020

Multiple Regression Analysis

Model Evaluation and ANOVA Results

Model summary table is the first table of interest in multiple regression analysis which produces R, R^2, adjusted R^2 and the standard error of the estimate. This table is used to determine the fitness of the regression model in relation to the data. Therefore, from the model summary here, the results revealed that collectively the 5 independents variables (confidentiality, integrity, availability, perceived ease of use and perceived usefulness) explained 35.4% of the dependent variable (cloud computing adoption). Meaning, the independent variables were able to explain the variance of 35.4% in the dependent variable.

ANOVA which tests whether the overall regression model is a good fit for the data is found to be statistically significant by revealing the results of F- value 19.533; meaning that the F- test is statistically Significant, thus we assumed that there is linear relationship between the variables in the model under study

Table 5: Model Summary and ANOVA Results

Model	R	R^2	Adjusted R^2	Standard error of the estimate	Sig. F-change	ANOVA F-change	ANOVA Sig.
1	0.593[a]	0.352	0.334	0.445	0.000	19.533	0.000

a. Predictors: (constant), Con, Intgr ,Avai, PEOU, PU

b. Dependent Variable: CCAD

Coefficient Analysis

From table 6 is indicated that four independent variables (integrity, availability, perceived ease of use and perceived usefulness) of the five are statistically significant in influencing the adoption of cloud computing of the selected academic libraries. This is indicated by the P Value in table 6 below where the variables' values are <0.5, While confidentiality is not statistically significant according to the results. Likewise, the individual contribution of each variable is also revealed with varying contributions toward influencing the adoption of cloud computing in academic libraries as can be seen in Beta (β) column of table 6. Beta (β) values are primarily used to indicate the relative percentage of contribution given by each independent variable as against the collective contribution.

Table 6: Regression / Coefficient Analysis Results of the Constructs

Model		Unstandardized Coefficients		Standardized Coefficients			Collinearity Statistics	
		B	Standard Error	Beta	T	Sig.	Tolerance	VIP
1	(Constant)	1.032	0.515		1.98	0.046		
	Conf	0.027	0.064	0.026	0.431	0.667	0.971	1.030
	Intgr	0.254	0.078	0.301	3.254	0.001	0.421	2.374
	Avail	0.182	0.071	0.223	0.548	0.014	0.708	1.413
	PEOU	0.189	0.076	0.233	2.501	0.013	0.418	2.392
	PU	0.243	0.096	0.165	2.540	0.012	0.856	1.168

a. Dependent variable: CCAD

Hypotheses Testing

Table 7: Hypotheses Testing

	Hypotheses Statement	**P Value**	**Decision**
H1	*Confidentiality positively influences the acceptance of cloud computing by academic librarians*	0.667	**Rejected**
H2	*Integrity is positively associated with cloud computing acceptance by academic librarians*	0.001	**Accepted**
H3	*Availability has positive influence on the adoption of cloud computing by academic librarians*	0.014	**Accepted**
4	*Perceived ease of use has positive influence on the adoption of cloud computing by academic librarians*	0.013	**Accepted**
5	*Perceived usefulness has positive influence on the adoption of cloud computing by academic librarians*	0.012	**Accepted**

DISCUSSION OF FINDINGS

From all the result of this study, it is now discovered that data integrity and data availability are very important factors that influences the adoption of cloud computing in the selected academic libraries by having a significant influence level. This is in line with the findings of Basu et al (2018) who also stated that data integrity and availability significantly influence the adoption of cloud computing by organizations. They further stated that once organizations believed that their data integrity and availability will be ensured by the cloud services providers, the organizations will be eager to adopt and place their data on cloud computing environment. Likewise, perceived ease of use and perceived usefulness are reported to be very important in the adoption of cloud computing in academic libraries. Once academic libraries believed that the cloud system is very easy, friendly and flexible to use, they will be easily influenced by that and adopt the cloud computing for their services delivery. Equally, if the cloud computing is considered to be useful enough in discharging information services, libraries will surely use it. Tella et al (2020). stated that perceived ease of use and perceived usefulness have been found to be statistically significant predictors of cloud computing adoption in academic libraries.

RECOMMENDATIONS / SUGGESTION FOR FURTHER STUDY

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

1. The selected academic libraries are to put more attentions on the data integrity and availability being them a data security factors, as they possess a significant influential power on the adoption of cloud computing. Which in turn will escalate the level at which the cloud computing will be adopted among the academic libraries
2. The easiness and usefulness of the cloud computing should be taken into consideration as they significantly influence the adoption of the cloud computing. Necessary mechanisms that will ensure friendliness and simplicity of the cloud as well as attribute that can poster its usefulness should be integrated in the cloud computing system by the cloud services providers.
3. This study further recommended that similar study should be conducted using more other variables as well as inclusion of more academic libraries across the North-eastern Nigeria and beyond.

CONCLUSION

data security factors have been considered as a serious matter that affect the users of cloud computing in various organizations, therefore exploring such factors is a key to the success of cloud computing adoptions by organizations including libraries. Academic libraries should continue to develop more strategic skills and technique on how to tackle all issues related to data security on the cloud.

REFERENCES

Ahmed, I. (2019). A brief review: Security issues in cloud computing and their solutions. *Telkomnika (Telecommunication Computing Electronics and Control)*, *17*(6), 2812–2817. https://doi.org/10.12928/TELKOMNIKA.v17i6.12490

Akpohonor, B. A. (2005). Library Funding in Nigeria: Past, Present and Future. *The Bottom Line Management Libibrary Finances*, *18*(2), 63–70.

Aldossary, S., & Allen, W. (2016). Data Security, Privacy, Availability and Integrity in Cloud Computing: Issues and Current Solutions. *International Journal of Advanced Computer Science and Applications*, *7*(4). https://doi.org/10.14569/ijacsa.2016.070464

Alharbi, S. (2017). An Empirical Investigation on the Impact of Trust Mediated Determinants and Moderating Factors on the Adoption of Cloud Computing. *International Journal of Information Technology and Computer Science*, *9*(11), 12–22. https://doi.org/10.5815/ijitcs.2017.11.02

Alharbi, S. T. (2012). Users' Acceptance of Cloud Computing in Saudi Arabia. *International Journal of Cloud Applications and Computing*, *2*(2), 1–11. https://doi.org/10.4018/ijcac.2012040101

Ali, Z., Gongbing, B., & Mehreen, A. (2018). Understanding and predicting academic performance through cloud computing adoption: a perspective of technology acceptance model. In *Journal of Computers in Education* (Vol. 5, Issue 3). Springer Berlin Heidelberg. https://doi.org/10.1007/s40692-018-0114-0

Alqarni, T., & Barnawi, A. (2019). A Cloud adoption framework : assessing the factors and determinants of adoption cloud computing technology. *Multi-Knowledge Electronic Comprehensive Journal for Education and Science Publications*, *26*, 1–30.

Asadi, Nilashi, M., Husin, A. R. C., & Yadegaridehkordi, E. (2017). Customers perspectives on adoption of cloud computing in banking sector. *Information Technology and Management*, *18*(4), 305–330. https://doi.org/10.1007/s10799-016-0270-8

Aviamu, Y. A., Popoola, B. O., & Atuase, D. (2019). Adoption of cloud computing by academic libraries for research data protection. *Library Philosophy and Practice*, *2019*(January).

Basu, S., Bardhan, A., Gupta, K., Saha, P., Pal, M., Bose, M., Basu, K., Chaudhury, S., & Sarkar, P. (2018). Cloud computing security challenges & solutions-A survey. *2018 IEEE 8th Annual Computing and Communication Workshop and Conference, CCWC 2018*, *2018-Janua*(January 2018), 347–356. https://doi.org/10.1109/CCWC.2018.8301700

Birje, M. N., Challagidad, P. S., Goudar, R. H., & Tapale, M. T. (2017). Cloud computing review: Concepts, technology, challenges and security. *International Journal of Cloud Computing*, *6*(1), 32–57. https://doi.org/10.1504/IJCC.2017.083905

Comfort, O. (2018). *Issues in the Application of Cloud Computing in Academic Libraries : Implications for Developing Countries*. *11*(2013).

Davis, Bagozzi, R. P., & Warshaw, P. R. (1989). User Acceptance of Computer Technology: A Comparison of Two Theoretical Models. *Management Science*, *35*(8), 982–1003. https://doi.org/10.1287/mnsc.35.8.982

Edwin, A. I. (2018). Librarians ' Awareness and Perception towards the Adoption of Cloud -Based Technologies in Public University Libraries in South-South Nigeria. *Islamic University Multidisplinary Journal*, *5,*(2), 137–145.

Gervasi, O., Murgante, B., Misra, S., Gavrilova, M. L., Rocha, A. M. A. C., Torre, C., Taniar, D., & Apduhan, B. O. (2015). Computational science and its applications – ICCSA 2015: 15th international conference banff, AB, Canada, june 22-25, 2015 proceedings, Part IV. *Lecture Notes in Computer Science (Including Subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics)*, *9158*, 725–737. https://doi.org/10.1007/978-3-319-21410-8

Hair, J.F., Black W.C., Barry, J.B., Anderson, R.E., &Tatham, R. L. (2006). *Multivariate Data Analysis* (6th ed.). Prentice Hall, New Jersey.

Hussaini, S., Vashistha, R., Garba, A., & Jimah, H. (2017). Cloud Computing in Nigerian University Library System : an Overview. *2nd International Conference on Emerging Trends in Enginnering, Science and Management*, 39–45.

Iyal, U. (2018). EVALUATION OF LIBRARIANS ACCEPTABILITY LEVELS AND USE OF CLOUD COMPUTING FOR LIBRARY SERVICES IN TERTIARY INSTITUTIONS OF KADUNA STATE, NIGERIA. In *theses*.

Kaiser, H. F. (1974). An index of factorial simplicity.

40 Inter. J. Acad. Lib. Info. Sci.*Journal OfPsychometrika*, *3*(9), 31–36.

kaur., M., & Singh., H. (2015). A Review of Cloud Computing Security Issues. *International Journal of Education and Management Engineering*, *5*(5), 32–41. https://doi.org/10.5815/ijeme.2015.05.04

Kaur, J., & Mustafa, N. (2013). Examining the effects of knowledge, attitude and behaviour on information security awareness: A case on SME. *International Conference on Research and Innovation in Information Systems, ICRIIS*, *2013*, 286–290. https://doi.org/10.1109/ICRIIS.2013.6716723

Kumar, P. R., Raj, P. H., & Jelciana, P. (2018). Exploring Data Security Issues and Solutions in Cloud Computing.

Procedia Computer Science, *125*(2009), 691–697. https://doi.org/10.1016/j.procs.2017.12.089

Lai, P. (2017). the Literature Review of Technology Adoption Models and Theories for the Novelty Technology. *Journal of Information Systems and Technology Management*, *14*(1), 21–38. https://doi.org/10.4301/s1807-17752017000100002

Marangunić, N., & Granić, A. (2015). Technology acceptance model: a literature review from 1986 to 2013. *Universal Access in the Information Society*, *14*(1), 81–95. https://doi.org/10.1007/s10209-014-0348-1

Mokhtar, S. A., Al-Sharafi, A., Ali, S. H. S., & Al-Othmani, A. Z. (2017). Identifying the determinants of cloud computing adoption in higher education institutions. *ICICTM 2016 - Proceedings of the 1st International Conference on Information and Communication Technology*, *May*, 115–119. https://doi.org/10.1109/ICICTM.2016.7890787

Muthanna, A., & Sang, G. (2019). The Journal of Academic Librarianship State of University Library : Challenges and Solutions for Yemen. *The Journal of Academic Librarianship*, *45*(2), 119–125. https://doi.org/10.1016/j.acalib.2019.01.010

Nandkishor., G., Seetal., S. shinde., & Bhagyashree., D. (2012). Use of cloud computing in library and information science field. *International Journal of Digital Library Services*, *2*(3), 51–106.

Nnnually, J. C. (1978). *Psych01nctric Theory* (2nd ed.). McGraw Hill.

Okike, B. O. I., & Adetoro, 'Niran. (2019). Securing the information systems of libraries and the influence of tech-skills of librarians and users. *Education and Information Technologies*, *24*(2), 1583–1602. https://doi.org/10.1007/s10639-018-9842-z

Oliveira, T., Thomas, M., & Espadanal, M. (2014). Assessing the determinants of cloud computing adoption: An analysis of the manufacturing and services sectors. *Information and Management*, *51*(5), 497–510. https://doi.org/10.1016/j.im.2014.03.006

Park, E., & Kim, K. J. (2014). An integrated adoption model of mobile cloud services: Exploration of key determinants and extension of technology acceptance model. *Telematics and Informatics*, *31*(3), 376–385. https://doi.org/10.1016/j.tele.2013.11.008

Sekaran., U. (2006). *Research methods for business:A skill building approach*. John Wiley.

Senarathna, I., Yeoh, W., Warren, M., & Salzman, S. (2016). *Security and Privacy Concerns for Australian SMEs Cloud Adoption : Empirical Study of Metropolitan vs Regional SMEs*. *20*, 1–20.

Singh, J., & Kaur, T. (2009). Future of Academic Libraries in India : Challenges and Opportunities. *Ical*, 51--54.

Szajna, B. (1996). Empirical evaluation of the revised technology acceptance model. *Management Science*, *42*(1), 85–92. https://doi.org/10.1287/mnsc.42.1.85

Tella, A., Ukwoma, S. C., & Adeniyi, I. K. (2020). A two models modification for determining cloud computing adoption for web-based services in academic libraries in Nigeria. *Journal of Academic Librarianship*, *46*(6), 102255. https://doi.org/10.1016/j.acalib.2020.102255

Tuncay, Chao & Wu, W. W. (2011). "Mining significant factors affecting the adoption of SaaS using the rough set approach." *The Journal of Systems and Software*, *84*(3), 435–441.

Venkatesh, Morris, Davis, & Davis. (2003). User Acceptance of Information Technology: Toward a Unified View. *MIS Quarterly*, *27*(3), 425. https://doi.org/10.2307/30036540

Yaokumah, W., & Amponsah, R. A. (2017). Examining the contributing factors for cloud computing adoption in a developing country. *International Journal of Enterprise Information Systems*, *13*(1), 17–37. https://doi.org/10.4018/IJEIS.2017010102

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Influence of Funding and Techncal Proficiency on Use of Library Management Systems in South-West Public Universities, Nigeria: A Study

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The study observed the influence of funding and technical proficiency on use of the library management system in public universities in South-West, Nigeria. The study adopted a survey research design. The population of the study consisted of 337 library personnel in public universities in South-West, Nigeria. A self-designed and validated questionnaire was used for data collection with an overall reliability index of 0.853. The major findings of the study revealed that funding and technical proficiency influences the use of library management systems in public universities in South-West, Nigeria. It is thus recommended amongst others, a pungent reordering of the funding such that the public university in South-West, Nigeria would look inward for more enterprising, creative and innovative library services for use of Library Management Systems rather than the present overdependence on government.

