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Faith O. Mesagan
Department of Library and Information Science, University of Nigeria, Nsukka, Nigeria

Justina Ekere
Department of Library and Information Science, University of Nigeria, Nsukka, Nigeria

Charles O. Omekwu
Department of Library and Information Science, University of Nigeria, Nsukka, Nigeria

Mkpoikanke S. Otu
Department of Educational Foundations, University of Nigeria, Nsukka, Nigeria

Chiedu Eseadi
Department of Educational Foundations, University of Nigeria, Nsukka, Nigeria,
chiedu.eseadi@unn.edu.ng

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Perception, Utilization and Purposes of Using Cyberspace Information Resources and Services by Postgraduate Students

Faith O. Mesagan[1], Justina Ekere[1], Charles O. Omekwu[1], Mkpoikanke S. Otu[2], Chiedu Eseadi[2]

[1]Department of Library and Information Science, University of Nigeria, Nsukka, Nigeria
[2]Department of Educational Foundations, University of Nigeria, Nsukka, Nigeria

Correspondence: Justina Ekere, Department of Library and Information Science, University of Nigeria, Nsukka (E-mail: justina.ekere@unn.edu.ng)

Abstract

This study was carried out to investigate postgraduate students' perception, utilization and purposes of using cyberspace information resources and services in five federal universities in southwest Nigeria. The descriptive research design was adopted for this study. The purposive sampling technique was used to select a sample size of 1058 postgraduate students from five federal universities. Instrument for data collection include a well-structured questionnaire. The study witnessed a 95% return rate of the distributed questionnaire. The study used mean score ($\bar{x}$) and Standard Deviation (SD) for data analysis. Results revealed that postgraduate students use cyberspace information resources and services for research purposes. The results also revealed that PG students' perception of cyberspace information resources and services were positive. Results showed that there is no significant difference in the mean ratings of male and female postgraduate students on the utilization of cyberspace information resources and services for research in federal universities in southwest Nigeria. Also, it was found that there is no significant difference in the mean ratings of male and female PG students on the perception of cyberspace information resources and services used for research in federal universities in southwest Nigeria. Results further revealed that there is no significant difference in the mean ratings of male and female PG students on the purposes of using cyberspace information resources and services in federal universities in Southwest Nigeria. The study recommended that university should consider other means of generating funds as the need for further research increase daily, internet connection be improved and extended without limitation.

Keywords: Cyberspace, Information Resources, Information Services, Perception, Utilization.

INTRODUCTION

Perception is an act of being aware of one's environment through physical consciousness, which denotes an ability to understand. It is the process whereby people select, organize and interpret sensory stimulation into meaningful information about their work environment. Perception satisfies personal motive and at the same time affects acceptance and habits. Alsamydai et al (2014) described perception as a psychological ability to evaluate an object with some degree of favour or disfavour. In addition, there is cyberspace service perception which considers the user's judgment and evaluation of a cyberspace service performance received and how it compares to their need (Jiang & Wang, 2006).

Cyberspace is a technology that has kept pace with expectations for ease of use or functionality, resulting in calls for a return to the trusted way of making information available in an electronic way. The utilization of cyberspace information resources has brought about significantly different products and services in the library where services offered presently differ from those offered in the past. The term 'use' considers the extent to which people are making use of whatsoever resources that are available in the community or an organization (Omekwu, 2002). Omekwu (2002) opines further that utilization is a point where the individual uses the information, and the main function is to use the trial results and continue or discontinue to use the innovation at a later date. In this context, use means the extent to which cyberspace resources are being used for the effective retrieval of information services. For university library to be where they should be with their users, there is a need to take into cognizance the fact that the world is living in virtual realities as indicated by Omekwu and Echezona (2008) where library services are now in space without been affected by opening and closing hours. Cyberspace utilization is the presentation and distribution of instructional content through a web environment (e-teaching) to support learning and communication (Yusuf & Iwu, 2010). Utilization has user focus different from functionality and is not equivalent to accessibility. It is all about making website content available to and usable by users (Eyitayo, 2009).

Resources can be anything, person, or action to which one turns to for aid in time of need. Oyewusi and Oyeboade (2009) also support the view that cyberspace resources are collections of all text and bibliographic information sources; but go further to add that these resources also include information technology such as those that support browsing, authoring and communication like the computer and the internet. In the context of the present research,

cyberspace information resources are all online resources which the PG students draw upon to meet their electronic information need without limitations to space and time. Abubakar (2011) noted that cyberspace information resources constitute a variety of materials in which information could be stored, retrieved and disseminate for use. Cyberspace resources, variously called virtual resources, network resources, computer resources, online services, online facilities, electronic information sources, open educational resources, or e-library resources are those resources that are found on computer networks of organizations (intranets) or global network of millions of computers (Agber, 2013). Cyberspace resources have several advantages in their use hence researchers cum postgraduate students need to explore this avenue to meet their information needs.

Researchers vis-à-vis postgraduate students who are aware of the existence and usefulness of cyberspace resources know that it is possible to stay anywhere and access digital contents of distant libraries and databases using computers (Agboola, 2010). This includes Electronic journals (e-journals) databases like African Journals Online (AJOL); Web online databases (Web OPAC), AGORA, OARE and HINARI; e-books such as thesis, abstracts; E-Granary; Search engine, encyclopedias, Indexes; Dictionaries; Audio files and Video/Picture/Image/Graphics files, YouTube among others. Dadzie (2007) indicated that cyberspace resources are invaluable research tools that complement the print-based resources in a traditional library setting.

Postgraduate students refer to those students who have obtained a degree from a university and are pursuing studies for more advanced qualifications. They are those individuals who have completed a Bachelor degree in a university but seek to continue in-depth research on a specific discipline and extend the current state of knowledge and expertise. Their information needs range from succinct information resources to active and purposeful information search in order to prepare for seminars, workshops and final research papers (Tella, Owolabi & Attama, 2009). Their research work results in thesis and dissertations which are assessed by independent experts in the field. They are distinct, in perception and opinion, ICT literacy and skill, background, age, subject interests, discipline and also research information needs. Postgraduate students require extensive in-depth study of their various research areas as well as information resources necessary to accomplish these researches. There is also some recognition that modern postgraduate research now has to be conducted in the light of massive amounts of previously published work, and hence the literature review process has become significantly more complex. Globally, the postgraduate education landscape simultaneously undergo rapid and tremendous changes with emphasis on

research through equipping students with necessary skills and knowledge to foster the growth of independent, creative and lifelong researchers. Postgraduate programmes differ from one nation to the other, sometimes within the same country that is from one institution to another.

Purpose of the Study

The general purpose of the study is to examine the access and utilization of cyberspace information resources and services for research by postgraduate students in federal universities in southwest Nigeria. The specific objectives are to:

i. access the extent of utilization of cyberspace information resources and services for research by postgraduate in federal universities in southwest Nigeria.

ii. examine postgraduate students' perception of cyberspace information resources and services used for research in federal universities in southwest Nigeria.

iii. ascertain postgraduate students' purpose of using cyberspace information resources and services in federal universities in southwest Nigeria.

