5-9-2016

# AWARENESS AND USAGE OF ELECTRONIC INFORMATION RESOURCES AMONG POSTGRADUATE STUDENTS OF LIBRARY AND INFORMATION SCIENCE IN SOUTHERN NIGERIA

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BY

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## ABSTRACT

*The study aims at investigating the awareness and usage of electronic information resources among postgraduate students of library and information science in Southern Nigeria. The descriptive survey design was adopted for the study. The census sampling technique was adopted for this study. Thus, the entire population of three hundred and seventy-five (375) postgraduate students of library and information science in Southern Nigeria were used as the sample for this study. The questionnaire tagged: Awareness and Usage of Electronic Information Resources by Postgraduate Students of Library and Information Science Questionnaire (AUEIRPSLISQ) was used as instrument for data collection. Four research questions were answered and two null hypotheses were tested at 0.05 level of significance. The simple percent statistical tool was used to answer the research questions and Pearson Product Moment Correlation Coefficient (PPMCC) for testing the hypotheses. The results obtained revealed that postgraduate students of library and information science are quite aware and highly use electronic information resources. The study also reported that postgraduate LIS students are skilled in the use of electronic information resources. Based on the findings the study concluded that electronic information resources are essential tools for empowering postgraduate students of library and information science in Southern Nigeria.*

### Background to the Study

Libraries have transformed into digital and virtual libraries where books, journals and magazines have changed into e-books, e-journals, and e-magazines. This has increased the global dissemination of information (Abinew & Vuda, 2013). Electronic resources such as e-journals, e-books, e-databases, web resources, e-serials amongst others are easily accessible in remote areas. Jone (2008) opined that electronic resources solve storage problems and control the flood of information, that is, print sources is being digitized. The rapid growth of new technologies has changed the communication process and reduced the cost of communication for individuals. Electronic information resources can be defined as the electronic representation of information which can be accessed via electronic system and computer network (Johnson, Evensen, Gelfand, Lammers, Sipe & Zilper, 2012). They further buttress that electronic information sources can be seen as the most recent development in information technology and that they are available in various forms like e-books, digital libraries, online journal magazine, e-learning tutors and online test. Because of the effective presentation with multimedia tools, these e-resources have become the source of information.

Electronic resources deliver the collection of information as full text (aggregated) databases, e-journals, image collections, multimedia in the form of CD, tape, internet, web technology, etc. E-resources include e-journals, e-discussions, e-news, data archives, e-mail online chatting, just to mention

but a few. Electronic information source are a wide range of products going from electronic periodicals to CD-ROMs, from mailing list to databases, all of them having a common feature of being used and sometime modified by a computer (Thanuskodi, 2012). Electronic information sources are becoming more and more important for the academic community (Egberongbe, 2011). Therefore, awareness of these information resources is of paramount importance to library development in the 21ˢᵗ century.

Awareness is knowledge about something that exists or understanding of a situation or subject at the present time based on information or experience (Ani & Ahiauzu, 2008). It can also be seen as knowledge or perception of a situation, fact, consciousness, recognition, realization, grasp and acknowledgement concern about and well-informed interest or familiarity in a particular situation or development. Ojo and Akande (2005) opined that students' level of access, usage and awareness of electronic information resources at the University College Hospital (UCH) Ibadan, Nigeria is not high and that the major problem however identified in their study is lack of information retrieval skills for exploiting electronic resources, thus making the level of usage of resources by medical students very low. Ajuwon (2003) study on ICTs by health science students at the University College Hospital (UCH) Ibadan, revealed that students studied could not use a computer, and that the use of the database was poor, due to lack of awareness, lack of access to computers, insufficient training and high cost of provision of electronic information resources subscription. Awareness and use of electronic information resources is very important so as to keep postgraduate students alert of the available media through which they can access needed information. It is apparent that the use of these electronic information resources require special skills in information and communication technologies (ICTs) that will help students navigate the maze of resources at their disposal via telecommunications channels (Balogun, 2008). It is also imperative to understand the purpose of using electronic information resources by postgraduate students of library and information science.

Awareness of the changes in technology in recent years has dramatically altered how information is accessed, stored and disseminated (Tsakomas & Papatheodorou, 2006). Whereas information provision and usage in academic libraries was previously based upon the collection of physical library materials, it is now increasingly the case that academic libraries are moving into the virtual arena. Postgraduate students in their reaction to such stimuli ought to be aware of the availability of such resources to aid them in their academic pursuit. With advances in technology and e-publishing, online test full text databases, Emerald, Science Direct, Academic Search Premier, Ebscohost, TEEEL, Oare Sciences, Hinari, Virtual Library (NUC), online public access catalogue (OPAC), CD-ROMs (Compact Disc-Read Only Memory), e-books collections, e-journals covering a variety of subjects, and major bibliographic databases like AGORA and MEDLARS etc., access to information on a local, regional, national and international basis has overcome the traditional barriers of time, easy of accessibility and space (Prangya & Rabindra, 2013; Sharma, 2009). Since electronic information resources are systems in which information is are stored electronically and made accessible through electronic systems and computer networks.