Keywords: Funding Sources Preference, Library Management Systems, Nigeria, Public Universities, South-West.

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INTRODUCTION

The use of library management systems seems to be a subject of great concern for organisations such as school, college, private, national, special, public, and university libraries. It has changed the way library personnel and library users communicate with library resources or offer library services. The use also impacts the management of the library content, which in turn may be further affected by its funding sources preference in South-West public universities, Nigeria. University libraries nowadays rely on library management systems to keep track of library documents, loans, inventory and managing the process of allotting books and tracking the availability of all books in the library. The reliance on library management systems allows the librarian to maintain traditional library information resources in a more dynamic manner in the universities. Universities being the central point of higher education in Nigeria and degree-awarding institutions are established to provide highly skilled manpower needed to accelerate the social-economic development of a nation. This socio-economic development, academic success and efficiency of the university apparently depend basically upon the status of its university library.

The library management systems are application

software used in the university libraries for assisting library personnel in managing the entire library information resources **(**Olorunsaye, Ehioghae and Ukangwa 2020)**.** Such library software are used for the library operation routines such as administration, selection, acquisition, classification reference and circulation. Its use for library operations has undoubtedly greatly simplified tasks such as acquisition, cataloguing, and classification commonly done in the university libraries. It is all about the organisation and management of the library and its related activities which involves the complete removal of manual processing of the library materials such as books, monographs and periodicals in the library. On the one hand, the introduction of the library management systems provide access to library's collections; classification of books according to subject; provision of easy ways to enter new books and to make a check-in/out; management of library daily operations efficiently enhances effective information access within the library community and increases library efficiency and library personnel patron's appreciation. Thus, helping librarians locate registered information resources in the library and enhancing performance. On the other hand, funding sources preference has been a serious challenge inhibiting the use of the library management systems for easy access to library resources and in a way also may be influencing the effective library services and appreciation of the library personnel.

The introduction of library management systems in university libraries has highly metamorphosed from traditional library operations to automated operations. These library operations are designed, integrated, and described in modules. For example, the integrated modules being used in Kenneth Dike Library, University of Ibadan consist of the administration module, selection/acquisition modules, cataloguing and classification modules, serial module, reference module, and circulation/OPAC modules. The administration module defines the process of maintaining the library information records. It is designed to monitor and maintain the whole library system. The selection/acquisition module which aids the collection development/acquisition librarian is to pick, procure and process library materials via the Internet. According to Iwayemi & Adebayo, (2019) the selection/acquisition module provides essentially internal efficiencies and improved management control over the purchase of materials. Most especially through the collection development module too transactions can be viewed and a decision can be made regarding the purchasing process. The cataloguing and classification module is designed to handle the descriptive cataloguing and production of the library catalogue. It maintains titles-in-process file of all items that are accessioned in the acquisition module. It also provides the facility for current awareness (CAS) and selective dissemination of information (SDI). The serial module, integrated to the acquisition module in some of the library management systems supports the procurement and management of serial/monograph/periodical collections in a library. The reference module handles technical reports, current awareness bulleting, technical reports, primary documents, indexing, and conference proceeding, monographs, and information retrieval services. The circulation/OPAC integrated module is the public face of the library management systems (LMS) designed to handle all aspects of loan processing. It provides the client with access, generates and print bar codes with photographs of library patrons, monitors the in/out flow of library loan-able materials, calculate fines and prepare statistical reports of transactions. When all of the integrated modules are utilised for library activities then funding sources preference and the use of library management systems is played out.

LITERATURE REVIEW

The concept of funding sources preference has become a commonplace in South-West public university libraries as noted by the researchers Olorunsaye, (2020). It was significantly noted that finance from the budget of the library's parent institution invariably comes directly from the government subvention. Many of the researchers agreed that most of the funding sources preference for university libraries in Africa is derived mostly by library stakeholders from government allocations Ahmed, Ivo and Nwalo (2013); Osinulu and Daramola (2017); and Ameh, Wonah and Nwannunu (2018). This implies the need for a hierarchy and an alternative source of funding for public university libraries. Funding in librarianship is a critical feature for a functional library. According to Olorunsaye (2020), funding is the use of library internally generated funds or revenue as a necessary alternative to support the provision of services, improve and maintain use of library management systems in public universities South-West, Nigeria. Libraries globally are changing in response to influences such as the form in which information is recorded, the nature of the library's' use and its readership, technological development in both architecture and librarianship. The library provides a variety of accommodation for library administration, selection, acquisition, organization, care and repair of the collections as well as quarters for supplementary functions such as photocopy services, bibliographic instructions, audio-visual materials preparations and computer support facilities etc. A functional library must be able to support the learning process of the society. It must have enough professionals, modern buildings with adequate artificial intelligence and good management. It must always provide a conducive environment for study research and entertainment for patrons. Where finance is lacking, it is impossible to organize an effective library service; in fact, without a minimum funding level, it is not possible to provide any significant service (Awala-Ale, 2012). Essentially, the library as a storehouse of knowledge

cannot be established, managed effectively through the use of library management systems without the right funding source preference.

There is a may be a derivative influence between funding sources preference and use of library management systems. The influence may originate as a by-construct of emerging varieties of a library management system. Funding sources preference is the funding sources order of priority or importance. Hierarchically, the funding sources are preferred in an order of importance and it is commonly used when a firm or organisation such as the library prioritised the funding sources according to an order of benefit. It is quite necessary to the use of library management systems in the university. Funding constraints from time immemorial have always been an albatross to any viable project so it becomes imperative to serialise the sources in the most important order for proper evaluation and decision making. There are various sources of funding that are well attested to in literature, such as government grants, crowdfunding, support from investors, and bank loans, justto mention but a few.

Preferred funding source plays a supportive role to funding and the provision of information resources, procurement and maintenance of library facilities, human resources and the use of library management systems in the libraries. Generally, the word funding is used when a firm uses its internally generated revenues to satisfy its necessity for cash, while the term financing is used when the firm acquires capital from external sources (Compagnon & Leydon, 2001). In this paper, contrary to the popular definitions of funding in literature, funding would be conceived as the use of library internal and externally generated revenues for the use of library management systems in public universities in South-West, Nigeria. The internally generated fund could be from library fines, charges, enterprising library services, innovative and creative information consultancy services offered by the university library through the library personnel to the library service community. Other possible enterprising or fee-based services that could be assigned specifically to the use of library management systems are Internet and information search, information consultancy service, turn-it-in, use of reference managers, indexing and abstracting service, private library creation/classification services, digitization and document delivery services, current awareness and selective dissemination information services. The library could lease out the use of library management systems to banks for a period of time via an agreed memorandum of understanding and a fee payable electronic pop-up advert on the library management systems could be allowed. Internally Generated Revenue (IGR) from the university library is the statutory fund that is obtained or provided from within the library system. Statutory in the sense of authorised funds, funds by legal entity or by the university acts which established a university library and should be made available by such a university library. Externally generated revenue on the other hand, could be the acquisition of capital from external sources such as the government statutory allocations for library development; raised funds from investors, friends of the library, fundraising activities, exploration of crowd funding, and writing for grants/equity. Thus, the parent body of the public university libraries in South-West, Nigeria would take the full responsibility to explore such funding sources to fund use of library management systems. Funding and finding sources, according to Linyuy (2012) has always been a topical and sensitive issue for higher education academics, governments and non-academics, international organisations, donors and the local society. This is because it is like an indispensible resource to pilot the affairs of any institution and most especially in the university. As funding is very much essential to the use of library management systems in the South-West public universities, Nigeria, so the knowledge of how the university libraries order her funding sources for the use of library management systems becomes imperative. The library would no longer be seen as a consuming agency but productive when this is known. The library essentially may need to generate funds both internally and externally to alleviate inadequate funding.

Inadequate or irregular funding as noted in the literature Okiy (2005), Drabensott (2006), Fowowe, (2008), Adegbore (2010), Ishola (2014), IyangandIgweche (2015), Ameh, Wonah and Nwannunu, (2018), Iwayemi and Adebayo (2019) is used as a good reason for the library directors to solicit and look inward creatively for more funds to sustain the use of library management systems. In the university libraries, the key funding source often explored is the government. This has been the primary financier for both the federal and state university libraries. The funding that comes directly from the government to tertiary institutions through allocations based on the yearly budget or indirectly through government agencies such as: Banks e.g. Central Bank of Nigeria, (CBN), TETFUND, and Treasury bills, are a form of externally generated revenue source.

The influence of funding sources on use of library management systems is similar to problems which exist in economic theory basic facts, firstly, human wants for goods and services are unlimited and secondly productive resources with which to produce goods and services are scarce. In other words, the (university libraries) have the problem of allocating scarce resources (disordered funding sources) so as to achieve the greatest possible satisfaction of wants (use of library management systems). This is the economic (university libraries) problem or economizing problem. The economic problem arises from the two basic inter related facts: Man's (public university libraryin South-West, Nigeria) unlimited desire for the goods (library information resources) in the aggregate, and -the limited capital, natural and human resource (disordered funding sources) available to a society (library community) for the¬ production of goods (use of

library management systems) in aggregate. Economic problem consists in making decision regarding the ends to be pursued and goods to be produced and the means to be used for achievements of certain ends. In essence, the university libraries (economy) problem consist in making decision regarding the use of library management systems (ends to be pursued) and effective service to user community (goods to be produced) and the means (funding-externally and internally revenues) to be used for achievement of effective library service (certain ends). The effective library service to which university libraries are known globally may be indirectly influenced by the public universities in South-West, Nigeria by disordered funding sources and conversely affecting the use of library management systems.

STATEMENT OF THE PROBLEM

In spite of the many obvious advantages the library management systems offer to the library which include promoting, faster and reliable access to information resources, reduction in paper work, cost-effectiveness, efficiency and effectiveness of library services and high level of user satisfaction, it is surprisingly inadequately used. The low or inadequate use of Library Management Systems (LMS) in libraries means the perpetuation of traditional library practices in routinised fashion and low usage of the library expensive information resources. The researcher has wondered why academic libraries have failed to take advantage of Library Management Systems (LMS) in spite of the huge benefits accruing from its usage.

Several reasons have been advanced in the literature for inadequate use of library management systems most especially in university libraries. Some of these include the lack of consensus on the best Library Management Systems (LMS) to use, the difficulty of choosing the best Library Management Systems (LMS), and funding use of Library Management System (LMS) in libraries. Considering the prominence of funding in the literature, Bamigboye et.al, (2015) and Iyang and Igweche (2015) have suggested that libraries may be hard put to it to finance escalating costs of technology in libraries. On the other hand, (Olorunsaye, 2020) noted in his study that library management systems cannot be used for effective service in libraries with inadequate funding. The link, therefore, between the influence of funding sources hierarchy and use of Library Management System (LMS) lacks empirical evidence. The study sets out therefore to find out the link between the influence of funding sources hierarchical order and use of Library Management Systems (LMS) use in South-West University, Nigeria.

OBJECTIVE OF THE STUDY

The main objective of the study was to find out the link between the influence of funding sources hierarchical order and use of library management systems in public universities in South-West, Nigeria. Specifically, the objectives were to:

1. find out the funding sources hierachy in use for library management systems in public universities in South-West, Nigeria.
2. find out the influence of funding sources hierachy on use of library management systems in public universities in South-West, Nigeria.

RESEARCH QUESTIONS

In investigating the influence of funding sources hierarchy and use of library management systems in public universities in South-West, Nigeria, the research attempted to find answers to the following research questions:

1. What is the funding sources hierachy in use for library management systems in public universities in South-West, Nigeria?
2. What is the influence of funding sources hierarchy on use of library management systems in public universities in South-West, Nigeria?

RESEARCH HYPOTHESES

Ho_1 There is no significant influence of funding sources hierarchy on use of library management systems in public universities in South-West, Nigeria.

SIGNIFICANCE OF THE STUDY

The finding of the paper will help to identify the funding sources hierarchy in use in public universities, South-West,

Nigeria for use of library management systems. The library personnel, library directors, Government and the university institution will be able to use the research outcome for management decisions and may guide or enhance the development of a standing library management systems (LMS) use policy in Nigerian Universities. To the library personnel, it would enhance effective use of library management systems (LMS) for problem solving research. To the heads of the library (library directors and management), it may help the management to prioritise the need to specifically fund use of LMS or prioritise funding through creative, innovative and enterprising services. It may further encourage the allocation of more funds as internal reserve only for use of library management systems. To the Librarian Registration Council of Nigeria (LRCN) the study recommendation may serve as a catalyst for the promotion of library management systems policy and fund generating service autonomy bill. To the government, it would further convince the government on the need to support the passage of the library management systems fund generating service/autonomy bill. The passage of the bill would alleviate the current overdependence on the government and would improve the quality of information service delivery of the university libraries. The recommendation of the study, if implemented, may serve as comprehensive and objective information surrounding the use of library management systems in public universities in South-West, Nigeria.

METHODOLOGY

The study adopted a survey research design. The total population for the study was 337 (three hundred and thirty-seven), made up of library personnel and Library Directors in federal and state (public) universities in South-West, Nigeria. The states for consideration in the South-West zone are as follows: Lagos, Oyo, Ekiti, Osun, Ondo and Ogun states. There are six (6) federal universities with a population of 182 library personnel and there are ten (10) state universities with a total population of 155 library personnel in South-West, Nigeria. The public universities were selected based on their homogenous funding method, that is, they all get funded through the public purse of both the federal and state governments. The instrument for data collection was a structured questionnaire. The data obtained was collected, coded and analyzed using statistical package for Social Sciences version 22 where frequency counts, percentage distribution as well as mean, standard deviation were calculated for the items measuring socio demographic characteristics and research questions. Furthermore, linear and multiple regression analysis were used to test the formulated hypotheses at 0.05% level of significance. The statistics of the names of the federal and state universities and the number of library personnel in each university as obtained from the Association of University Librarians of the Nigerian Universities AULNU (2016) and Pre-Field work, 2019 is shown in Table 1.

Data Analysis

A total of three hundred and thirty-seven copies of the questionnaire were distributed to sixteen in public universities in South-West, Nigeria. Two hundred and seventy-seven copies returned were good enough for analysis making the Figure an eighty-two percentage (82.2%) of the total distributed. The highest return rate was recorded in Ondo State University of Science and Technology (100%), other high return rates were recorded in Adekunle Ajasin University (92%), Osun State University (90%), Obafemi Awolowo University (88%), Federal University of Technology, Akure (87%), Olabisi Onabanjo University, Ago Iwoye, (86%), Federal University of Agriculture, Abeokuta (84%) and Ladoke Akintola University of Technology (81%). The lowest return rate of 66.7% from the distributed and administered questionnaire was experienced both in the National Open University, Ibadan and Tai Solarin University of Education, Ijagun. The overall representation of the participating institutions indicates that Federal University of Education, Abeokuta, has the highest (15.2%) while the lowest came from National Open University, Ibadan, (0.7%) as contained in Table 1.