Research Questions

The following research questions were posed to guide the study.

1. What is the extent of utilization of cyberspace information resources and services for research by postgraduate students in federal universities in southwest Nigeria?
2. What are postgraduate students' perceptions of cyberspace information resources and services used for research in federal universities in southwest Nigeria?
iv. What are postgraduate students' purposes of using cyberspace information resources and services at federal universities in southwest Nigeria?

Hypotheses

The following null hypotheses were formulated to guide the study and will be tested at 0.05 level of significance.

$H0_1$: There is no significant difference in the mean ratings of male and female PG students on the utilization of cyberspace information resources and services for research in federal universities in southwest Nigeria.

$H0_2$: There is no significant difference in the mean rating of male and female PG students on perception of cyberspace information resources and services used for research in federal universities in southwest Nigeria.

4

H0₃: There is no significant difference in the mean ratings of male and female PG Students on purposes of using cyberspace information resources and services in federal universities in southwest Nigeria.

Literature Review

Utilization of cyberspace resources becomes possible when they are made available and access is provided by libraries for effective retrieval and use of library resources. Omekwu and Echezona (2008) perceive cyberspace as Information Technology (IT) which has broken down library physical barriers where the services they provide are in borderless territories and phenomena. Cyberspace can thus be referring to a virtual library which in its real sense is such that has developed with the growth in telecommunication networks, especially space (Omekwu & Echezona, 2008). The virtual library emulates a 'real' library, but it is understood to be a product of the virtual world of the internet that stored and accessed materials digitally. In other for cyberspace to function effectively, there are vital imperatives necessary for individuals, institutions and nations which includes: computer technology, automation, Local Area Network, Web Access, and Websites (Omekwu, 2016). Kuehl (2009) view cyberspace as the "nervous system—the control system of the country composed of hundreds of thousands of interconnected computers. This is said to be true as the human system which cannot be seen with a physical sight but daily control all that takes place in the human body. The cyberspace environment is much more complex than the thought of in Omekwu (2016), which considers it as an environment resulting from the interaction of people, software and services on the internet by means of devices and networks connected to it, with no existence in physical space. With its uniqueness and virtual characteristics, cyberspace now fosters immense human interaction, while simultaneously embodying and reinforcing complex social networks, linking people from varied backgrounds and locations globally. Cyberspace cannot be taken out of globalization either can globalization does therefore, the need to say that globalization on its own is incomplete without cyberspace.

Hernon and Altman (2010) observed that libraries are increasingly delivering collections and services electronically and many are shifting their collections from print to digital. According to Ayiah and Kumah (2011), the efficiency and effectiveness of the library as a research and learning tool is determined by the success of providing patrons with relevant and timely information.

University libraries are an integral part of the education system and how they are being operated determines their smooth existence and value to the users. Perception

comprises user's beliefs, feelings and behaviours within the context of information-seeking. Attitudes toward cyberspace have been defined as a person's general evaluation or feeling towards its activities (Smith, Caputi, & Rawstone, 2010). Perception is the process in which a person selects, arrange and interpret stimuli; and these stimuli are filtered and adjusted to become one's own view of the world, and brain takes in and processes only a small number of all these stimuli (Solomon, Bamossy & Askegard, 2013). In this study, user perception means the perspectives of users of library services as they associate with these services. The goal of perception is to take in information about something and make sense of it. What library users retrieve from the library (environment) and how they retrieve it shapes their perception of using it again or not. Every time interaction between library users and the digital world occurs, the outcome of the interaction will affect the users' perception negatively or positively. Similarly, Adenike, Akin and Huy (2014) assert that cyberspace allows a patron to use search strategies that exceed those that can be used in the physical library environment.

Holistically, perception must involve sense organs and external energy or stimuli in order to culminate into attitudes, beliefs, and opinions. However, most of the cyberspace resources were designed to reduce manual connection of time and printing option. It is, therefore, the perception of users that cyberspace resources have user-friendly designed interfaces which possess a simplified menu-driven interface utilizing offline storage of search strategy, automatic login procedures, and software-controlled navigated search techniques for search and easy retrieval of library resources (Brantley et al cited in Ruzegea, 2012).

According to Allport (2013), perception is a mindset or a tendency to act in a particular way towards something. More so, Research on people's perception typically emphasizes cognitive processes of information selection and interpretation within the individual perceiver and the nature of the resulting mental representations (Assael, 2015). The maximum utilization of cyberspace information resources and services is affected or determined by the state of perception of the users towards these resources. Perceptions determine the behavioural intentions and resulting attitude of an individual upon a concept such as cyberspace. Perception affects all our actions and inactions, decisions, acceptance and rejections of any concept. Similarly, Isaac, Saini and Chaar (2016) noted that perceptions generally are enduring systems of positive or negative evaluations, emotional feelings and tendencies with respect to social objects. They further describe perception as a settled behaviour or manner of acting, as a representation of feeling or opinion.

Obviously, before postgraduate students would want to utilize cyberspace, it is possible they first perceive its resources to be easy, accurate, simple, and timely and above all the fastest means of information retrieval. According to Chiemeke et al (2007), graduate students have a positive perception toward the resources and services of their libraries such as OPAC which they use to enhance their studies and satisfy their research needs. Correspondingly, Anunobi (2010) stated that the utilization of cyberspace information such as OPAC facilitates and builds strong positive perception among PG students in Nigeria. This implies that if universities in southwest Nigeria can provide their postgraduate students with effective cyberspace services, a more strong positive perception of the library will be established.

Seth and Parida (2006) assert that the change in students' perceptions is caused by the following issues: how to use library technologies, the changing needs of users, and users' level of satisfaction. As for Seth and Parida (2006), the negative perception of PG students is caused by inadequate infrastructures, collections and technologies, lack of technology user education, unskilled personnel among others. Aina et al (2004) states that with cyberspace, users simultaneous easy access and retrieval of library materials have triggered positive reactions and attitudes toward cyberspace resources. Also with cyberspace, thousands of users can access the same kind of information at the same time. Negative perception towards cyberspace could be because some of them lack necessary skills which are the requirements for operating in the electronic environment. As Kuehl (2009) stated, lack of skill of using cyberspace, lack of current awareness regarding the availability of information resources and lack of its technological access impact the attitude and perception of postgraduate students towards it and has caused negative perception about it.

Understanding the library user perception will sharpen the purpose and focus of the library in the right direction. According to Aspfors (2010), it is only when you know your user's perceptions of your service, your institutions and products, that you truly know whether your library is going in the right direction or not. According to Prabha et al (2012), libraries are impacted by how individual engage with technology; how they seek, access and use information. These have provided the library community with behavioural evidence about users' perceptions, habits and requirements to help ensure that library services are designed around users' daily expectations. However, the expectations of a library user and work practices on the web influence his or her decision to use library cyber information resources. A close look at user perception and how they interact with cyberspace will help us to understand users' needs and also satisfy them as well as identifying user retrieval methods.

Taking users perception information into full consideration shall increase the efficiency of cyberspace services and their usability.