Analysis of Demography Data of the Respondents

Table 1.presents the demographic information such as age, gender, marital status, designation, certification year working experience and academic qualification of the respondents.

Parameter	Classification	Frequency N	Percentage %
Age	21-30	74	26.7
	31-40	124	44.8
	41-50	25	9.0
	51-60	48	17.3
	61-70	6	2.2
	Total	**277**	**100.0**
Gender	Male	108	39
	Female	169	61
	Total	**277**	**100.0**
Marital Status	Married	212	76.5
	Single	51	18.4
	Others	14	5.1
	Total	277	100.0
Designation	UL	3	1.1
	DUL	7	2.5
	PL	35	12.6
	SL	45	16.2
	LIB.11	47	17.0
	LIB.1	35	12.6
	ASST. LIB.	46	16.6
	CLO	27	9.7
	HLO	14	5.1
	LO	18	6.6
	TOTAL	**277**	**100.0**
Certification Year Range	Less than 1 year	19	6.9
	1–10years	181	65.3
	Over 10years	52	18.8
	Not at all	25	9
	TOTAL	**277**	**100.0**
Years of Working experience	Less than 1 year	19	6.9
	1–10years	96	34.7
	Over 10years	162	58.4
	Total	**277**	**100.0**
Highest Degree Earned	Bachelor	24	8.7
	Masters	224	80.9
	Mphil.	13	4.7
	Ph.d	16	5.7
	Total	**277**	**100.0**

Source: Field Survey Results 2020

Table 1 presents the demographic information of the respondents. The result in Table revealed that, the largest age range of the respondents is between 31 and 40 years 124 (44.8%) while the age range of between 61 and 70 accounted for the least 6 (2.2%). The implication of this is that the librarianship profession is currently engaged by young people in view of the fact that the majority falls between the ages of between 21 and 40 (71.5%).This is also a good development for growth and prospect of the profession in the South-West, Nigeria. The further study revealed in Table that out of the total number of respondents, 108 (39%) are females and 169 (61%) are females. This indicated that both sexes are represented but majority of the respondents were female 169 (61%). The female being in the majority may infer that

women are more predisposed to librarianship profession in the public universities in South-West, Nigeria, than the male counterpart.

The marital status revealed that the majority of the respondents are married 212 (76.5%). This is an indication that there more matured and responsible minds in the librarianship profession in South-West, Nigeria. Although, there existed 5% of the respondents who claimed to be neither married nor single, this category may have belonged to the class of widows or widowers, married but separated, etcetera. The designation result in Table revealed that, respondents in the grade level of Librarian I formed the majority 47 (17%), followed by those in the grade level of Assistant Librarian 46 (16.6%) and Senior Librarian 45 (16.2%). For the Library Officers' cadre, Chief Library Officer 27 (9.7%) were in the majority, followed by Library Officer 18 (6.6%) and Higher Library Officer 14 (5.1%). Besides, the lowest cadre was the University Librarian category which represents only 3 (1.1%).The Librarian Registration Council certification year range for the respondents were at least between one and ten years 181 (65%) while only 25 (9%) are yet to be certified. This implies that majority of the respondents are seasoned or experienced professionals. The majority of the respondents stated that they have more than ten years of working experience 162 (58.5%). Lastly, a larger percentage of the respondents 224 (80.9%) have obtained a Masters degree which is the basic requirement for academic librarians. This indicates that the librarians in the South-West part of Nigeria have their background in librarianship as well as the prerequisite educational qualifications. The study further revealed that there were more Academic Librarians than Library Officers that participated in the survey however; it indicated that both personnel which was the focus of the research are represented in the study.

DISCUSSION OF FINDINGS

This section presented the discussion of findings obtained from the study. The presentation format follows analysis and discussion of the outcomes of the research questions and the hypothesis in successive pattern. The research questions and hypothesis were the synthesis of the research objectives. The main objective of the study was to find out funding sources hierachyas factors influencing use of library management systems in South-West public universities, Nigeria. The specific objectives were to find funding sources hierachical order for use of library management systems in South-West public universities, Nigeria.

The discussion of findings focused on the results of the survey data. The survey data were collected from two hundred and seventy-seven (277) library personnel, comprising librarians and library officers, through the use of questionnaire responses to satisfy the research questions and hypotheses on use of LMS. The discussion of findings is presented according to the overall objectives of the study and is sectionalized with each section dealing with each of the objectives of the study. The first specific objective of this study was to find out the funding sources hierachical order for use of library management systems in public universities in South-West, Nigeria. Secondly, to find out the influence of the funding sources hierqachical order for use of library management systems in public universities in South-West, Nigeria.

Funding sources sought to establish the funding sources hierachical order in public universities in South-West, Nigeria. It promptly asked the research question 1 which was answered by the data from questionnaire items. The question was meant to ascertain the funding sources hierachy among the libraries for use of library managment systems The funding sources hierachy was categorised into three stages. The first stage was, Government Allocation/Library's IGR - Bank Loan - Equity Financing. The second stage Equity Financing - Government Allocation/Library's IGR - Bank Loan. The third stage, Bank Loan - Equity Financing - Government Allocation/Library's IGR. In order to ascertain the three stages and the most predominant of the stages, a descriptive analysis of the three stages was conducted. Results show that all the three stages yielded good mean and standard deviation. However, the finding of this study translates that the hierachical order of the funding source is, 1, that is, Government Allocation/Library's IGR - Bank Loan - Equity Financing is still the most viable of the three stages.

This finding affirmed those of Okiy (2005); Drabensott (2006); Fowowe (2008); Adegbore (2010); Ishola (2014); Iyang and Igweche (2015); Ameh, Wonah and Nwannunu (2018); Iwayemi and Adebayo (2019) who posited that funding for LMS use comes directly from the government to tertiary institutions through allocations based on the yearly budget or indirectly through government agencies including: Banks e.g. Central Bank of Nigeria, (CBN), TETFUND, and Treasury bills a form of external generated revenue source. In addition, the study further asserted the claims of Fowowe (2008) who stated that funding sources and systems of funding for Nigerian universities have become very important more than ever before. Thus, sourcing funds through bank loans and equity financing are becoming funding sources for libraries.

The finding also confirms the study of Iyang and Igweche, (2001) who posited that the concept of funding in libraries is accumulated from a mixture of local, state, federal, and other sources. The study further stated that public library income is acquired from local funds, 12.1% from state funds, and 0.9% from federal funds while sources of such funding may include credit, venture capital, donations, grants, savings, subsidies, and taxes. Funding such as donations, subsidies, and grants that have no direct requirement for return of investment are described as "soft funding" or "crowd funding".

Influence of funding sources hierachy on use of library management systems in South-West public universities, Nigeria objective was aimed at identifying the influence of funding sources hierachical order on use of library management systems in public universities, South-West and to achieve this objective, the first research hypothesis was raised. Results showed that there is a positive significant influence of the hiercahical order of funding sources for use of library management systems in public universities in South-West. The implication of this result is that, the funding source hierachical order is key to use of library management systems. This indicates that funding source ehierachical order will aid the determination of the actaul funding sources for use of library management systems in public universities libraries in South-West, Nigeria. This result affirmed that of Atanda (2018) who noted that the lack of literacy of the right funding sources is a very critical problem for all libraries. The author further added that University libraries sources of funding varies and disorderly therefore libraries are not able to carry out their ICT plans. The study is also in conformity with the study of Ubogu and Okiy (2010) who affirmed that generally, funding for academic libraries in Africa is financed from the budgets of their parent institutions which invariably come directly from government subvention and other internal sources. Similarly, the finding sources is in conformity with that of Okojie (2010) who is of the same mind that ninety per cent of the funds for university libraries in Africa is derived mostly from government allocation and alternative sources. It is also in consonance with the conclusion of Emojorho (2004) who stated that other sources of funding in libraries include endowment funds, library fees, gifts and other miscellaneous sources. In addition, this finding is similar to the findings of Ameh, Wonah and Nwannunu (2018) who stated that innovative funding strategies had a significant positive relationship with quality university education for sustainable development.

Research Question One: What was the funding sources' preference in use for LMS in public universities in South-West, Nigeria?

This research question aims at determining the funding source preference in use for library management systems in the surveyed universities. The purpose of this research question is to determine which funding source preference is most preferred among university libraries in South-West, Nigeria. The questionnaire data obtained was analyzed using frequency counts and percentages, overall mean and standard deviation of each preference.

Table 2: Funding sources preference for use of LMS in public universities in South-West, Nigeria

S/N	Funding sources preference		SA	A	D	SD	Mean	Std. Dev.
1.	**Order 1**	i. Government allocation /Library's IGR	45(16.2%)	56(20.2%)	143(51.6%)	33(11.9%)	2.59	0.89
		ii. Bank loan	56(20.2%)	147(53.1%)	74(26.7%)		3.06	0.68
		iii. Equity financing	124(44.8%)	83(30.0%)	24(8.7%)	46(16.6%)	1.97	1.11
		Overall mean					**2.54**	
2.	**Order 2**	i. Equity financing	97(35.0%)	107(38.6%)	32(11.6%)	41(14.8%)	2.07	1.05
		ii. Government allocation/Library's IGR	71(25.6%)	113(40.8%)	43(15.5%)	50(18.0%)	2.29	1.10
		iii. Bank loan	70(25.3%)	137(49.5%)	31(11.2%)	39(14.1%)	2.16	1.02
		Overall mean					**2.17**	
3	**Order 3**	i. Bank loan	96(34.7%)	127(45.8%)	38(13.7%)	16(5.8%)	1.91	0.84
		ii. Equity	46(16.6%)	119(43.0%)	72(26.0%)	40(14.4%)	2.38	0.92
		iii. Government allocation/Library's IGR Credit	28(10.1%)	127(45.8%)	85(30.7%)	37(13.4%)	2.47	0.84
		Overall mean					**2.25**	

***Key**: SA (Strongly disagree =4); A (Agree =3); (Disagree =2); SD (Strongly disagree =1)*
Decision rule:

Criterion mean: 9/4=2.25
Strongly disagree =3.76-5.0
Agree = 2.51-3.75
Disagree = 1.26-2.5
Strongly disagree = 0.01-1.25

Table 2 revealed the funding source preference with the highest overall mean (2.54) on a four points scale**.** It means that the funding source preference 1 that relies on government allocation, followed by bank loan and equity as the funding preferences for use of LMS in public universities in South-West libraries, Nigeria. Next to order 1 is order 3, whereby the library firstly source fund through a bank loan, followed by equity and government allocation/library's IGR with the mean score of 2.25 and lastly with the mean score of 2.17 is order 2 which is funding preference starts from equity financing, followed by government allocation/library IGR and bank loan. The overall implication of these results is that the most available order of funding of library management systems is from government allocation to bank loans and equity financing.

Research Question Two: What is the significant influence of funding sources preference on use of library management systems in public universities in South-West, Nigeria?

Table 3: Influence of funding on use of library management systems

Variable	Mean	Std. Dev.	N	R	Sig. P
LMS Funding Sources Preference	23.3502	5.11641	277	0.476**	.000
LMS Use	16.0072	4.97748			

Source: Field Survey Results, 2019

Table 3 shows the significant influence of funding on use of library management systems in public universities in South-West, Nigeria. To determine this, a Pearson Product Moment Correlation was conducted. The result showed that there is a positive significant influence of funding sources preference on use of library management systems in public universities in South-West, Nigeria (r = .476**, N= 277, p<.05). Hence, the null hypothesis 1 is rejected. The inference to be drawn from this result is that adequate funding is very germane to the use of library management systems. This indicates that the more library management systems are funded, the higher its use, which means if library management systems are well funded by the management of university libraries in South-West, Nigeria, the usage will be enhanced and encouraged.

Level of influence of funding sources preference on library management systems

Coefficients[a]

Model		Un-standardized Coefficient		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B	
		B	Std. Error	Beta			Lower Bound	Upper Bound
1	(Constant)	4.496	1.907		2.358	.019	.742	8.249
	FUNDING SOURCES PREFERENCE	.464	.052	.477	8.980	.000	.362	.566

Source: Field Survey Results, 2019
a. Dependent Variable: LMSUSE

To determine the level of influence of funding sources preference on library management systems, results from Table 4 indicate thefunding sources preference was significant in its contribution to the prediction of LMS use. Funding sources preference made the highest and significant contribution (Beta = 0. 477, t = 8.980) as regards LMS use in public universities in South-West, Nigerian. Therefore, funding sources preference can be taken as a good measure of LMS use.

CONCLUSION AND RECOMMENDATION

The study has focused on the funding sources preference on use of library management systems in public universities in South-West, Nigeria. Based on the findings of the study, the following conclusions are drawn. Firstly, the funding sources preferences, such as, government allocation/library's IGR, bank loan and equity financing, were regarded to be strong funding sources preferred for LMS use in libraries. However, the government allocation is still the main funding source preferred. The study concludes that the public university in South-West, Nigeria needs to proactively and actively look inward for means of generating fund through other enterprising and innovative services specifically for the use of library management systems. No library system would effectively survive without prioritising the funding sources for service functions. It is therefore evident that there is a positive link between the influence of funding source hierarchy and use of library management systems in South-West public university, Nigeria.

Secondly, it is concluded by the study that government allocation should temporarily still remain the most preferred source of funding for LMS use. Therefore, funding sources heirachy is regarded to be a significant predictor of library management systems (LMS) use in public university in South-West, Nigeria and should be well attended to by the university library stakeholders. Strong funding sources' preference for internally generated revenue of the libraries should be intensified by the library management. The library management should explore how the use of LMS would be viable as a fund generating source for the university library. Finally, the need to be looking inward for more enterprising, creative and innovative library services, and private partnerships to support specifically the funding of LMS use in public university libraries should be a matter of urgency. However, the governments, federal and states, and library management should invest both financial and material resources in tackling challenges to LMS use. Such should include the provision of adequate infrastructure and fee policy fund for the use of LMS.

REFERENCES

Adegbore, A. M. (2010). Automation in two Nigerian University libraries.*Library Philosophy and Practice.*Retrieved from http://www.webpages.uidaho.edu/mbolin/adegbore.htm/

Ameh, E, Wonah, F, A. and Nwannunu, B. I. (2018). Innovative funding strategies and quality university education for sustainable development in Cross River State, Nigeria. *International Journal of Education and Evaluation,*4(6), 34-41.

Atanda, L. A. (2018). Impact of library automation in Nigerian Universities.Research Journal of Library and Information Science. (2)4, 21-25.

Awala-Ale, I. I. (2012). Library Building and Services Development in Nigeria for Enterpreneurship Education. In J. O. Daniel, E. I. Ifidon, & T. and Okegbola, *Trends in Library & information science in Nigeira: Festschrift in honour of Prof. Sam E. Ifidon* (pp. 183-206). Lagos Nigeria: Elis Associates.

Bamigboye, O.B.; Okonedo, S.; Bakare, O.D. (2015). Funding academic libraries in Nigeria: A cace study. *https://www.researchgate.net/publication/281633507_Funding_Academic_Libraries_in...*

Compagnon, B., & Leydon, J. F. (2001). Manage computer support costs through effective user training. *Journal of Education*, (2), 47-53.

Drabenstott, J. (2005). Projecting library management systems costs.*Library Hi Tech,* (3), 111-119.

Drabenstott, J. (2006). Funding library management systems.Library Hi Tech, 4(1), 111-119.

Emojorho, D. (2004). Budgets and budgeting in selected Nigeria University libraries. The Bottom Line: Managing Library Finances, 17(3), 98-101.

Fowowe, S. O. (2008). Funding academic libraries in Nigeria: A survey of some Nigeria University libraries.Pdf.

Ishola, B. C. (2014). Funding problems in Nigerian University libraries : Fee based library and information services to the rescue , focus on pricing policy.*Library Philosophy and Practice (E-Journal).* Retrieved from http://digitalcommons.unl.edu/libphilprac/1176/

Iwayemi, A., & Adebayo, S. O. (2019). Development of a robust library management systems. *International Journal of Computer Applications*, 178(12), 9-15.

Iyang N.A. and Igweche, W.H. . (2015). Funding and library resources in government owned university libraries in Nigeria. *International Journal of Advanced Library and Information Science*, 3(1),136-146. http:/doi:10.23953/cloud.ijalis.242.

Linyuy, L. (2012). Theory and Practice of Fundimg Models: the case of Cameroon. *Universitas Osloensis MDCCCXI* , 1-90. Universitetet I OSLO.

Okiy, R. B. (2005).Funding Nigerian libraries in the 21st century. Will funding from alternative sources suffice? *The Bottom Line Managing Library Finances,* 18(2), 71-77.

Okojie, V. (2010).Innovative financing for University libraries in sub-Saharan Africa, Library Management, 31(6), 404–419. Retrieved from http://www.emeraldinsight.com/0143-5124.htm/

Olorunsaye, J. O. (2020). The influence of funding and technical proficeincy on Library management system in South-West University Libraries, Nigeria. S*eminar paper presented at Department of information resources management* . Illishan-Remo, Ogun, Nigeria: School of management sciences babcock university.

Olorunsaye, J. O.; Ehioghae, M. and Ukangwa, C.O. (2020). The symbiotic relatiosnhip of funding and use of library managment system in academic libraries: A review. University of Ibadan Journal of Library and Information Science. 3 (1):170-191.

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Full Length Research

The Impact of Effort Expectancy on the Use of Open Access Resources by Lecturers in two selected Universities in Nigeria

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The research work was an investigation into the various types of open access resources used by lecturers and the effort expectancy associated with the use of the resources. Effort expectancy is the degree of ease associated with the use of a system. It was to this end that the research set out to investigate the relationship between effort expectancy and use of open access resources by lecturers. Objective of the study was to examine the impact of effort expectancy as a factor that affects the use of open access resources by lecturers in two selected universities in Nigeria namely, University of Ilorin and University of Ibadan. The research design adopted and used for the study is the descriptive research design. Population comprised of lecturers from University of Ilorin and University of Ibadan. Random sampling was used to select a sample size of 117 form University of Ilorin and 174 from University of Ibadan. Instrument used for the study was structured questionnaire specifically designed to gather relevant information. Data collected was analyzed using the Statistical Package for Social Sciences (SPSS). Descriptive statistics such as frequencies, percentages, mean and standard deviation was used to answer research questions while, the Pearson product moment correlation was used to test hypothesis. All was tested at 0.05 level of significance. The study revealed that the mostly used open access resources were open textbooks, open access databases and authors personal archives. Results also revealed a positive correlation between effort expectancy and use of open access resources by lecturers in University of Ibadan (r=.808; n=152; p<0.05) and lecturers in University of Ilorin (r=.537**; n=117; p<0.05). In conclusion, effort expectancy is a strong determinant of use of open access resources by lecturers.**

Key words: Open access resources, Effort expectancy, Lecturers.

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BACKGROUND OF THE STUDY

Universities have been one of the greatest institutions that have emerged and endured. The modern university is the ideal space for the ecosystem of Scholars o search for new idea in a spirit of free inquiry (Altbach and Salmi, 2011). Universities play fundamentally important rules in any given society. To individuals, they create improved life chances and opportunities; to the economy, enhancement of innovation and skills; and to the society; through increase in knowledge and research discoveries. Universities educate leaders and entrepreneurs of the future, create new ideas and knowledge and also provide opportunities for students of all backgrounds to increase

standards of living for themselves and future generations.

Lecturers are major components of the university system and their role in the continuous existence and existence and substance of the system both for the present and the future is very important. Lecturers contribute to the attainment of the broad objectives of the university which includes teaching, learning and research. They provide academic guidance to students and also extend the frontier of knowledge through research and publication (Nandozieand Nandozie, 2008). Through teaching, lecturers are able to transfer and disseminate knowledge to learners and through research; they are able to contribute to development through inventions, innovations and new discoveries. Other activities carried out by lecturers include: seminar presentation, paper presentation at workshops and conferences and community development.

Open access is defined as a new mode of scholarly communication through which author(s) and right holder(s) of scholarly work grant(s) to all users a free, irrevocable, worldwide right of access to, and a license to copy., use, distribute derivative works, in any digit al medium for any responsible purpose, subject to proper attribution of authorship (Berlin declaration 2003). Open Access (OA) creates free and unbridled access to scholarly information which aims to provide users with information unencumbered by the motive of financial gain or profits. Open access (OA) resources are therefore digital, online, free of charge, and free of most copyright and licensing restrictions (Suber, 2012). The characteristics of open access resources include: free availability of scholarly publication, free of copyright and licensing restriction, materials are available on the internet, material is full text, material can be accessed by anybody from anywhere without any discrimination, and material can be freely by anyone.

Effort expectancy is defined as the degree of ease associated with the use of the system (Venkatesh, Thong &Xu 2012). This does not only have to do with system technology and design but also with personal factors as willingness to learn and use new systems. Effort expectancy is therefore the extent of convenience perceived for using a system. Effort expectancy indicates the level of ease associated with using a system. This variable might likely affect the use of open access resources since the main access point to those resources is the internet.

The effort expectancy in the use of open access resources relates to the perception that lecturers have about the efforts involved in accessing and retrieving open accessing resources from the internet. Lecturers' use of open access resources may likely be influenced by the perceived ease of use of the system involved. Users of open access resources are likely to be influenced by how easy or complex it is for them to access and retrieve open access resources from open access system. If lecturers perceive open access resources retrieval system to be difficult to use, they are more likely to limit their use of open access resources for activities like teaching and research. However, if they perceive the retrieval system of open access resources to be easy and understandable, they are more likely to increase their level of using open access resources.

STATEMENT OF PROBLEM

The primary advantage of open access resources is that the entire content is available to users everywhere regardless of affiliation with a subscribing library. However, the use of open access resources could be limited by some factors. One of such factors is effort expectancy. Effort expectancy is the degree of ease associated with the use of a system. This variable might likely affect the use of open access resources since the main access point to these resources is the internet. It is to this end that the research is set out to investigate the relationship between effort expectancy and use of open access resources by lecturers.

OBJECTIVES OF THE STUDY

The objectives of the study are to:

i. ascertain that types of open access resources used by lecturers in selected universities
ii. ascertainthe effort expectancy of usage of open access resources by lecturers;
iii. ascertain the relationship between effort expectancy and use of open access by the lecturers; and

RESEARCH QUESTIONS

The research questions to be examined in this study are:

1.What are the types of open access resources used by lecturers in selected universities?
2. What is the effort expectancy of use of Open Access resources by lecturers?

RESEARCH HYPOTHESIS

The following hypothesis was tested in the study:

HO1: There is no significant relationship between effort expectancy and use of open access by university lecturers.

LITERATURE REVIEW

Effort expectancy refers to the degree of ease related to system usage (Venkatesh and Davis 2012). Effort expectancy indicates the level of ease associated with using a system. Effort expectancy in the use of open access resources relates to the perception that lecturers have about the efforts involved in accessing and retrieving open access resources from the internet. The main thrust is that individuals are likely to show interest in technology usage if that technology is easy to use. This means less complicated technologies. Effort expectancy is therefore the extent of convenience perceived for using a system.

Various studies have been carried out to investigate on how effort affects the use of technological products by lecturers including open access resources by Mbete and Raisamo (2014) carried out a research to examine the intention to adopt and use Open Educational Resources (OER) in higher education in Tanzania. In their study, 102 lecturers (Instructors) were selected from 4 universities and 1 institute of Technology in Tanzania. Result of the study indicated that effort of Beta=0.25, $p<0.005$ which showed that effort expectancy was major influencing factor in the usage of OER by the lecturers. Their result further suggested that the lecturers believe that OER will be easy to use and free of efforts. Implications from conclusion of their study was that the developers of open educational resources should improve the user friendliness and ease of use of open educational resources in order to attract more instructors to adopt and the resources.

Oye, Iahad, and Ab.Rahim (2012), conducted a research on the comparative study of the intention to accept and use ICT among university academic staff of Adamawa State University (ADSU) and Lagos State University (LASU). The result of their research shows that effort expectancy have positive influence and is significant with p-value (.000) on the behavioral intention of the academicians to accept and use ICT in their workplace. The regression results show that the most influential predictor of academic staff intention to accept and use ICT in ADSU is effort expectancy. They therefore concluded that the academic staffs of the universities believe that ICT is useful and easy to use. This influences their behavioral intention to accept and use ICT in their workplace.

Wirba and Abrizah (2011), in a study aimed at applying UTAUT Model to understand Malaysian authors' readiness to self-archive in Open Access repositories carried out a research at determining university lecturers and academicians' readiness to self-archive in digital/Institutional repositories via the green route to open access. The research was carried out on 1,000 lecturers from five different universities in Malaysia. They identified effort expectancy as one of the factors that influence adoption and usage of open access repositories for self-archiving by lecturers in Malaysia. While some studieson technology acceptance have found negative effects of effort expectancy factor in predicting behavioral intention (Debuse et al., 2008), other studies found that effort expectancy factor had positive effects on behavioural intention to adopt open access (Dulle and Minishi-Majanja, 2011).

Indications are that effort expectancy can either inhibit or increase faculty willingness to contribute their research materials into publicly accessible websites. In the study by Lwoga and Questier (2014), effort expectancy factor was found to negatively associate with the faculty's behavioral intention on open access usage. The findings imply that faculty who perceived that it would be difficult for them to open access system was less likely to adopt OA than those who felt the contrary. In the study by Dulle and Minishi-Majanja (2011), carried out on adoption of open access publishing by scholars in six public universities in Tanzania effort expectancy was also found to have positive effects on behavioral intention use adopt open access scholarly communication. It was found to be among the determinants for researchers' behavioral intention of open access usage. It was established that individuals who strongly believed that it would be easier for them to use open access outlets in scholarly communication were 57.9% more likely to adopt this mode than those who felt the opposite.

These findings are similar to the previous technology acceptance studies regarding the negative effects of effort expectancy factor in determining behavioral intention (Debuse et al.,2008). The study by Lwoga and Questier, findings are however contrary to the result of other studies in Tanzania which showed that effort expectancy factor had positive relationship with the behavioral intention to adopt access (Dulle and Minishi-Majanja, 2011). There is thus a need to conduct more training on the use of open access web avenues to enhance faculty capability to use such system, given that studies show that the negative effects of effort expectancy can be minimized with experience (Venkatesh et al., 2003).

There is no gainsaying therefore that from literature reviewed, no research work has been done in Nigeria to study the

effect that effort expectancy presents to lecturers in their quest to utilize Open Access resources. The above revelation indicates a dearth of literature on how this factor affects the use of Open Access by lecturers in Nigeria. Therefore, this is the gap in literature that this research work sets out to fill.

RESEARCH METHODOLOGY

The research design adopted and used for the study is the descriptive research design. Descriptive research design was chosen for the research work because, it is very important in reducing large data to a manageable form as it allows only a small sample population to represent the entire population. The population of the study was made up from lecturers from four(4) faculties in University of Ilorin (UNILORIN) and University of Ibadan (UI) respectively. Preliminary investigation indicated that there were 743 lecturers in University of Ilorin while there were 1,460 lectures in University of Ibadan. At the first stage of sampling, four faculties were purposely selected from the two Universities. The faculties are; Education, Arts, Social sciences and Sciences. At the second stage, three departments with the highest number of Lecturers were selected from each of the faculties. The final stage of the sampling was done by using 60% of the sampling fraction. Instrument used for the study was structured questionnaire specifically designed to gather relevant information.

METHOD OF DATA ANALYSIS

Data collected was analyzed using the Statistical Package for Social Sciences (SPSS). Descriptive statistics such as frequencies, percentages, mean and standard deviation was used to answer research questions while, the Pearson product moment correlation was used to test hypothesis. All was tested at 0.05 level of significance.

RESPONSE RATE

The number of copies of questionnaire distributed in University of Ilorin and University of Ibadan were 117 and 174 respectively. Out of which 100 and 152 copies were duly filled and returned respectively. Response rate was therefore 85.47% for University of Ilorin and 87% for University of Ibadan.

DATA ANALYSIS

Research Question 1: **What are the types of Open Access resources used by lecturers?**

Table 1 presents the results of findings on the types of Open access resources used by lecturers. Results revealed that majority of lecturers in (UI) with 86.18% made use of Open textbooks, while in UNILORIN, result showed that 98% of the lecturers used personal archives. In essence, the mostly used Open Access resources in both universities were; Open textbooks, Open access databases and personal archives.

Research Question 2: What is the effort expectancy of use of Open Access resources by lecturers?

Tables 2, 3, 4 and 5show the effort expectancy of open access resources by lecturers. The tables revealed that most of the lecturers in the two universities perceived open access resources to be easy to use as they affirmed that. Specifically, most of the respondents 29(76.3%) in social sciences (UI) expressed that printing out open access resources for later use was easy for them. While 22(73.3%) affirmed that downloading the resources was also easy. Interestingly, all respondents 28 (100%) in Arts and 25(100%) in Education at UNILORIN all agreed that they never considered open access search engines to be difficult.