Cyberspace effective use is measured in terms of the satisfaction expressed by its users. University libraries are one of the most important tools in the research process and with the right resources and services, academic librarians can give scholars a great advantage in terms of authentic information. Since cyberspace has made room for a range of human expression, on a global scale, there is opportunity for positive self-expression. Information resources are invaluable tools for study, learning and research (Omosekejimi et al, 2015). For any academic library to succeed in this 21st Century, the library irrespective of the size of its collection needs to embrace cyberspace. The emergence of e-resources has tremendously transformed information handling and management in Nigerian academic library environments (Ani & Ahiauzu, 2008). However, Prabha et al (2012) were of the view that anti-war protesters have used the Web as a vehicle for their point of view.

Research carried out to understand students purpose of utilizing cyberspace information resources includes that of Adetimirin (2012) which observed that graduate students utilized cyberspace information resources to improve their academic performance and undertake project reports. The researchers observed that cyberspace information resources enable them access up-to-date information in their subject area to enhance their academic performance. Salve and Chavan (2018) explained that students utilize cyberspace information resources to collect subject information. In a related study, Thanuskodi (2012) pointed out that students utilize cyberspace information resources for research, and to update their knowledge. Sampath Kumar and Kumar (2010) stated that majority of the academic community including postgraduate students use cyberspace information sources for academic-related work. According to Pinghao and Liu (2011) and Gopinath (2017), students use cyberspace information resources for academic and research purposes. This agrees with the assertion of Ani and Ahiauzu (2018) who stated that academics have access to global digital information resources using cyberspace platform for their scholarly communication.

As cyberspace information resources vary in nature so do the purposes for which postgraduates utilizing them vary. To buttress this assertion, Obaje and Camble (2016), observe that cyberspace information resources and services are used by graduates for project writing. The researchers contend that the use of cyberspace resources enables postgraduates to come to terms with research frontiers from other countries, thereby making research less difficult. In recognition of the need for cyberspace information resources in postgraduate studies and Nigerian universities, the National Policy on Education (cited in Ekwe, et al.,

2016) explains virtual library as a platform for sharing knowledge aimed at rejuvenating Nigerian institutions through the provision of current books, journals and other information resources using digital technology. Thus, the cyberspace environment solves storage problems as it occupies very little physical space. Ugwu and Onyegiri (2013) posit that cyberspace can provide access to current information to users in various places as well as easy storage and the possibilities of sharing the same information resources among many users at a time, saving space with relatively easy maintenance and easy linkage to indexing and abstracting databases. Cyberspace environment no doubt, have reduced space structural challenges of the library.

Nigerian university libraries' efficiency and capability in providing the right information to the right people at the quickest possible time have grown rapidly with the use of cyberspace. In addition, the information explosion which has come with the increased cost of books and other print information resources at a time when university budgets are reducing this has been a challenge to university library collection development especially, in the developing countries, where e-resources are indispensable information materials to satisfy the demands of PG students. According to West (2012), postgraduate students are a varied group with their motivation, previous educational experience, expectations and differing support needs. More so, Olibie, Agu and Uzoechina (2015) assert that the PG programme includes postgraduate diplomas, master's degrees and doctoral programs. A high-quality postgraduate programme involves a range of curriculum experiences that include coursework and research. The in-depth research embarked upon by PG students was defined by Ifedili and Ominnu (2012) as students undergoing studious inquiry such as investigation or experimentation (aimed at discovery and interpretation of facts, revision of accepted theories or laws in light of new facts, or practical application of such revised theories or laws) and examination.

Services apply to anything, person, or action to which one turns to for aid in time of need. They include both human and material devices which can be used for effective communication. They also include assistance rendered through the use of ICT and related electronic gadgets which store or provide information worldwide without any geographical barrier capable of satisfying the diverse information needs of researchers. Service is a concept at core of the library profession (Miao & Wang Bassham, 2007). Cyberspace services include also online referral services; interlibrary loan; broker services whether for a fee or not, required to support research in the subject covered and maybe audiovisual and or text files (Collins & Grogg, 2011). It includes electronic service available by local access

and direct access (Denton & Coysh, 2011). Currently, university services have also upgraded to audiovisual materials and microforms service such as CD-ROM services, and internet services to be available to meet its myriad functions (Adigun et al 2011). According to Edem and Afebende (2011), the following are services one can enjoy in today's academic library include digital reference services, online document delivery, interlibrary loan, online help, information skills, and tutorials. These are web-based services that have been developed to improve the library's professional image and social status.

Cyberspace has radically altered the concept of reality which is embedded in the space within the physical and social worlds. This is because the time and distance it takes to communicate and transact business around the physical world have been relatively eliminated, thus unifying the world into a global community. Information is whatever is capable of causing human mind to change its opinion about the current state of the world (Womboh & Abba, 2008). Cyberspace re-enforces people's opinion on the current state of the world and adds to one's knowledge. Communication refers to the transfer or exchange of information from one person to another (James cited in Eghworo, et al, 2015). This has greatly affected the way libraries carry out and offer inter-library services. The traditional interlibrary loan operations are quite time-consuming and labour-intensive. With the advent of new technologies, electronic documents and various inter-library loan management tools and software have facilitated the libraries to share their resources effectively and sufficiently (Singh, 2009).

Methodology

The descriptive research design was adopted for this study. The purposive sampling technique was used to select a sample size of 1066 postgraduate students from the five federal universities. Instruments for data collection include a well-structured questionnaire. A total of 1058 copies out of the 1066 copies of the questionnaire were retrieved from postgraduate students amounted to a 95% return rate. The study used mean score $(\bar{x})$ and Standard Deviation (SD) for data analysis.

RESULT

Research Question 1

What is the extent of utilization of cyberspace information resources and services in federal universities in southwest Nigeria?

In view of the above research question, respondents were required to identify the extent to which the available cyberspace information resources and services are being utilized.

Table 1: Mean ratings and standard deviation on the extent of utilization of cyberspace information resources and services

S/N	Item Statement	UI $\bar{x}$	S.D	OAU $\bar{x}$	S.D	FUNAB $\bar{x}$	S.D	UNILAG $\bar{x}$	S.D	FUTA $\bar{x}$	S.D	OVERALL $\bar{x}$	S.D	REMARK	RANK
1	Connected Computers	2.98	1.12	3.02	1.07	3.07	1.00	3.12	0.90	2.52	1.16	2.97	1.07	MU	5TH
2	Electronic mail	3.32	0.92	3.40	0.82	3.46	0.741	3.24	0.82	3.02	1.01	3.29	0.88	MU	1ST
3	CD-ROM Resources	2.49	1.09	2.57	1.11	2.60	1.04	2.70	0.92	2.40	1.09	2.57	1.04	MU	11TH
4	Library based software e.g KOHA	2.03	1.10	2.13	1.11	2.11	1.09	2.31	0.98	1.98	1.17	2.13	1.09	U	27TH
5	Local Area Network (LAN)	2.47	1.09	2.85	1.03	2.78	1.01	2.60	1.00	2.32	1.18	2.60	1.07	MU	9TH
6	Electronic Bulletin Boards	2.35	1.13	2.52	1.19	2.35	1.16	2.50	0.95	2.00	1.15	2.37	1.12	U	18TH
7	Computer Conferencing	2.48	1.15	2.34	1.16	2.36	1.15	2.41	1.02	2.02	1.20	2.35	1.13	U	19TH
8	Electronic Journals	3.08	0.94	3.27	0.95	3.20	0.94	2.80	0.96	2.94	1.03	3.04	0.98	MU	3RD
9	Electronic Books	3.17	0.94	3.23	0.98	3.20	0.96	2.86	0.90	2.90	1.02	3.06	0.96	MU	2ND
10	Online Newspapers	2.97	1.03	2.98	1.07	2.95	1.06	2.80	0.94	2.61	1.21	2.87	1.06	MU	6TH
11	AGORA - Access to Global Online Research in Agriculture	2.18	1.11	1.97	1.08	2.03	1.09	2.05	9.98	1.87	1.04	2.03	1.06	U	30TH
12	OARE – Online Access to Research Environment	2.26	1.11	2.20	1.15	2.04	1.07	2.10	0.97	1.84	1.06	2.11	1.08	U	28TH
13	DOAJ – Directory of Open Access Journals	2.30	1.16	2.33	1.14	2.20	1.14	2.21	0.99	1.92	1.03	2.21	1.10	U	25TH
14	Science Direct	2.55	1.13	2.83	1.11	2.80	1.15	2.31	1.06	2.58	0.95	2.59	1.10	MU	10TH
15	DOAB - Dictionary of Open Access Book	2.27	1.10	2.30	1.14	2.12	1.08	2.21	1.05	1.82	1.07	2.17	1.10	U	26TH
16	JSTOR – Journal Storage	2.39	1.14	2.54	1.20	2.33	1.18	2.30	1.07	2.07	0.97	2.34	1.12	U	20TH
17	CINAHL - Cumulative Index of Nursing and Allied Health Literature	1.78	1.00	1.82	1.01	1.65	0.87	1.92	0.99	1.57	0.94	1.78	0.98	U	32ND
18	MEDLINE- Medical Literature Analysis and Retrieval System Online	1.85	0.98	1.96	1.05	1.90	1.06	2.00	1.02	1.67	0.96	1.89	1.02	U	31ST
19	Online Library Catalogue	2.19	1.09	2.29	1.10	2.04	1.09	2.40	0.95	1.99	1.04	2.20	1.05	U	29TH
	Cyberspace Information Services														
20	Online Referral Services	2.41	1.12	2.30	1.10	2.15	1.09	2.42	1.00	1.98	0.99	2.29	1.07	U	23RD
21	Weblogs	2.47	1.11	2.24	1.06	2.17	1.04	2.51	1.02	2.13	1.03	2.34	1.06	U	20TH
22	Computer Access to Digital Resources	2.66	1.10	2.43	1.07	2.35	1.10	2.54	0.99	2.30	1.01	2.48	1.06	U	16TH
23	Institutional Repository (IR)	2.37	1.15	2.20	1.06	2.24	1.08	2.41	1.00	2.30	1.05	2.31	1.07	U	22ND
24	Online Service by SMS	2.91	1.07	2.77	1.19	2.75	1.17	2.81	0.99	2.67	1.07	2.80	1.09	MU	8TH
25	Online Service by E-mail	3.13	1.00	3.10	1.06	3.01	1.10	2.96	0.97	2.82	1.10	3.01	1.04	MU	4TH
26	Online Service by Telegram	2.60	1.15	2.40	1.20	2.37	1.17	2.63	0.99	2.41	1.13	2.51	1.12	MU	14TH

#	Service	UI X	UI SD	OAU X	OAU SD	FUNAB X	FUNAB SD	UNILAG X	UNILAG SD	FUTA X	FUTA SD	X	SD	Decision	Rank
27	Online Service by Research Gate	2.89	1.11	2.96	1.09	3.90	1.14	2.72	1.00	2.84	1.03	2.86	1.07	MU	7TH
28	Online Plagiarism Test	2.57	1.11	2.80	1.08	2.70	1.12	2.51	0.96	2.20	1.09	2.56	1.08	MU	12TH
29	Online Editing	2.61	1.09	2.52	1.12	2.44	1.07	2.47	0.96	2.13	1.17	2.46	1.09	U	17TH
30	Online Bibliographic Services	2.34	1.11	2.36	1.16	2.27	1.11	2.54	0.91	1.98	1.14	2.33	1.09	U	21ST
31	Online Library Orientation	2.35	1.07	2.24	1.06	2.25	1.07	2.44	0.92	1.96	1.03	2.28	1.03	U	24TH
32	Institutional Computer Use Services	2.47	1.12	2.40	1.06	2.40	1.00	2.53	1.02	1.90	0.91	2.37	1.05	U	18TH
33	Free Internet Access	2.55	1.19	2.55	1.10	2.61	1.11	2.70	1.05	1.93	1.16	2.50	1.14	U	15TH
34	Online Students' Supervisor Interaction	2.49	1.17	2.43	1.08	2.42	1.11	2.35	0.96	1.86	0.99	2.33	1.08	U	21ST
35	Ordering of Research Resources by E-books	2.62	1.10	2.47	1.13	2.43	1.08	2.57	1.00	2.20	1.19	2.48	1.10	U	16TH
36	Ordering of Research Resources by E-journal articles	2.69	1.10	2.50	1.14	2.41	1.12	2.60	1.03	2.30	1.14	2.53	1.11	MU	13TH
	Cluster Mean											**2.51**	**0.64**	**MU**	

KEY: HU=Highly Utilized, MU=Moderately Utilized, U=Utilized, NU=Not Utilized, University of Ibadan (UI), Obafemi Awolowo University (OAU), Federal University of Abeokuta (FUNAB), University of Lagos (UNILAG), Federal University of Technology (FUTA), **X = Mean**

The mean responses in Table 1 show the extent of utilization of cyberspace information resources and services by postgraduate students in the selected federal universities in Southwest Nigeria. Based on Table 1, the results discovered that postgraduate students moderately utilized cyberspace resources with respect to the following: electronic mail (3.29), electronic books (3.06), electronic journals (3.04), connected computers (2.97), online newspapers (2.87), online services by research gate (2.86), cd-rom resources (2.57), online plagiarism test (2.56), online service by sms (2.80) and online service by telegram (2.51). They demonstrated utilized in such resources and services as electronic bulletin boards (2.37), computer conferencing (2.35), DOAJ (2.21), DOAB (2.17), Library-based software (2.13), MEDLINE (1.89) and CINAHL (1.78).

Since the overall cluster mean was 2.51 and above criterion mean of 2.5, the postgraduate students' use of cyberspace information resources and services in the five universities is moderate. The overall standard deviation on postgraduate students' utilization of cyberspace information resources and services was 0.64 indicating that the students were relatively homogenous in their responses.

Research Question 2

What are PG students' perceptions of cyberspace information resources and services used for research in federal universities in southwest Nigeria?