Hypothesis testing: **There is no significant relationship between effort expectancy and use of open access by university lecturers.**

Table 6 reveals the relationship between effort expectancy and use of open access resources by lecturers. A correlation analysis was carried out to determine the relationship between effort expectancy and use of open access resources by lecturer (Table 4.27). The results shows that in University of Ibadan and University of Ilorin, there was a significant positive correlation between effort expectancy and use of open access resources by the lecturers ($r=.808^{**}$; $n=152$; $p<0.01$) and ($r=.537^{**}$; $N = 100$; $p < 0.01$) respectively. This means that as effort expectancy increases, the use of open access resources by the respondent also increases. Therefore, the hypothesis is rejected.

DISCUSSION OF FINDINGS

Results revealed that the mostly used open access resources were open textbooks, open access databases and authors personal archives. The reason could be preference and level of familiarity with these resources. The use of smart devices like smart phones, I pad, and laptops have also made this easy. This supports the results of Nicholas, Rowlands, Watkinson, Brown and Jamali(2012) investigated the scientific researchers' perception of digital repositories and found out that out of 1,675 survey responses, 1,079(63.7%) of the respondents had deposited their research outcomes in one type of open access repository or the other.

Findings also revealed and indicated that a very significant number of respondents averred that open access resources were easy to use. This implies that most of the respondents had the needed information retrieval skills as they did not face any complexity in accessing the open access resources. This in turn increased their usage of open access resources.

The findings corroborates the findings of Dulleand Minishi-Manjanja(2011)where it was established that individuals who strongly believed that it would be easier for them to use open access were 57.9% more likely to adopt this mode than those who felt opposite. Similarly, Wirba and Abrizah (2011) in a study aimed at applying UTAUT Model to understand Malaysian authors readiness to self-archive in open access repositories identified effort expectancy as one of the factors that influence adoption and usage of open access repositories for self-archiving in Malaysia.

Results also showed a positive correlation between effort expectancy and use of open access resources. This is understandable as ease of use and complexity affect the utilization of open access resources. This result resonates with the study conducted by Mbete and Raisamo (2014) on adoption and use of Open Educational Resources (OER). Their findings showed that effort expectancy was a major influencing factor in the usage of OER. Their results further suggested that that lecturers believed that OER would be easy to use and free of efforts.

Table 1. Types of Open Access resources used by lecturers in University of Ilorin

Types	Used		Not used	
	F	%	F	%
Institutional Repository	45	45.0	55	55.0
Open Access databases	87	87.0	13	13.0
Authors' Personal archives	98	98.0	2	2.0
Open Textbooks	98	98.0	2	2.0

Table 2. Types of Open Access resources used by lecturers in University of Ibadan

Types	Used		Not used	
	F	%	F	%
Institutional Repository	79	51.9	73	48.1
Open Access databases	125	82.2	27	17.8
Authors' Personal archives	122	80.2	30	19.8
Open Textbooks	131	86.1	21	13.9

Table 3. Effort expectancy of open access resources by lecturers in University of Ibadan

	Arts								Education							
PERCEIVED EASE OF USE	**VHE**		**HE**		**A**		**LE**		**VHE**		**HE**		**A**		**LE**	
	F	**%**	**F**	**%**	**F**	**%**	**F**	**%**	**F**	**%**	**F**	**%**	**F**	**%**	**F**	**%**
I expect interaction of open access resources system to be clear and understandable	6	16.7	13	36.1	10	27.8	7	19.4	13	43.3	17	56.7	-	-	-	-
It is easy for me to become skillful in publishing my work in open access	4	11.1	15	41.7	15	41.7	2	5.6	10	33.3	20	66.7	-	-	-	-

Table 3.continues

I expect the interface of open access resources to be friendly to use	3	8.3	17	47.2	11	30.6	5	13.9	14	46.7	16	53.3	-	-	-	-
I expect open access resources interface to be easy to browse and investigate	4	11.1	16	44.4	12	33.3	4	11.1	14	46.7	16	53.3	-	-	-	-
I find it easy to access information resources from open access.	6	16.7	16	44.4	9	25.0	5	13.9	16	53.3	14	46.7	-	-	-	-
I find it easy to retrieve information resources from open access on the internet.	5	13.9	17	47.2	11	30.6	3	8.3	13	43.3	17	56.7	-	-	-	-
Accessing and use of open access materials is a good idea	6	16.7	17	47.2	7	19.4	6	16.7	15	50.0	15	50.0	-	-	-	-
COMPLEX																
I find it difficult to download open access resources	6	16.7	1	2.8	9	25.0	20	55.6	1	3.3	-	-	7	23.3	22	73.3
It is not easy for me to print out open access resources for later use.	6	16.7	1	2.8	5	13.9	24	66.7	2	6.7	-	-	8	26.7	20	66.7
Access instructions are not always clear.	6	16.7	-	-	8	22.2	22	66.7	4	13.3	-	-	8	26.7	18	60.0
To many login instructions required	10	27.8	-	-	9	25.0	17	47.2	8	26.7	-	-	6	20.0	16	53.3
I find it difficult to upload content to open access resources	6	16.7	2	5.6	10	27.8	18	50.0	9	30.0	-	-	8	26.7	13	43.3
Website design of open access resources is too complex for me to access	5	13.9	1	2.8	12	33.3	18	50.0	5	16.7	-	-	11	36.7	11	36.7
It is difficult to save open access resources for later use.	6	16.7	1	2.8	15	41.7	14	38.9	8	26.7	-	-	11	36.7	11	36.7
It is difficult to use open access search engines.	11	30.6	1	2.8	12	33.3	12	33.3	10	33.3	-	-	13	43.3	7	23.3

Key: very High Extent (VHE) High Extent (HE) Average (A) Low Extent (LE)

Table 4. Effort expectancy of open access resources y lecturers in University of Ibadan

	Arts								Education							
PERCEIVED EASE OF USE	**VHE**		**HE**		**A**		**LE**		**VHE**		**HE**		**A**		**LE**	
	F	**%**	**F**	**%**	**F**	**%**	**F**	**%**	**F**	**%**	**F**	**%**	**F**	**%**	**F**	**%**
I expect interaction of open access resources system to be clear and understandable	23	83.3	5	16.7	-	-	-	-	13	52.0	12	52.0	-	-	-	-
It is easy for me to become skillful in publishing my work in open access	14	50.0	14	50.0	-	-	-	-	20	80.0	5	20.0	-	-	-	-
I expect open access resources interface to be easy to browse and negative	26	93.0	2	7.0	-	-	-	-	13	52.0	5	20.0	7	28.0	-	-
I find open access information resources from open access	19	66.7	9	33.3	-	-	-	-	14	56.0	11	44.0	-	-	-	-
I find it easy to retrieve information resources from open access on the internet	14	50.0	14	50.0	-	-	-	-	6	24.0	14	56.0	5	20.0	-	-
I find it easy to upload contents on institutional repository	-	-	5	16.7	23	83.3	-	-	-	-	16	64.0	9	36.0	-	-
Accessing and use of open access materials is a good idea	9	33.3	19	66.7	-	-	-	-	25	100.0	-	-	-	-	-	-
COMPLEXITY																
I find it difficult to download open access resources	-	-	-	-	-	-	28	100.0	-	-	-	-	14	56.0	11	44.0
It is easy for me to print out open access resources for later use	-	-	-	-	5	16.7	23	83.3	-	-	-	-	18	72.0	7	28.0
Access instructions are not always clear	-	-	-	-	5	16.7	23	83.3	-	-	-	-	7	28.0	18	72.0
Too many login instruction required	9	33.3	-	-	5	16.7	14	50.0	5	20.0	-	-	6	24.0	14	56.0
I find it difficult to upload content to open access resources	10	35.7	-	-	8	28.6	10	35.7	5	20.0	-	-	7	28.0	13	52.0
Websites design of open access resources is too complex for me to access	5	16.7	-	-	14	50.0	9	33.3	2	8.0	-	-	13	52.0	10	40.0
It is difficult to save access resources for later use	7	25.0	-	-	14	50.0	7	25.0	8	32.0	-	-	11	44.0	6	24.0
It is difficult to use open access search engines	-	-	9	33.3	19	66.7	-	-	-	-	6	24.0	12	48.0	7	28.0

KEY: VERY HIGH EXTENT (VHE) HIGH EXTENT (HE) AVERAGE (A) LOW EXTENT (LE)

Table 5. Effort expectancy of open access resources by lecturers in University of Ilorin

	Social Sciences								Sciences							
Perceived ease of use	Vhe		He		A		Le		Vhe		He		A		Le	
	F	%	F	%	F	%	F	%	F	%	F	%	F	%	F	%
I expect interaction of open access resources system to be clear and understandable	10	47.6	11	52.4	-	-	-	-	14	53.8	12	46.2	-	-	-	-
It is easy for me to become skillful in publishing my work in open access	5	23.8	16	76.2	-	-	-	-	13	50.0	13	50.0	-	-	-	-
I expect the interface of open access resources to be friendly to use	9	42.9	12	57.1	-	-	-	-	15	57.7	11	42.3	-	-	-	-
I expect open access resources interface to be easy to browse and navigate	11	52.4	10	47.6	-	-	-	-	14	53.8	12	46.2	-	-	-	-
I find it easy to access information resources from open access	12	57.1	9	42.9	-	-	-	-	10	38.5	16	61.5	-	-	-	-
I find it easy to retrieve information resources from open access on the internet	8	38.1	13	61.9	-	-	-	-	15	57.7	11	42.3	-	-	-	-
I find it easy to upload contents on institutional repository	5	23.8	16	76.2	-	-	-		-	-	13	50.0	13	50.0	-	-
Accessing and use of open access materials is a good idea	21	100.0	-	-	-	-	-	-	13	50.0	13	50.0	-	-	-	-
Complexity																
I find it difficult to download open access resources	-	-	2	9.5	1	4.8	18	85.7	-	-	1	3.8	8	30.8	17	65.4
it is not easy for me to print out open access resources for later use	-	-	3	14.3	4	19.0	14	66.7	-	-	-	-	14	53.8	12	46.2
Access instruction are not always clear	-	-	7	33.3	3	14.3	11	52.4	-	-	-	-	9	34.6	17	65.4
Too many login instruction required	-	-	6	28.6	3	14.3	12	57.1	-	-	7	26.9	7	26.9	12	46.2
I find it difficult to upload content to open access resources	-	-	4	19.0	10	47.6	7	33.3	6	23.1	-	-	8	30.8	12	46.2

Table 5.continues

Websites design of open access resources is too complex for me to access	6	28.6	-	-	6	28.6	9	42.9	-	-	-	-	4	15.4	22	84.6
It is difficult to save open access resources for later use	8	38.1	-	-	4	19.0	9	42.9	-	-	-	-	24	92.3	2	7.7
It is difficult to use open access search engines	6	28.6	-	-	9	42.9	6	28.6	-	-	-	-	-	-	26	100.0

KEY: VERY HIGH EXTENT (VE) HIGH EXTEN (HE) AVERAGE (A) LOW EXTENT (LE)

Table 6. Effort expectancy of open access resources by lecturers in University of Ilorin

	Social Sciences								Sciences							
Perceived ease of use	Vhe		He		A		Le		Vhe		He		A		Le	
	F	%	F	%	F	%	F	%	F	%	F	%	F	%	F	%
I expect interaction of open access resources system to be clear and understandable	10	47.6	11	52.4	-	-	-	-	14	53.8	12	46.2	-	-	-	-
It is easy for me to become skillful in publishing my work in open access	5	23.8	16	76.2	-	-	-	-	13	50.0	13	50.0	-	-	-	-
I expect the interface of open access resources to be friendly to use	9	42.9	12	57.1	-	-	-	-	15	57.7	11	42.3	-	-	-	-
I expect open access resources interface to be easy to browse and navigate	11	52.4	10	47.6	-	-	-	-	14	53.8	12	46.2	-	-	-	-
I find it easy to access information resources from open access	12	57.1	9	42.9	-	-	-	-	10	38.5	16	61.5	-	-	-	-
I find it easy to retrieve information resources from open access on the internet	8	38.1	13	61.9	-	-	-	-	15	57.7	11	42.3	-	-	-	-
I find it easy to upload contents on institutional repository	5	23.8	16	76.2	-	-	-		-	-	13	50.0	13	50.0	-	-
Accessing and use of open access materials is a good idea	21	100.0	-	-	-	-	-	-	13	50.0	13	50.0	-	-	-	-

Table 6.continues

Complexity														
I find it difficult to download open access resources	-	-	2	9.5	1	4.8	18	85.7	-	-	1	3.8	8	30.8	17	65.4
it is not easy for me to print out open access resources for later use	-	-	3	14.3	4	19.0	14	66.7	-	-	-	-	14	53.8	12	46.2
Access instruction are not always clear	-	-	7	33.3	3	14.3	11	52.4	-	-	-	-	9	34.6	17	65.4
Too many login instruction required	-	-	6	28.6	3	14.3	12	57.1	-	-	7	26.9	7	26.9	12	46.2
I find it difficult to upload content to open access resources	-	-	4	19.0	10	47.6	7	33.3	6	23.1	-	-	8	30.8	12	46.2
Websites design of open access resources is too complex for me to access	6	28.6	-	-	6	28.6	9	42.9	-	-	-	-	4	15.4	22	84.6
It is difficult to save open access resources for later use	8	38.1	-	-	4	19.0	9	42.9	-	-	-	-	24	92.3	2	7.7
It is difficult to use open access search engines	6	28.6	-	-	9	42.9	6	28.6	-	-	-	-	-	-	26	100.0

KEY: VERY HIGH EXTENT (VE) HIGH EXTEN (HE) AVERAGE (A) LOW EXTENT (LE)

Table 7. Relationship between effort expectancy and use of open access resources by lecturers

Name of University	**Variables**	**Mean**	**Std. Deviation**	**N**	**R**	**Df**	**Sig. (P)**	**Remarks**
University of Ibadan	Effort expectancy	50.70	6.897					
	Use of open access resources	22.45	5.100	152	.808**	151	.001	Sig.
University of Ilorin	Effort expectancy	52.46	4.722					
	Use of open access	24.07	2.910	100	.537**	99	.001	Sig.

CONCLUSION

Through open access resources, journals and other scholarly articles may now be downloaded quicker and easier. Open access resources play a very important role in scholarly communities especially among lecturers, who need access to current and relevant information for their teaching, learning and research activities.
The ease with which open access resources can be accessed and used is a major game changer in the academic world as this implies that lecturers and researchers worldwide would continue to make appreciable use open access resources for a very long time to come in view of the opportunities it presents for all.