Research question two seeks to elicit information on the perception of PG students as regards cyberspace information resources and services used for research in federal universities in southwest Nigeria.

Table 2: Postgraduate students' perceptions of cyberspace information resources and services used for research in federal universities in southwest Nigeria

S/N	Item Statement	UI		OAU		FUNAB		UNILAG		FUTA		OVERALL		REMARK	RANK
		X	S.D	X	S.D	X	S.D	X	S.D	X	S.D	X	S.D		
1	Communication with other researcher is faster using cyberspace	3.45	0.66	3.50	0.61	3.46	0.61	3.40	0.69	3.61	0.55	3.47	0.64	A	2ND
2	Research-related activities are more effectively carried out in cyberspace platform	3.37	0.67	3.32	0.75	3.40	0.71	3.33	0.68	3.35	0.61	3.35	0.68	A	9TH
3	Information exchange among researcher is more effective in cyberspace	3.40	0.65	3.40	0.73	3.41	0.74	3.30	0.75	3.32	0.70	3.36	0.72	A	8TH
4	Cyberspace system (e.g cloud computing) provides unlimited storage space for research findings	3.30	0.74	3.33	0.78	3.42	0.72	3.27	0.79	3.40	0.77	3.33	0.77	A	10TH
5	Cyberspace provides better contact between research supervisor and subordinate	3.17	0.82	3.04	0.83	3.14	0.79	3.15	0.82	3.03	0.98	3.11	0.85	A	14TH
6	Cyberspace provide better access to research information on a global basis	3.51	0.63	3.50	0.73	3.50	0.73	3.30	0.76	3.56	0.63	3.46	0.71	A	3RD
7	Cyberspace bridge the boundary between time and space in global access to research information	3.45	0.72	3.44	0.72	3.44	0.70	3.40	0.77	3.47	0.68	3.44	0.73	A	4TH
8	Research work can easily be corrected using cyberspace platform and tools	3.32	0.73	3.23	0.78	3.27	0.78	3.30	0.83	3.27	0.71	3.28	0.77	A	12TH
9	Cyberspace provides boundless access to review of related literature	3.50	0.65	3.50	0.71	3.43	0.65	3.23	0.77	3.41	0.67	3.40	0.71	A	6TH
10	Cyberspace is quick in accessing Bibliographic records	3.37	0.70	3.40	0.74	3.31	0.77	3.34	0.75	3.43	0.66	3.37	0.72	A	7TH
11	Cyberspace is easy to use	3.32	0.76	3.35	0.71	3.34	0.66	3.23	0.77	3.31	0.62	3.31	0.72	A	11TH
12	Search results in cyberspace are displayed in an understandable format	3.25	0.76	3.30	0.65	3.23	0.73	3.16	0.80	3.20	0.63	3.23	0.72	A	13TH
13	Information from cyberspace is as reliable as the one in the traditional library	3.23	0.73	3.17	0.77	3.21	0.76	3.03	0.91	3.20	0.80	3.16	0.81	A	13TH
14	With cyberspace, one can access e-resources quickly	3.42	0.65	3.51	0.60	3.46	0.66	3.21	0.86	3.55	0.58	3.42	0.71	A	5TH

S/N	Item	UI X	UI SD	OAU X	OAU SD	FUTA X	FUTA SD	UNILAG X	UNILAG SD	FUNNAB X	FUNNAB SD	X	SD	Decision	Rank
15	Cyberspace gives me unlimited access to information resources worldwide	3.42	0.67	3.50	0.72	3.53	0.64	3.27	0.84	3.55	0.56	3.44	0.72	A	4TH
16	Cyberspace is faster in updating e-resources	3.52	0.57	3.50	0.66	3.46	0.67	3.36	0.80	3.57	0.62	3.47	0.68	A	2ND
17	Cyberspace facilitates the globalization of information resources	3.52	0.63	3.55	0.67	3.56	0.68	3.36	0.72	3.45	0.73	3.48	0.70	A	1ST

KEYS: UI (University of Ibadan, Obafemi, Awolowo University (OAU), Federal University of Technology (FUTA), University of Lagos (UNILAG), Federal University of Agriculture, Abeokuta (FUNNAB), SA (Strongly Agree), A (Agree), D (Disagree), SD (Strongly Disagree), **X = Mean.**

The mean responses in Table 2 regarding PG students' perception of cyberspace information resources and services used for research in federal universities in southwest Nigeria shows that the items listed were all agreed upon to be true of what they considered cyberspace resources and services to be (mean of 3.46 and 3.11 respectively). The standard deviation items range between 0.89 and 0.64 indicating that the students were homogenous in their responses.

Research Question 3

What are PG students' purposes for using cyberspace information resources and services in federal universities in southwest Nigeria?

Research question three is formulated to ascertain PG students' purposes of using cyberspace information resources and services in federal universities in southwest Nigeria. .

Table 3: Mean ratings and standard deviation of postgraduate students' purpose of using cyberspace information resources and services in federal universities in southwest Nigeria.

S/N	Item Statement	UI $\bar{x}$	S.D	OAU $\bar{x}$	S.D	FUNAB $\bar{x}$	S.D	UNILAG $\bar{x}$	S.D	FUTA $\bar{x}$	S.D	OVERALL $\bar{x}$	S.D	REMARK	RANK
1	For research purposes	3.70	0.52	3.64	0.63	3.75	0.50	3.64	0.57	3.62	0.48	3.67	0.55	SA	1ST
2	Formulation of research objectives and questions	3.41	0.67	3.25	0.76	3.37	0.76	3.41	0.68	3.31	0.60	3.36	0.70	A	7TH
3	Articulating statement of the research problem	3.33	0.68	3.22	0.76	3.31	0.80	3.30	0.70	3.40	0.58	3.31	0.71	A	8TH
4	Acquiring knowledge of theoretical framework	3.40	0.70	3.50	0.68	3.50	0.63	3.40	0.76	3.55	0.56	3.45	0.68	A	4TH
5	To examine relevant related empirical studies	3.59	0.69	3.42	0.69	3.50	0.59	3.40	0.66	3.53	0.63	3.46	0.66	A	3RD
6	Adoption of relevant research design	3.42	0.65	3.32	0.71	3.36	0.71	3.33	0.68	3.57	0.56	3.39	0.67	A	6TH
7	Equip one in the knowledge of appropriate data collection and analysis procedure	3.40	0.73	3.37	0.72	3.50	0.65	3.37	0.70	3.46	0.73	3.41	0.71	A	5TH
8	It assists me to check current information services	3.47	0.76	3.55	0.63	3.51	0.59	3.40	0.73	3.48	0.78	3.47	0.71	A	2ND
9	It helps me interact with my supervisor	3.04	0.81	2.93	0.90	3.01	0.91	3.04	0.92	2.87	0.93	2.99	0.89	A	11TH
10	It helps in checking the correctness of references and citations	3.36	0.72	3.31	0.72	3.45	0.67	3.37	0.71	3.31	0.77	3.36	0.72	A	7TH
11	It helps in the packaging of research work	3.33	0.74	3.25	0.76	3.33	0.78	3.34	0.71	3.16	0.75	3.30	0.75	A	9TH
12	It helps in presentation	3.31	0.76	3.15	0.82	3.36	0.71	3.27	0.88	3.16	0.94	3.25	0.83	A	10TH