REFERENCES

Altbach, P. and Salmi, J. 2011. The Road to Academic Excellence: The Making of World-Class Research Universities. Washington: The World Bank. Retrieved December 10 2018 https://www.sensepublishers.com/media/1556-building-world-class-universities.pdf

Debuse, J., Lawley, M. and Shibl, R. 2008 Educators' perceptions of automated feedback differences in the acceptance of mobile learning.*British Journal of Educational* Dissertation,Napier University.Retrieved25th May,2020 from http://www.edessa.co.uk/Dissertations/sefarchiving.Pdf

Dulle, F. 2011. An analysis of open access scholarly communication in Tanzanian Public Universities.
Phd Thesis, (Final Draft) University of South Africa. Pretoria, South Africa.RetrievedJuly15th,2019http:/Uir.Ac.Za/Bitsream?Handle/10500/3684/Thesis_Dulle_F.pdf.

Dulle.F, Minishi-Majanja.M, and Cloete, I 2012.the adoption of open access Scholarly communicationin Tanzanian public Universities: some influencing factors. *Mousaion29 (1).*Retrieved 12thMay,2020 from http://web.ebscohost.com/ehost/pdfviewer/pdfviewer?sid=3513841f-a78a-4e1f-aad8aae7043c0c%40sessionmgr4003&vid=0&hid=4209.

Lwoga, E. and Questier, F. 2014.Faculty adoption and usage behavior of open access scholarly communication in health science universities.*New Library World, 115.3/4:5-5.*

Mtebe, S and Raisamo, R 2014. Investigating students' behavioral intention to adopt and use mobile learning in higher education in East Africa. *International Journal of Education and Development using Information and Communication Technology (IJEDICT), 10.3:4-20*

Obuh, O. 2013. Attitude towards the Use of Open Access Scholarly Publications: The Position of LIS Lecturers in Southern Nigeria. *The Social Sciences, 8: 153-159.*

Oye, D. Iahad, A and Ab. Rabin, Z. 2011.A model of ICT Acceptance and Use for Teachers in Higher Education Institutions.*International Journal of Computer Science & Communication Networks, 1.1:22-33.*

Oye, D, Iahad, A and Ab. Rabin, Z. 2012. A comparative Study of Acceptance and Use of ICT among University academic Staff of ADSU and Lasu: Nigeria *International Journal of Science and Technology. 1:1:41-52.*

Singeh, F. Abrizah, A. and Karim, N.H.A. 2013. Malaysian authors' acceptance to self- archiving institutional repositories: towards a unified view. Electronic Library, 21.2:188-207. Doi:10.1108/0264047131131237

Suber,P.2012. An introduction to open access. Retrieved 7th Jul. 2020 fromhttp://www.earlham.edu/~peters/fos/overview.htm

Venkatesh, V. Thong, Y. and Xu, X. 2012. Consumer acceptance and use of information technology: extending the unified theory of acceptance and use of technology. *MIS quarterly,* 36.1:157-178.

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Full Length Research

Health Information Accessibility through the Lens of Portable Technologies: Experience of Librarians in Osun State, Nigeria

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Objectives: This is an exploratory study that focused on identifying the contemporary health related information needs of librarians in Osun State; types of mobile technology used for accessing health related information as well as identifying challenges experienced in using mobile technology for accessing health related information.
Methodology: This is a descriptive survey study of 133 Librarians in Osun State, Nigeria. Total enumeration of all the population was adopted. From the total 133 questionnaires that were administered, 126 (representing 94.74%) were duly completed and used for analysis. Frequency counts and percentage calculation were used to analyse the quantitative data, while thematic description was used in analyzing the qualitative data collected.
Findings: The study discovered that information on COVID-19 (77.8%); nutrition (66.7%); and physical fitness (66.7%) were the most sought information by the respondents. Majority (94.4%) of the respondents accessed health-related information using their smartphones. Also, the majority of the respondents mostly seek for health related information through Whatsapp (83.3%) and Facebook (61.1%). Poor internet service and difficulty in trusting the credibility of the online sources (83.3% each) were the two major barriers faced by the librarians in using mobile technology for accessing health related information.
Recommendations: Librarians need to explore other electronic health information sources rather than concentrating on social media; there is the need for increased knowledge of librarians on online information searching strategies and also, there is need for improved internet services provision by the operators.
Originality: This study identified contemporary health related information needs of librarians in Osun State, Nigeria and electronic information sources frequently used and preferred. These findings will be instrumental in meeting the health information needs of the librarians by the concerned and relevant stakeholders. This study is also an additional contribution to existing literature in the area of health related information seeking among librarians.

Keywords: Mobile technologies, health-related information, librarians, COVID-1

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INTRODUCTION

Librarians like their counterparts in other disciplines have high health information that need to be adequately satisfied (Adewara, Opele, Oyewumi, &Abdulraheem, 2019). Health information need of librarians may include those information related to drugs administration, disease prevention and treatments as well as, medical counseling which can be accessed through electronic and portable platforms such as e-mails, YouTube, e-journals, websites, mobile/ Web Applications and Social media (Awogbami, Opele&Chibueze, 2020). Librarians are among top information users in the society in addition to their roles as information managers. However, while seeking for health information with a view to better their health and wellbeing (Opele, 2017); they also have preference for portable devices used for information accessibility. The recent global outbreak of COVID-19 pandemic and the attendant lockdown and social distancing guidelines have further raised public consciousness of the power of portable technologies in health information seeking and sharing of information among people of diverse social and political class (Opeke&Opele, 2014; Favale, Soro, Trevison, Drago&Mellia, 2020).

People of all ages have sought information from various sources such as on radio, television and from the traditional medium such as story telling from time immemorial though not without some notable barriers (Opele, Adepoju, &Adegbite, 2020). However, in recent years, media users including Librarians now have preference for those information sources driven by portable technologies that can gratify their information seeking ability and use. Thus, having access to the right health information will not only assist the librarians in improving their health-related decision making activities, but will also enhance their physical fitness to be able to discharge their duties efficiently. Apart from serving as information purveyors, librarians themselves need information for personal use and more often than not, they rely on portable technologies to access such health related information (Awogbami, Opele& Awe, 2020). These technologies have been more utilized in the last one year that was characterized by a global health emergency orchestrated by the outbreak of the COVID-19 pandemic. The global paradigm shift has demanded that meetings be conducted via these portable technology such as on zoom, google meet, google classroom among others which are instrumental in conducting seminars, conferences receiving and sharing of information due to the lockdown and social distancing policies associated with the outbreak of the COVID-19 pandemic (Nash, 2020).

This global concern has necessitated people to maximize the power of the various portable devices to access and share health related information with a view to taking certain health related decisions that are germane to the prevention of the spread of the deadly coronavirus (Awogbami, Opele&Lawal, 2020). People's health related information is generally multifarious and highly complex due to human diversities, however, the use of portable technologies have now replaced the traditional hospital visitation for medical diagnosis, treatment and health counseling. The opportunities associated with the use of portable technologies such as smart phones and laptop computers for accessing information are limitless and need to be thoroughly annexed for health related information sharing, dissemination and use.

Statement of the problem

The job of a Librarian in many knowledge institutions such as the universities, polytechnics and colleges of education, is multi-faceted. As such librarians need to be healthy to perform their duties as expected. They need to make use of the portable technologies to access information for personal use and development which are essential to their performance. However, lack of information searching skills and sometimes low level of use of portable and mobile technologies hinders librarians' ability to access necessary health related information in many developing nations like Nigeria (Lazer, 2018; Talwar, Dhir, Singh, Virk and Salo, 2020). Besides, the availability of fake news on social media can also affect librarians' use of mobile technologies for accessing health related information. Till date, there is a dearth of literature on the contemporary health information needs of Librarians in Osun State, Nigeria. Thus, there is a need to ascertain the extent to which librarians in Osun State are making use of electronic information via portable technologies that are found in their numbers in different shapes and sizes to access health related information. Similarly, there is a lack of empirical literature on the perceptions of librarians about the use of mobile technologies while accessing health related information and the challenges associated with the use of portable technologies. It is against this backdrop that this study was conducted to assess the use of portable technologies for accessing health related information among librarians in Osun State, Nigeria.

Research objective

The general objective of this study was to ascertain the extent to which Librarians' are making use of portable technologies for accessibility health information in Osun State, Nigeria. The following specific objectives were proposed:

1. Identify the contemporary health information needs of librarians in Osun State, Nigeria.
2. Identify types of mobile technologies used for accessing health related information among the librarians in Osun State.
3. Determine the commonly preferred electronic sources where librarians in Osun State access health related information.
4. Identify the perceptions of librarians in Osun State towards the use of mobile technologies for accessing health related information.
5. Identify the challenges experienced by librarians in Osun State in accessing health related information through mobile technologies.

Research questions

The study is set to provide answers to the following questions:

1. What are the contemporary health information needs of librarians in Osun State?
2. What types of mobile technologies are used for accessing health related information among the librarians in Osun State?
3. What are the commonly preferred electronic sources where librarians in Osun State access health related information?
4. How do the Librarians perceived the use of mobile technologies for accessing health related information in Osun State?
5. What are the challenges experienced by librarians in Osun State in accessing health related information through mobile technologies?

Review of related literature

Portable technology refers to the hand-held or mobile devices such as smart-phones, tablets, laptops and wearable smart watches, useful for accessing and sharing information. They are digital devices that are internet enabled and can be used anywhere. There has been an increase in the acceptability and use of mobile technologies, especially in the last decade (Verma&Sheth, 2018; Awogbami, Opele, & Chibueze, 2020). Mobile technology can be described as hand-held or mobile devices such as smart-phones, tablets, laptops and wearable smart watches etc, useful for accessing and sharing information. Mobile technology can also be described as digital devices that are internet enabled and can be used anywhere. Ciaramitaro (2011) and Vishnuvardhan and Baira (2017) observe that mobile technology has evolved over the years to transcend beyond the traditional voice communication gadget to a tool used for accessing the internet, play games, create and share texts, videos and images. Mobile technology is used for sending and receiving instant messages on the go.

According to Kitikannakorn and Sitthiworanan (2008), health –related information are messages or information that reduce the uncertainty that are associated with an individual's health status and can improve an individual's confidence on issues relating to health. This means that health-related information can be described as information or messages that assist in reducing the uncertainty level of individuals in relation to their physical, mental, social or emotional well being. According to Niederdeppe et al (2007), health-related information alters individuals' knowledge and promotes making informed health decisions that have implications on our daily lives. This implies that accessing health-related information improves one's knowledge to be able to make informed decisions on issues that pertain to health. Other benefits of seeking for health related information include living a healthy life and complying with medications.

Health related information needs vary, depending on the individual seeking such information and the context or condition warranting such need. Health-related information may include locating treatments for diseases, seeking for alternative treatment methods, nutrition and physical fitness activities, sexual/ reproductive health, mental health etc. (Niederdeppe et al, 2007; Kitikannakorn and Sitthiworanan , 2008; Obasola & Agunbiade, 2016). Using mobile technology to access health-related information has a number of benefits and limitations. The benefits are associated with the limitless opportunities provided by mobile technologies. These include easy accessibility, timeliness, and multiple information sources to choose from (Maon, Hassan and Seman, 2017). Limitations of using mobile technology in accessing health related information also abound. Notable among these is the trust issue as there are so many mis-information or fake news that may be widely circulated through online platforms, especially the social media. Lazer, 2018; Talwar et al, 2020). In a related study, Hesse, Nelson and Kreps (2005) pointed out that health information from physicians remains the most highly trusted sources among adults in the USA because such information are products of empirical observation and experience.

Hesse, Nelson and Kreps (2005) note that increased use of mobile technology has greatly improved the amount of health information available and accessible to the information users. Although, there are multifarious media and sources through which health-related information could be sought, however, more people are turning to the Internet and other several online sources to search for health related information (Williams, Nicholas & Huntington , 2003; Maon, Hassan &Seman, 2017) . While this may be attributed to what Alwehaibi and Almeman (2014) describe as easy accessibility of mobile technology which has increased the global availability and use of health-related information sources; other contemporary factor may include the global outbreak of COVID-19 and the attendant lockdown and physical distancing policies which has forced many people to seek for information online, more than before (Favale et al, 2020 and Nash, 2020).

In using mobile technology for accessing health related information, the user's experience matters. Boyer, Provost and Baujard (2012) claimed that experience in using the internet plays a vital role because the more experienced a person is, the more likely to use the sources available through the Internet. Lin (2002) equally observes that age could also play a pivotal role in the use of mobile technology. He claims that people of younger age are more likely to use the technology than the adults. This is corroborated by Horgan and Sweeney (2012) that youth in Ireland use the Internet more often to search for health related information. Although there is dearth of literature on the use of mobile technology for accessing health-related information among librarians, a similar study by Folorunso (2018) was found. He investigated health information seeking behaviour of librarians in two academic libraries in Ondo State, Nigeria. He discovered that Radio, Internet and Facebook topped the list of sources where the librarians seek for health-related information. Therefore, this study will contribute to scholarly literature in the area of health related information seeking among librarians.

METHODOLOGY

This study adopted survey research design. The population consisted of 133 librarians in Osun State being a branch of the Nigerian Library Association. Total enumeration technique was adopted in this study. In the process of data collection, email and mobile contacts of the respondents were obtained from the state executive members of the Nigerian Library Association which cut across the 30 local government areas in the three senatorial districts of the state. Data collection was done via Online-google-form which was sent to each participant via the association online platforms. Out of the 133 questionnaires administered, a total of 126 (94.74%)were adequately completed and returned for data analysis. Frequency counts, percentage distribution and relative importance index (RII) were used to analyze the retrieved data. Specifically, data analysis was done by means of Statistical Package for Social Sciences (SPSS) version 24. Data presentation was done using frequency tables and percentage distribution, figures and charts respectively. The relative importance index helps to rank the criteria according to their relative importance. The following formula is used to calculate the relative importance index.

R.I= $\sum \frac{W}{A*N}$ or RII=Sum of weights$\frac{W_1+W_2+W_3\ldots+W_n}{A*N}$
R.I. = or RII

Where:

W is the weighting as assigned by each respondent on a scale of one to five, with one implying the least and five the highest. A is the highest weight and N is the total number of the sample. Based on the ranking (R) of the relative Importance Index (RII), the weight average of the two groups will be determined. According to Akadiri (2011), five important levels are transformed from (RII) values: H(H) (0.74≤1), High-Medium (H-M)(0.69≤RII≤1) and low (L)(0.59≤RII≤1).