KEYS: SA= Strongly Agree, A = Agree, D= Disagree, SD= Strongly Disagree, University of Ibadan (UI), Obafemi Awolowo University (OAU), Federal University of Abeokuta (FUNAB), University of Lagos (UNILAG), Federal University of Technology (FUTA), **X = Mean.**

Results in Table 3 show postgraduate students' purposes of using cyberspace information resources and services in federal universities in southwest Nigeria. It was revealed that postgraduate students use cyberspace information resources and services for research purposes (3.67), checking current information services (3.47), acquiring knowledge of theoretical framework (3.45) and examining relevant related empirical studies (3.67); these values are above criterion mean of 2.5. This implies that postgraduate students' purpose of using cyberspace information resources and services were all accepted. The standard deviation values indicate that the respondents were relatively homogenous in their responses.

H0₁: There is no significant difference in the mean ratings of male and female postgraduate students on the utilization of cyberspace information resources and services for research in federal universities in southwest Nigeria

Table 4: t-test analysis of the difference in the mean rating of male and female postgraduate students on the utilization of cyberspace information resources and services for research in federal universities in southwest Nigeria

SN	Gender	N	$\bar{x}$	SD	t-value	df	Sig.	Dec.
1	Male	588	2.47	0.65	-0.138	1058	0.890	NS
2	Female	472	2.48	0.66				

NS= Not Significance

The result in Table 4 was a t-test analysis of the mean difference between the responses of male and female postgraduate students on their utilization of cyberspace information resources and services for research in federal universities in southwest Nigeria. The t-value of -0.13 with a degree of freedom of 1058 and a significant value of 0.89 showed that there is no significant difference in the mean ratings of male and female postgraduate students on the utilization of cyberspace information resources and services for research in federal universities in southwest Nigeria. Thus, the null hypothesis of no significant difference in the mean ratings of male and female postgraduate students on the utilization of cyberspace information resources and services for research in federal universities in Southwest, Nigeria was accepted. This implied that postgraduate students' utilization of cyberspace information resources and services for research in federal universities in southwest Nigeria are the same.

H0₂: There is no significant difference in mean ratings of male and female PG students on perception of cyberspace information resources and services used for research in federal universities in southwest Nigeria.

Table 5: t-test analysis of the difference in the mean rating of male and female PG students on perception of cyberspace information resources and services used for research in federal universities in southwest Nigeria

SN	Gender	X	SD	t-value	Df	Sig.	Dec.
1	Male	3.38	0.47	1.90	1058	0.62	NS
2	Female	3.32	0.50				

S = Significant, NS= Not Significance

The result in Table 5 is a t-test analysis of the mean ratings of male and female PG students on perception of cyberspace information resources and services used for research in federal universities in southwest Nigeria. Results presented in Table 5 showed that there is no significant difference in the mean ratings of male and female PG students on perception of cyberspace information resources and services used for research in federal universities in southwest Nigeria. The cluster t-value of -1.90 with a degree of freedom of 1058 and a significant value of 0.62 confirms this result. Thus, the null hypothesis that there is no significant difference in the mean ratings of male and female PG students on perception of cyberspace information resources and services used for research in federal universities in southwest Nigeria was accepted. This implies that PG students' perception of cyberspace information resources and services used for research in federal universities in southwest Nigeria remains the same.

H0$_2$: There is no significant difference in the mean ratings of male and female PG students' purposes of using cyberspace information resources and services in federal universities in southwest Nigeria.

Table 6: **T-test table** *of the difference in the mean rating of male and female PG students on purposes of using cyberspace information resources and services in federal universities in southwest Nigeria*

SN	Gender	$\bar{x}$	SD	t-value	Df	Sig.	Dec.
1	Male	3.35	0.50	-1.033	1058	0.302	NS
2	Female	3.39	0.48				

S = Significant

The result in Table 6 was a t-test analysis of male and female PG students' mean ratings on their purposes of using cyberspace information resources and services in federal universities in Southwest Nigeria. The t-value of -1.03 with a degree of freedom of 1058 and a significant value of 0.30 showed that there was no significant difference in the mean ratings of PG students on their purposes of using cyberspace information resources and services in federal universities in southwest Nigeria. Thus, the null hypothesis that there is no significant difference in the mean ratings of male and female PG students on the purposes of using cyberspace information resources and services in federal universities in Southwest Nigeria was accepted. This implies that postgraduate students use cyberspace information resources and services for similar purposes.

DISCUSSION

The findings revealed that respondents moderately utilized resources and services such as Connected Computers, Electronic mail, Library based software, LAN, Electronic journals, Electronic books, Newspapers, Science direct, Online services (by, SMS, E-mail, Telegram, Research Gate), Online Plagiarism Test and Ordering of Research Resources by E-journal articles. However, there is a slight difference with FUTA respondents which shows that they do not utilize resources such as Library-based software, AGORA, OARE, DOAJ, CINAHL, MEDLINE, Online Library Catalogue Weblogs, Online referral service, Online bibliographic services, Online library orientation, Institutional Computer Use Services, free internet access. Though some of these resources and services were made available to them, yet they were indicated not used. This might be because some of them have refused to update themselves about current trends of what is available, accessible and of paramount importance to their research work. In some of the universities, most of the PG students that access them for their research work do so for personal curiosity of searching for current and up-to-date information to satisfy their research need. Some of the students were having difficulties in utilizing the available ones due to a lack of proper orientation of what cyberspace information and services are all about. This is in agreement with Ankamah, Akussah and Adams (2018) who indicated that students accessed cyberspace for quick access to information, the convenience of access to information, and time-saving and current information features. Relatively, Rajagopal and Chinnasamy (2012) pointed out that students utilized cyberspace information resources for study, research and to update their knowledge. On the other hand, Onifade, Ogbuiyi and Omeluzor (2013) found that postgraduate students do not regularly utilize the library and for those using the library, their main aim is to check for research materials.

Analysis of PG students' perception of cyberspace information resources and services indicate that it was positive. Jiang and Wang (2006) opined that service perception is the users' judgment and evaluation of a service performance received and how it compares to their need. Also, Alsamydai et al (2014) agreed that perception is a psychological ability of PG students to evaluate an object with some degree of favour or disfavour. In addition, Edem and Afebende (2011) stated that for the perceptions of postgraduate student users to be positive, cyberspace information resources and services in the universities must keep abreast of new technological advances and the staff/personnel of the libraries must be highly trained, self-motivated, flexible, enthusiastic, service-oriented and have excellent interpersonal skills. Finally, this was in line with the findings of Bagudu and Sadiq (2013) that PG students'

response as regards their perception towards the use of cyberspace information resources and services was positive.

Findings show that PG students purpose of use of cyberspace resources and services were mainly for research purposes, formulation of research objectives and questions, articulation of research statement, acquiring knowledge of theoretical framework, examining relevant related empirical studies, adoption of relevant research design, acquiring knowledge on appropriate data collection and analysis, assisting in student-supervisor interaction, and presentation of research. To buttress this assertion, Emwanta and Nwalo (2013) observed that e-resources are popularly used by postgraduate students for information retrieval due to their time-saving qualities and the convenience of remote access to full-text journals. Similarly, Reiner and Smith (2008) posit that postgraduate students use e-resources for research and assignments. This is in line with Adetimirin's (2012) observation that postgraduate students utilize cyberspace electronic information resources to complement what has been taught in their various courses and lecture notes, complete their assignment and term papers, undertake a project, write reports, read and pass examinations. This is against the view of Adesoye and Amusa (2013) that postgraduates mainly use electronic information resources for their test and assignments. In addition, Obaje and Camble (2016) observed that e-resources are used by postgraduate students for project writing and contend that the use of e-resources enables postgraduates to come to terms with research frontiers from other countries, thereby making research less difficult. Sampath Kumar and Kumar (2010) stated that the majority of the academic community including postgraduate students uses electronic information sources for their academic-related work. For a more positive perception of postgraduate students, university libraries services and resources must keep abreast of new technological advances. Library staff must be highly trained, self-motivated, flexible, enthusiastic, and service-oriented. Internet connection coverage should be improved and extended by library management. Finally, universities should consider means of generating additional funds as the need for further research increase daily.

CONCLUSION

Based on the study outcomes, the researchers note that PG students' perception of cyberspace information resources and services were positive. Also, there is no significant difference in the mean ratings of male and female postgraduate students on the utilization of cyberspace information resources and services for research in federal universities in southwest Nigeria. Furthermore, there is no significant difference in the mean ratings of male

and female PG students on perception of cyberspace information resources and services used for research in federal universities in southwest Nigeria. Finally, there is no significant difference in the mean ratings of male and female PG students on the purposes of using cyberspace information resources and services in federal universities in Southwest Nigeria.

REFERENCES

Abedalaziz, N., Jamaluddin, S., & Leng, C. H. (2013). Measuring attitudes toward computer and internet usage among postgraduate students in Malaysia. *Turkish Online Journal of Educational Technology*-TOJET, 12(2), 200-216.

Abubakar, B. M. (2011). Academic libraries in Nigeria in the 21st century. *Library Philosophy and Practice* (e-journal), 446.

Abubakar, D. & Adetimirin, A. (2015). Influence of computer literacy on postgraduates' use of e-resources in Nigerian university libraries. *Library Philosophy and Practice (e-journal)*, 1207.

Adenike, O., Akin, O.T., & Huy, D. (2014). Online public access catalogue [OPAC] in Nigerian libraries: a case study of the Kenneth Dike Library and University of Lagos Library. *Ozean Journal of Social Sciences,* 6(3), 55-65.

Adesoye, A.E. & Amusa, O. I. (2013). Use of electronic resources in health sciences institutions in Ogun State, Nigeria. *PNLA Quarterly*, 77(3) 28-41.

Adetimirin, A. E. (2012). ICT literacy among undergraduates in Nigerian universities. *Education and Information Technologies*, 17(4), 381-397.

Adigun, A., Ojo, G., Salvador-Olayokun, S., Yewande, M., Abdulazeez, M., & Babatunde, O. (2011). An Assessment of Online Public Access Catalogue (OPAC) Utilization in Two Selected University Libraries in Lagos State, Nigeria. *Information Manager* (The), 11(1-2), 85-90.

Agber, T. (2013). *Assessment of online resources usage by agricultural science lecturers of tertiary institutions in Benue State*. M.Sc. Thesis, University of Nigeria, Nsukka.

Agboola, I. O. (2010). Information seeking behavior of academics in Nigerian agricultural university. *Nigerian Library Link,* 8(1), 75-86.

Aina, L. O. (2004). *Library and information science text for Africa*. Ibadan, Nigeria: Third World Information Services.

Aliyu, A. (2006). Availability of information resources in Sharia court libraries in the northern states of Nigeria. *Zaria Journal of Librarianship,* 9(1), 92-102

Allport, D.A. (2013). Attention and control: Have we been asking the wrong question? A critical review of twenty-five years. In D.E. Meyer & S. Kornblum (Eds), *Attention and performance XIV: Synergies in experimental psychology, artificial intelligence, and cognitive neuroscience* (*pp.* 183 – 218). Cambridge, MA: MIT Press.

Alsamydai, M. J, Rudaina O. Y. & Al-Qirem, I. A. (2014). Measuring individual attitude towards Arabic speaking TV channels and the impact of these channels on current events. *International Journal of Business and Management*, 8, 73-88.

Ani, O. E., & Ahiauzu, B. (2008). Towards effective development of electronic information resources in Nigerian university libraries. *Library Management*, 29 (6/7), 504-514

Ankamah, S., Akussah, H., & Adams, M. (2018). Postgraduate students' perception towards the use of ICT in research in Ghanaian public universities. *Library Philosophy and Practice (e-journal)*, 1737.

Anunobi, C.V. (2010). ICT availability and use in Nigerian university libraries. *Global Review of Library and Information Science,* 1 (1), 39-51.

Aspfors, E. (2010). *Customer perception of service, store image and product assortment – from an interior store perspective*. Thesis, Vaasa University of Applied Sciences, Finland.

Ayiah, E. M., & Kumah, C. H. (2011, August). Social Networking: a tool to use for effective service delivery to clients by African Libraries. In *World Library and Information Congress: 77th IFLA general conference and assembly* (p. 1-14).

Bagudu, A. A. & Sadiq, H. S. (2013). Students' perception of digital library services: a case study of International Islamic University, Malaysia. *Library Philosophy and Practice (e-journal),* 894.

Chiemeke, S., Longe, O. B., Umaret, S.S. & Shaib, I. O. (2007). Users' perceptions of the use of academic libraries and online facilities for research purposes in Nigeria. *Library Philosophy and Practice (e-journal)*, 116.

Collins, M. & Grogg, J.E. (2011). Building a Better ERMS. *Library Journal,* 136, 22-28.

Dadzie, P. S. (2007). Information literacy: assessing the readiness of Ghanaian universities. *Information Development*, 23(4), 266-277.

Denton, W., & Coysh, S. J. (2011). Usability testing of VuFind at an academic library. *Library Hi Tech,* 29(2), 301-319.

Edem, M. B. & Afebende, G. (2011). Developing digital libraries for improved academic information provision in Nigeria. *Library and Information Science Practitioner*. 4 (1 & 2), 313-323.

Edem, N. B. & Egbe, N. (2016) Availability and utilization of electronic resources by postgraduate students in a Nigerian university library: A case study of University of Calabar, Nigeria. *Information and Knowledge Management*, 6(2), 60-69.

Eghworo, O. R., Ogo, E. P., & Ayomanor, K. E. (2015). Information communication technology: A catalyst for enhancing the role of libraries in the creation of an information society. *European Journal of Research and Reflection in Arts and Humanities*, 2(3), 39-47.