RESULTS

Analysis of Demographic variables

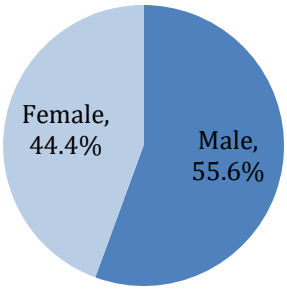

Figure 1. *Gender distribution of respondents*

Figure 1it indicated that majority 55.6% of the respondents were male, while 44.4% were female.
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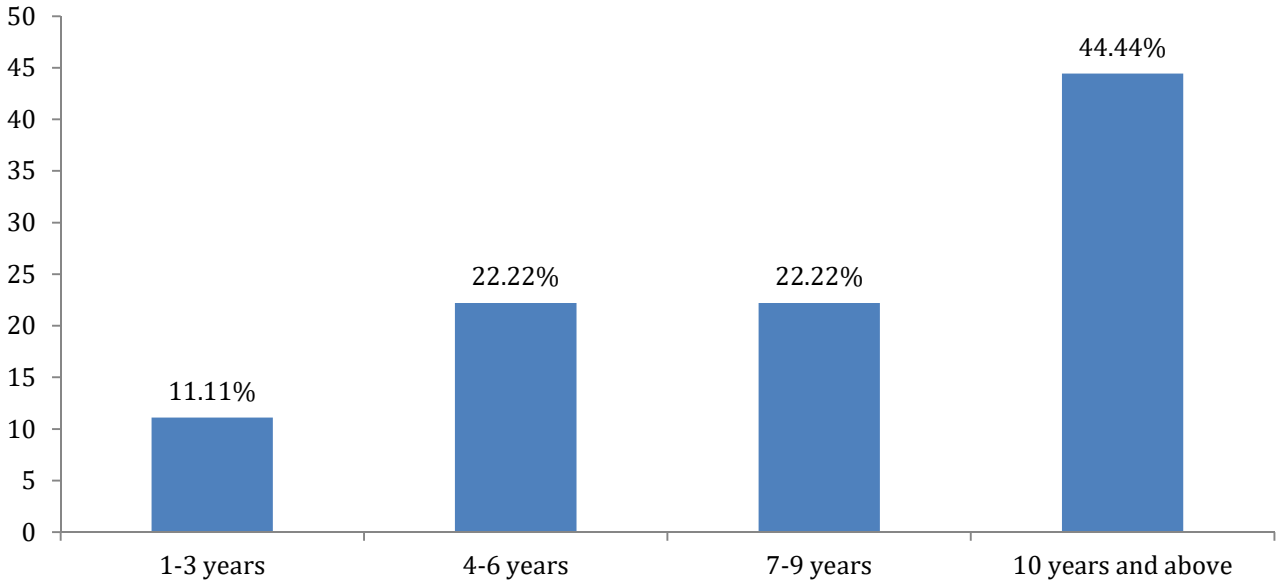


Figure 2.*Distribution of respondents according to years of working experience as a Librarian*

Figure 2 indicated that 44.4% of the Librarians had worked for 10 years and above. Also, 22.2% had worked for 4-6 years and 7-9 years respectively. Only 11.11% claimed to have between 1-3 years working experience. This shows that all the respondents have relative years of working experience.

Analysis of research questions

Research question 1: What are the contemporary health information needs of librarians in Osun State?

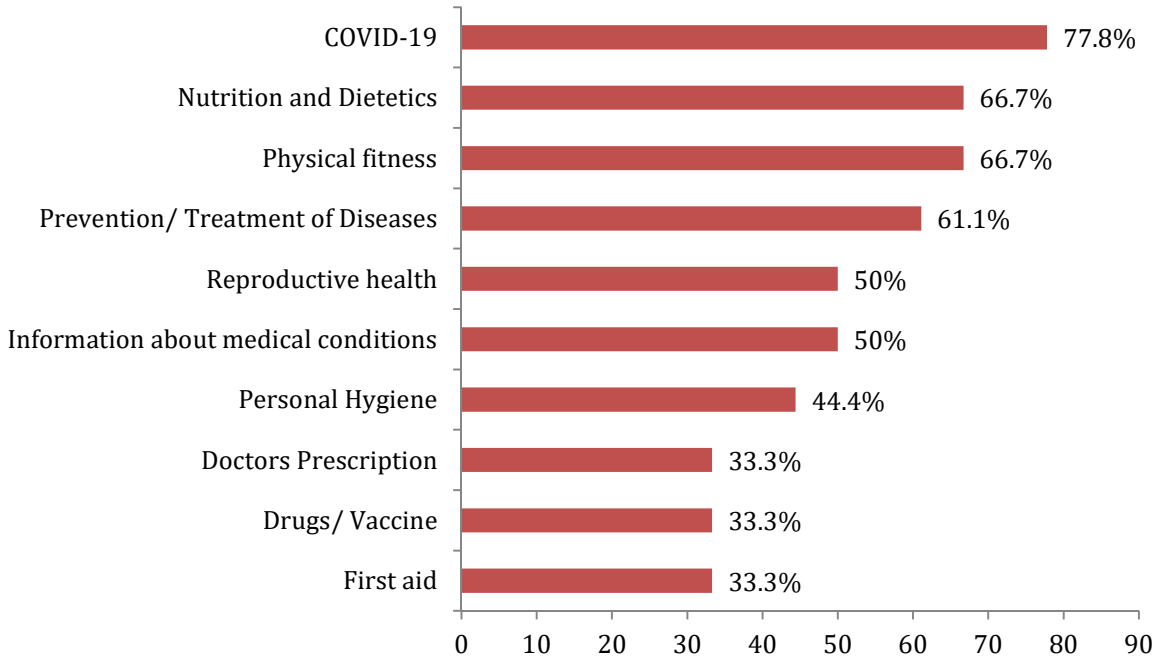
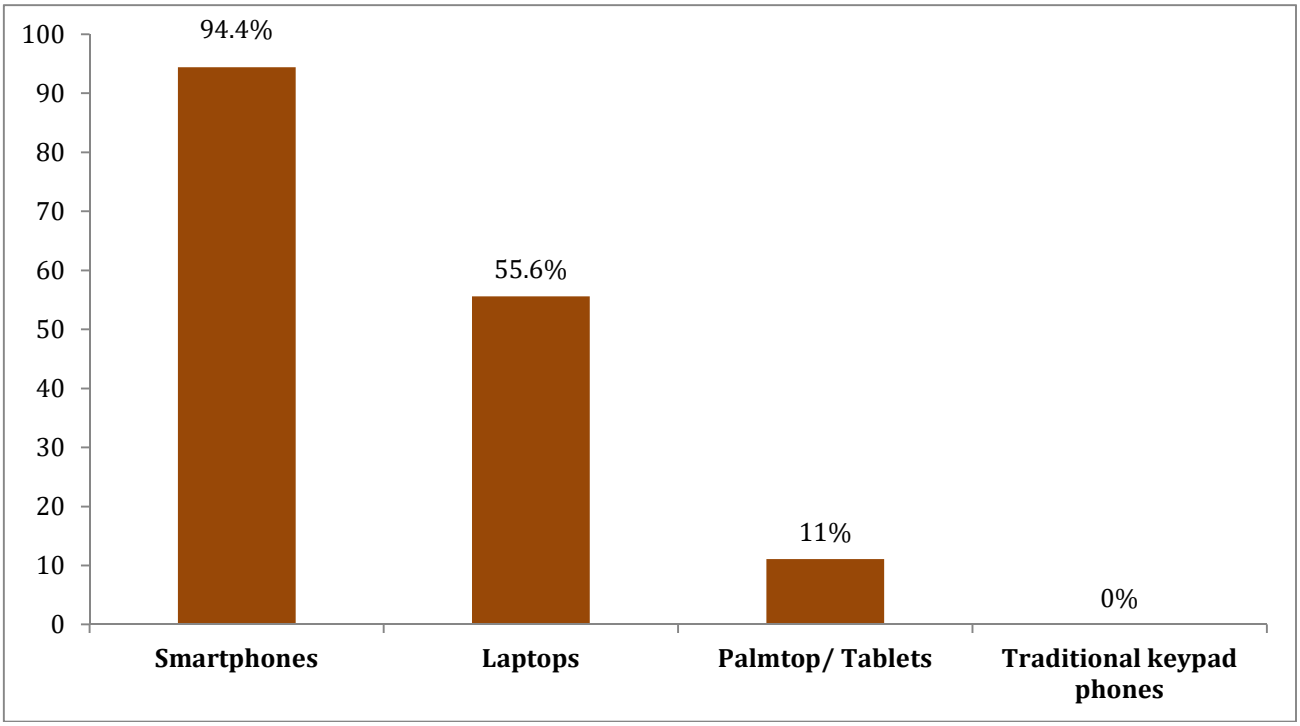


Figure 3.*Contemporary health information needs of librarians in Osun State*

Figure 3 shows the contemporary health information needs of the respondents. The topmost health information need of the respondents is on COVID-19 (77.8%). This is followed by information on nutrition and dietetics; and physical fitness (66.7%). The next is information on prevention/ treatment of diseases (61.1%), while 50% each for reproductive health and medical conditions and 44.4% on information about personal hygiene. The 3 least health information needs of the respondents were information on doctors' prescriptions; drugs/ vaccine; and first aid (33.3% each).

Research question 2: What types of mobile technologies are used for accessing health related information among librarians in Osun State?



n= 126

Figure 4. *Types of mobile technologies used for accessing health related information among the librarians in Osun State* (n= 126)

From Figure 4, it is clear that majority (94.4%) of the respondents claimed that smart phone is the primary gadget used in accessing health related information. This is followed by 55.6% who claimed to also use laptops for the same purpose and 11% who used palmtop/ computer tablets. No respondents claimed to use the traditional keypad phones. This implies that the respondents are conscious of the new developments in mobile technologies as they use internet-ready smart phones robustly.

Research question 3: What are the commonly preferred electronic sources (apps/sites) where librarians in Osun State access health related information?

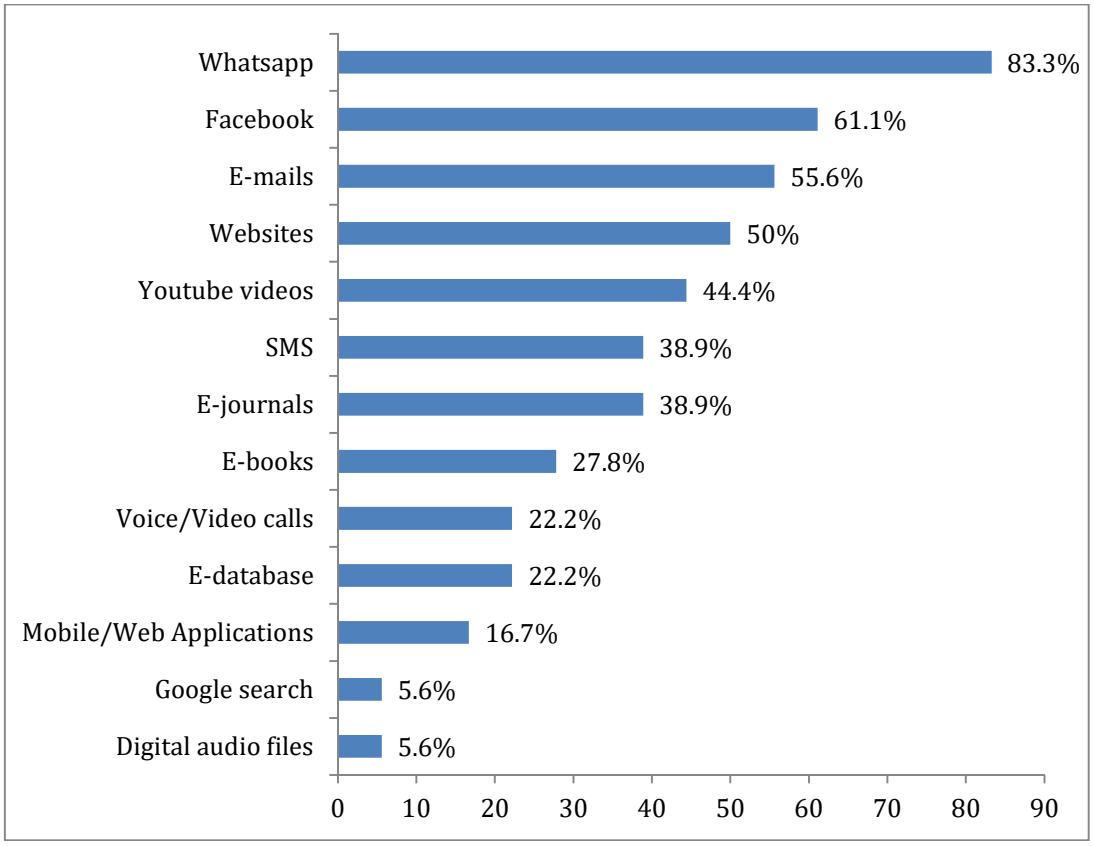


Figure 5. *Commonly preferred electronic sources where librarians in Osun State access health related information (*n = 126)

Figure 5 shows various electronic sources of health related information accessibility. Majority (83.3%) claimed to use WhatsApp as the most preferred source of health related information. This is followed by Facebook (61.1%); E-mails (55.6%); and websites (50%).Some 44.4% use YouTube videos while 38.9% claimed to use SMS and e-journals respectively. Only a small fraction of 5.6%claimed to use Google Search and digital audio files, respectively.

Research question 4: How do the Librarians perceived the use of mobile technologies for accessing health related information in Osun State?

Table 1. Perceptions of librarians in Osun State towards the use of mobile technologies for accessing health related information **(**n = 126

SN	Perceptions	Agree	Disagree	RII	Ranking
1	Mobile technologies are easy to use	126 (100%)	0	1.00	1st
2	Information is available at any time	126 (100%)	0	1.00	2nd
5	Easy sharing of information	126 (100%)	0	1.00	3rd
6	Easy access to health related information	126 (100%)	0	1.00	4th
7	It saves time	126 (100%)	0	1.00	5th
3	Up to date information	119 (94.4%)	7 (5.6%)	0.97	6th
9	Access to multiple health information sources	119 (94.4%)	7 (5.6%)	0.97	7th
4	Satisfy information need	112 (88.9%)	14 (11.1%)	0.94	8th
15	Youth are more likely to use mobile technologies than the adults	105 (83.3%)	21 (16.7%)	0.92	9th

Table 1.continues

14	Mobile technologies offer too many unreliable information sources	84 (66.7%)	42 (33.3%)	0.83	10th
12	Mobile technology offers lots of misinformation	77 (61.1%)	49 (38.9%)	0.81	11th
8	Information authenticity is easy to verify	70 (55.6%)	56 (44.4%)	0.78	12th
11	Too much of information makes navigation difficult	56 (44.4%)	70 (55.6%)	0.72	13th
10	Mobile technology wastes time	49 (38.9%)	77 (61.1%)	0.69	14th
13	Mobile technologies are difficult to use	28 (22.2%)	98 (77.8%)	0.61	15th

Source: field survey 2021

Table 1 shows various perceptions of the respondents towards the use of mobile technologies for accessing health related information. From the Table, majority of the respondents have positive perceptions about the use of mobile technologies. All the respondents agreed that mobile technologies are easy to use in accessing health related information; and it makes information available at any time, as well as facilitating easy access to and sharing of health related information. Also, 94.4% claimed that mobile technologies give up-to-date information while 88.9% claimed that it satisfied their information needs. Also, majority (94.4%) of the respondents claimed that mobile technologies offer access to multiple health information sources. However, the respondents had some negative perceptions about the use of mobile technologies. 66.6% claimed that mobile technologies offer too many unreliable information sources, while 61.1% also claimed that mobile technologies offer lots of misinformation. 44.4% claimed that too much of information offered by mobile technologies makes difficult. Also, the age factor relating to the use of mobile technologies also surfaced as majority (83.3%) are of the perception that youth are more likely to use mobile technologies than the adults.

Research question 5: What are the challenges experienced by librarians in Osun State in accessing health related information through mobile technologies?

Table 2. Challenges experienced by librarians in Osun State in accessing health related information through mobile technologies (n = 126)

SN	Challenges	Agree	Disagree	RII	Ranking
1	Low bandwidth/ poor internet connectivity	105 (83.3%)	21 (16.7%)	0.92	1st
6	Difficulty in trusting the credibility of the online sources	105 (83.3%)	21 (16.7%)	0.92	2nd
2	Poor information searching skills	70 (55.6%)	56 (44.4%)	0.78	3rd
8	Difficulty in navigating through online sources	56 (44.4%)	70 (55.6%)	0.72	4th
5	High cost of accessing information online	49 (38.9%)	77 (61.1%)	0.69	5th
4	Difficulty in reading on-screen	42 (33.3%)	84 (66.7%)	0.67	6th
3	It wastes time	21 (16.7%)	105 (83.3%)	0.58	7th
7	Fear of using mobile technologies	14 (11.1%)	112 (88.9%)	0.56	8th
9	Frequent technological changes	7 (5.6%)	119 (94.4%)	0.53	9th
10	Erratic power supply	12 (9.5%)	114 (90.5%)	0.55	10th

Source: field survey 2021

Table 2 indicates various challenges experienced by the respondents in using mobile technologies for accessing health related information. Majority (83.3%) claimed that they experienced low/poor internet connectivity and also difficulty in trusting the credibility of the online sources. Some 55.6% claimed that poor information searching skills is a major challenge, while 44.4% experienced difficulties in navigating through online health information sources. Also, while 38.9% claimed that high cost of accessing information online is a challenge, some 33.3% claimed that they find it difficult to read on-screen.

DISCUSSION

The finding revealed that most common health information needed by the respondents was COVID-19, this was closely followed by information on nutrition and dietetics; and physical fitness. This is in line with Obasola and Agunbiade (2016). They discovered that many undergraduate students in Nigeria seek information on nutrition and physical activities, among others. COVID-19 is a novel global health emergency of which scientists are still struggling to

study. Therefore, finding revealed that respondents are also curious about knowing more about this novel health challenge. This is in line with Bento et al (2020) discovery that searches for information on COVID-19 increased by around 36% after the index case was announced. Also, information needs on nutrition and dietetics and physical fitness which ranked higher may be connected with the period of data gathering for this study. The data collection coincided with the period that the government asked many of the workers from levels 1 to 12 to work from home. This may influence their need to seek information on healthy feeding habits and physical fitness as they are expected to be at home for longer periods of time. However, this finding contradicts Alwehaibi and Almeman (2014) who discovered that patients in Qassim Province, Saudi Arabia mostly seek information on diseases and medication.

The study found that respondents mostly make use of smart phones to access health related information, whereas none of the respondents made use of the traditional keypad phones for the same purpose. This is similar to Verma and Sheth (2018) discovery that the majority of the postgraduate physiotherapy students of some Colleges in Gujarat, India, used smart phones to access healthcare information. This implies that respondents were in tune with the current global reality in making use of current technologies for accessing needed information.

The study discovered that social media (Whatsapp and Facebook) were the two most preferred sources of accessing health related information, followed by emails. This is similar to Folorunso (2018); Opele, Omole, & Adebayo,(2019) who published that the Internet and Facebook were among the top three health related information sources mostly used by librarians in Ondo, Nigeria. Also, this study discovered that many of the respondents claimed that they preferred social media to other electronic sources because it provided them with the ease of accessibility. This is in line with Montemurro, Porcnik, Heden and Otte (2015) and Tajudeen, Jaafar and Sulaiman (2016) discovery that easy accessibility is a major precursor to social media use among information seekers. This implies that easy accessibility of social media contributed to its high level of use among the respondents.

Majority of the respondents had positive perceptions towards the use of mobile technology in accessing health related information. They emphasized the strength of mobile technology in managing information viz: speed, round-the-clock access, mobility, easy usage, easy accessibility, up-to-date and easy sharing of information. However, many of the respondents claimed that mobile technology offered a lot of misinformation and too many unreliable information sources. The trust issue/ misinformation and credibility of online information sources have been issues of global concern (Lazer, 2018). This finding implies that the respondents are conscious of these developments as part of their duties to fight misinformation. Also, the majority of the respondents are of the belief that youth are more likely to use mobile technology than adults. This is supported by Lin (2002) findings who discovered that people who claimed to use mobile technology are typically younger.

There are different challenges experienced by the respondents in making use of mobile technologies for accessing health related information. Poor internet connectivity and difficulty in trusting the credibility of the online health information sources were the two most common challenges. Poor internet connectivity experienced by the respondents is similar to Verma and Sheth (2018) findings where majority of the postgraduate physiotherapy students of some Colleges in Gujarat, India claimed that low internet bandwidth is a major barrier to the use of smart phones. Difficulty in trusting the credibility of online health information sources is also in line with Alwehaibi and Almeman (2014) who discovered that many of patients in Qassim Province, Saudi Arabia also experienced mistrust of online health information a major barrier. Also, 55% of the respondents claimed that they lack required skills to search for health related information using mobile technologies. This is similar to Emiri (2015) discovery that many librarians in Universities in Edo and Delta States Nigeria rated their level of digital proficiency to be low. This indicates a gap which needs to be met by training of the respondents to acquire relevant skills.

The high use of social media (WhatsApp and Facebook) by the respondents as indicated by Figure 5 may be responsible for the lack of credibility of online sources and misinformation issues they claimed to experience in Tables 1 and 2. Studies (Lazer, 2018; Talwar, Dhir, Singh, Virk and Salo, 2020) have shown that information on social media offer more misinformation and may be less credible as it may be difficult to trace the source or originality of the author(s). Hesse, Nelson and Kreps (2005) point out that health information from physicians remains the most highly trusted sources among adults in the USA. This is because such information are usually products of empirical studies from credible sources often published in journals or other similar scholarly sources.

CONCLUSION

We found in this study that the global outbreak of COVID-19 and the attendant lockdown seriously affected librarians' information seeking behavior. The current study revealed that Librarians in Osun State made use of portable technologies in accessing health related information particularly during the Covid-19 era. The study underscored that they used more smart phone technologies than the others. They mostly accessed health related information through social media (Whatsapp and Facebook) because easy are more accessible than other technologies. The study

concluded that the librarians perceived the use of mobile technologies for accessing health related information positively. However, the study showed that barriers militating against effective utilization of the portable technologies included poor internet connectivity, having reservations for online information sources and poor information searching skills.

RECOMMENDATIONS

Based on our findings, we suggested the following for policy implementation.

1. Librarians should explore other electronic information sources, especially academic sources like e-books, e-journals, databases etc as these sources provide empirical literature which are mostly reliable and credible, rather than what may be obtainable through social media.
2. There is the need for increased knowledge of librarians on online information searching strategies. Librarians should seek for more training on information searching skills and also endeavour to develop their information literacy skills as this will also assist in identifying credible health information sources.
3. There is also the need for mobile network and internet service providers in Osun State, Nigeria to improve on their existing services. Poor internet service is one of the major barriers identified by the respondents; therefore, there is the need by the operators to improve the internet services.
4. Librarians need to change their orientation about age factors influencing the use of mobile technology. Learning never ends and anybody, irrespective of age can use mobile technologies.

REFERENCES

Adewara, J.O., Opele, J. K., Oyewumi, F. A., & Abdulraheem, J. W. (2019).Information Behaviour and Quality of Life of Agronomists in the North Central, Nigeria.*International Journal of Information Processing and Communication* (IJIPC), *7*(2), 248-255**.**

Alwehaibi, I. A. and Almeman, A. A. (2014).Survey of internet use as a source of health-related information in Qassim Province, Saudi Arabia.*Tropical Journal of Pharmaceutical Research, 13*(8): 1371-1374.

Awogbami, P.A,.Opele, J.K &Lawal, J.A. (2020). Benefits and challenges of using ICTs in health information management at OlabisiOnabanjo University Teaching Hospital, Sagamu, Ogun State, Nigeria. *Journal of applied Information Science and Technology* ,13 (1), 307-318.

Awogbami, P. A., Opele, J. K., &Chibueze, E. U. (2020). Lecturers' Use of Multimedia Resources for KnowledgeTransfer: A Study of Adeleke University, Ede, Osun State. *Information Impact: Journal of Information and KnowledgeManagement, 11*(2), 35-50, DOI: dx.doi.org/10.4314/iijikm.v11i2.4 *11*(2), 35-50.

Awogbami, P. A., Opele, J. K., & Awe, T. P. (2020).Health Records Management Practices and Patients' Satisfaction in Selected University Medical Centres in South-West, Nigeria. *Global Journal of Social Sciences Studies, 6 (2), 106-114*

Bento, A. I., Nguyen, T., Wing, C., Lozano-Rojas, F., Ahn, Y. and Simon, K. (2020). Evidence from internet search data shows information-seeking responses to news of local COVID-19 cases. *Proceedings of the national Academy of Sciences, 117*(2): 11220-11222.

Boyer, C., Provost, M. and Baujard, V. (2012).Highlights of the 8th HON survey of Health and Medical Internet users. Health on the net foundation. Accessed from http://www.hon.ch/Survey/8th_HON_results.html on 13th December, 2020.

Ciaramitaro, B. L. (2011). Introduction to mobile technologies. In Mobile technology consumption: Opportunities and challenges. United States: IGI-Global. 1-15

Emiri, O. T. (2015). Digital literacy skills among librarians in university libraries in the 21st Century in Edo and Delta States, Nigeria. *International Journal of Scientific and Technology Research, 4*(8): 153-159.

Favale, T., Soro, F., Trevison, M., Drago, I., &Mellia, M. (2020).Campus traffic and e-learning during COVID-19 pandemic. *Computer Network, 176.*

Folorunso, F. J. (2018). An assessment of health information seeking behaviour among librarians of two selected academic libraries in Ondo, Ondo State, Nigeria. *Journal of Applied Information Science and Technology, 11* (1).94-100.

Hesse, B. W., Nelson, D. E. and Kreps, G. L. (2005). The impact of the Internet and its implications for health care providers: Findings from the First Health Information National Survey. *Arch Internal Medicine, 165*(22): 2618-2624

Horgan, A. and Sweeney, J. (2012).University students' online habits and their use of the Internet for health information. *Computers, informatics, Nursing, 30*(8):402-408.

Kitikannakorn, N. and Sitthiworanan, C. (2008).Searching for health information on the Internet by undergraduate students in Phitsanulok, Thailand. *International Journal of Adolescent Medicine and Health, 21*(3): 313-318.

Lazer, D. M.(2018). The science of fake news. *Science, 359* (6380): 1094-1096.

Lin, C. A.(2002). Perceived gratifications of online media services use among potential users. *Telematics Informatics, 19:* 3-19.

Maon, S., Hassan, N. M. and Seman, S. A. (2017). Online health information seeking behavior pattern. *Journal of Computational and Theoretical Nanoscience, 23*(11): 10582-10585.

Montemurro, P., Porcnik, A., Heden, P. and Otte, M. (2015). The influence of social media and easily accessible online information on the aesthetic plastic surgery practice: literature review and our own experience. *Aesthetic Plastic Surgery, 39*(2), 270-277.

Nash, C. (2020). Report on digital literacy in academic meetings during the 2020 COVID-19 lockdown. *Challenges,*11(2)

Niederdeppe, J., Hornik, R. C., Kelly, B. J., Frosch, D. L., Romantan, A. Stevens, R. S. and Schwartz, J. S. (2007). Examining the dimensions of cancer-related information seeking and scanning behaviour. *Health Communication, 22*(2), 153-167.

Obasola, O. I. and Agunbiade, O. M. (2016).Online health information seeking pattern among undergraduates in a Nigerian University.*SAGE Open,* 6(1).

Opeke, R.O. &Opele, J.K (2014).Assessment of Knowledge Sharing Behaviours of Postgraduate Students in Selected Nigerian Universities**.** *Information and Knowledge Management,*4 (11),10 2-106.

Opele, J.K., Omole, M.S., Adebayo, T.T. (2019). The management of health records libraries through the lens of Ranganathan's theory. *Library Philosophy and Practice (e-Journal).*Digital Commons @University of Nebraska - Lincoln (e-journal). 3733. https://digitalcommons.unl.edu/libphilprac/3733

Opele, J. K. (2017). Knowledge management practices, interprofessional collaboration, information technology application and quality health service delivery in Federal Tertiary Hospitals in Nigerian. Doctoral Thesis Submitted to the Department of Information Resources Management, Babcock University, Ilishan-Remo, Ogun State, Nigeria. available at. https://doi.org/10.13140/RG.2.2.24381.90081

Opele, J. K., Adepoju, K. O., &Adegbite, W. M. (2020).Barriers to Knowledge Management Practices, InterprofessionalCollaboration and Information Technology Application in Federal Tertiary Hospitals in Nigeria.*Canadian Social Science*, 16 (12), 35-41. Available from: http://www.cscanada.net/index.php/css/article/view/11997 DOI: http://dx.doi.org/10.3968/11997

Tajudeen, F. P., Jaafar, N. I. and Sulaiman, A. (2016).Role of social media on information accessibility. *Pacific Asia Journal of the Association for Information Systems, 8*(4): 3.

Talwar, S., Dhir, A., Singh, D., Virk, G. S. and Salo, J. (2020).Sharing of fake news on social media: Application of the honeycomb framework and the third-person effect hypothesis. *Journal of Retailing and consumer Services, 57*(102197).

Verma, S. and Sheth, M. (2018).Use of mobile devices for health care information by post graduate physiotherapy students. *International Journal of Physiotherapy and Research, 6*(6), 2905-2908.

Vishnuvardhan, B. and Baira, M. (2017). Mobile Communication: Implication issues. *International Journal of Computer Trends and Technology, 49*(1): 9-14.

Williams, P., Nicholas, D. and Huntington, P. (2003). Health information on the internet: A qualitative study of NHS Direct online users. *New Information Perspectives, 55*(5-6): 304-312.

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