Ekwe, A.I., Enaohwo, A.K., Amaechi, L.N. & Amadi, N.N. (2016). Application of ICT in teaching and learning of social studies in secondary schools: The way forward. *International Journal of Academia,* 2(1), 1-16.

Emwanta, M & Nwalo, K.I.V. (2013). Influence of computer literacy and subject background on use of electronic resources by undergraduate students in universities in south-western Nigeria. *International Journal of Library and Information Science*, 5(2), 29-42.

Eyitayo, S. A. (2009) Putting the library catalogue on the web: considerations and projections. In *Proceedings of selected papers of the cataloguing, classification and indexing section of the Nigerian Library Association* (p. 49-63).

Gakibayo, A., Ikoja-Odongo , J. R., & Okello-Obura, C., (2013). Electronic Information Resources Utilization by Students in Mbarara University Library. *Library Philosophy and Practice (e-journal)*, 869.

Gopinath, S. A. (2017). Perception and Use Electronic Information Resources among the Academic Community: A case study. *International Journal of Information Dissemination and Technology*, 7(2), 142-145.

Hernon, P., & Altman, E. (2010). *Assessing service quality: Satisfying the expectations of library customers*. American Library Association.

Ifedili, C., & Omiunu, S. (2012). Supervision of undergraduate final year's project requirement in Nigerian universities – the way out of the wood. *Asian Culture and History, 4*, 153-160.

Isaac, S., Saini B. & Chaar B. B. (2016) The role of medicinal cannabis in clinical therapy: pharmacists' perspectives. *PLoS One*, 11, 125-130.

Jiang, Y., & Wang, C. L. (2006). The impact of affect on service quality and satisfaction: the moderation of service contexts. *Journal of Services Marketing*, 20(4), 211-218

Kuehl, D. T. (2009). From Cyberspace to Cyberpower: Defining the Problem. In *Cyberpower and National Security*. Washington, D.C.: National Defense University Press.

Salve, R., & Chavan, S. P. (2018). Skills and competencies for new generation of library & information science professionals in India: an analytical study. *Knowledge Librarian*, 5(1), 63-72.

Miao, H. & Wang Bassham, M. (2007). Embracing customer service in libraries. *Library Management*, 28 (1/2), 53-61.

Obaje, M.A & Camble, E. (2008) Use of CD-ROM database by staff and students in the University of Jos Library: the information scientist. *International Journal of Information and Communication Technology (ICT)* 5(1), 7-8

Olibie, E. I., Agu, N. N., & Uzoechina, G.O. (2015). Characteristics of Post Graduate Education Research Mentoring in Universities in Nigeria: Curricula Enhancement Strategies. *Journal of Curriculum and Teaching,* 4(1), 156-166.

Omekwu, C.O. (2002). *Information dissemination and utilization in the research-extension-farmer system interface of Osun state agricultural development*. Unpublished Doctoral Thesis, University of Ibadan.

Omekwu, C., & Echezona, R.I. (2008). Emerging challenges and opportunities for Nigerian libraries in a global information system. In *libraries without borders: globalization of library and information services*. Paper presented at the 46th Annual National Conference and AGM National Library Association, 2008.

Omekwu, O. C. (2016). *Cyberspace Revolution: Issues, Implications and Imperatives*. An Inaugural Lecture at the University of Nigeria delivered on Thursday, 8th Sept 2016.

Omosekejimi, A. F., Eghworo, O. R. & Ogo, E. P**.** (2015)**.** Usage of electronic information resources (EIRS) by undergraduate students of Federal University of Petroleum Resources Effurun. *Information and Knowledge Management*, 5(4), 94-103.

Onifade, F. N., Ogbuiyi, S. U., & Omeluzor, S. U. (2013). Library resources and service utilization by postgraduate students in a Nigerian private university. *International Journal of Library and Information Science*, 5(9), 294-299.

Oyewusi, F.O. & Oyeboade*,* S.A. (2009). An empirical study of accessibility and use of library resources by undergraduates in a Nigerian state university of technology. *Library Philosophy and Practice* (e-journal). 277.

Pinghao, L.Z., & Liu, Y.Q., (2011). A survey of the use of electronic resources at seven universities in Wuhan, China. *Program*, 45(Iss 1), 67-77

Prabha, C., Connaway, L.S., Olszewski, L., & Jenkins, L.R. (2012). What is enough? Satisficing information needs. *Journal of Documentation,* 63(1), 74-89.

Rajagopal, V., & Chinnasamy, K. (2012). Users' attitudes and approaches towards e-resources and services in academic libraries of Puducherry Union Territory: A study. *Journal of Advances in Library and Information Science,* 1 (4), 149-152.

Ruzegea, M. (2012). The Usability of OPAC Interface Features: The Perspective of Postgraduate Students at International Islamic University Malaysia (IIUM). *Library Philosophy and Practice (e-journal)*, 691.

Sampath Kumar, B. T., & Kumar, G. T., (2010). Perception and usage of e-resources and the internet by Indian academics. *The Electronic Library*, 28(1),137-156.

Seth, M.K. & Parida, B. (2006). Information needs and use pattern of disadvantaged communities: a case study. *Library Philosophy and Practice (e-journal)*, 100.

Singh, N. (2009). Influence of information technology in growth and publication of Indian literature. *Libri*, 59(1), 55-67.

Smith, B., Caputi, P., & Rawstone, L. (2010). Differentiating computer experience and attitude towards computers: an empirical investigation. *Computers in Human Behavior, 16,* 59-81.

Solomon, M., Bamossy, G. & Askegard, S., (2013). *Consumer behavior*. 5th ed. Harlow, England: Pearson.

Tella, A., Owolabi, K. A., & Attama, R. O. (2009). Student use of the library: a case study at Akanu Ibiam Federal Polytechnic, Unwana, Nigeria. *Chinese Librarianship: an International Electronic Journal*, 28(5). URL: http://www.iclc.us/cliej/cl28TOA.pdf

Thanuskodi, S. (2012) Use of e-resources by the students and researchers of faculty of arts, Annamalai university. *International Journal of Library Science,* 1(1), 1-7.

Ugwu, C. I. & Onyegiri, D. C. (2013). Management problems of electronic information resources: a case study of UNN library. *International Journal of Library and Information Science*, 5(5), 126-133.

West, A. (2012). Formative evaluation of the transition to postgraduate study for counselling and psychotherapy training: students' perceptions of assignments and academic writing. *Counselling and Psychotherapy Research,* 12(2), 128-135.

Womboh, B.S.H., & Abba, T. (2008). The State of Information and Communication Technology (ICT) in Nigerian University Libraries: The Experience of Ibrahim Babangida Library, Federal University of Technology, Yola. *Library Philosophy and Practice (e-journal)*. 224.

Yusuf, F. O., & Iwu, J. (2010). Use of academic library: a case study of Covenant University, Nigeria. *Chinese Librarianship: an International Electronic Journal*, 30. URL: http://www.iclc.us/cliej/cl30YI.pdf