Therefore, awareness is paramount if postgraduate students' are to harness these resources. Thanuskodi and Ravi (2011) survey on use of digital resources by faculty and research scholars of Manonmaniam Sundaranar University, Tirunelveli investigated utilization of electronic information resources by postgraduate and research scholars. The result shows that 67.14% of the faculty is familiar with the use of electronic information resources. Awareness of EIRs has changed what users actually read and use. They now tend to use only what is easily accessible. Therefore, they visit the library a lot less, and, as such, discovery through serendipity is reduced. Users often prefer increased access to databases of online-refereed journals and to the Web—which provides information that is up to the minute,

international in scope and sometimes not available elsewhere because they see these resources as easier to access and search (Dalgleish & Hall, 2000).

Prangya and Rabindra (2013) opined that awareness is core to usage of electronic information resources. Where materials are in closed access, users' ease of access to such e-resources is by far reduced. But where they are in open access (not subscription-based), postgraduate students' find them, and make do with them for whatever reasons they need them for. The usage of EIRs in recent years has yielded positive results in the area of teaching and research and that through the use of electronic information resources, researchers, academic and students now have access to global information resources, particularly the Internet for their scholarly intercourse (Egberongbe, 2011; Ellis & Oldman, 2005). Waldman (2003) reported high usage of the library's OPAC by students at City University of New York. Gakibayo (2001) carried out a study on Internet usage by students and staff at Mbarara University of Science and Technology and the result of the study indicated low usage of electronic information resources by students and staff of the university. Bar-llan, Peritz and Wolman (2003) opined that age also play an important role in EIRs usage and the younger the student and faculty members are, the more they use EIRs. Researches as show that men are heavier users of the Internet and EIRs (Teo, 2001; Chong, 2002; Agba, Kigongo-Bukenya & Nyumba, 2005). Bar-llan, Peritz and Wolman (2003) conclude that gender and academic rank have only a minor influence on the usage of EIRs and the Internet. Studies on usage of other EIRs such as library OPACs, e-books, and subject gateway projects have revealed difference in use (Adomi, 2005; Obuh, 2009; Prangya & Rabindra, 2013).

Sivathaasan, Achchuthan and Kajananthan (2013) survey on demographic variables and usage of electronic information resources revealed that there are significant mean differences among age group, teaching language and experiences of teachers on the usage of electronic information resources, whereas mean usage of electronic information resources do not differ significantly among five different faculties (F =2.075, p > 0.05). Sivathaasan and Velnampy (2013) study on use of EIRs and academic performance of university teachers, it was found that usage of electronic information resources has a strong positive association with academic performance (r = 0.623, p < 0.01) and it has an impact on academic performance at the rate of 38.8 % (R2= 0.388). Usage of e-resources has made changes in the trend of information behavior of postgraduate students'. In a related study by Brennan, Hurd, Blecic and Weller (2002) they centered on how the adoption of electronic information resources has affected academics' information behavior and revealed that academics make fewer visits to the library and read more e-journals including e-books than the print era.

Postgraduate students' need skills to make adequate use of EIRs and that if these skills are not there to enable them navigate the Internet their academic and research needs will suffer a setback. Watt and Ibegbulam (2005) stress that the use of electronic information resources (EIRs) largely depends on the user's ability to navigate the maze of e-resources available via technology-based terminals. Zaki (1991) pointed out that the poor background in the use of library by students equally affect them at the postgraduate level since the desire to use the library as it ought to be was not well developed at the undergraduate level. Agaba, Kigongo-Bukenya and Nyumba (2005) opined that e-resources usage at Makerere University by academic staff results of their study clearly indicates low usage of e-resources reasons because of inadequate skills on use of the Internet and computer applications. There is need to equip end-users with skills such as information literacy skills, information retrieval skills, computer skills among others as a strategy to promote e-resource usage (Adekinya & Adeyemo, 2006).

Although, the value and use of e-resources have increased with time since users, especially postgraduate students in higher institutions generally depends on skills of each user to locate discrete knowledge elements. According to the Final Report of the American Library Association Presidential Committee on Information Literacy (2001), the information literate user's skill is being able to recognize

when information is needed and have the ability to locate, evaluate, and use information resources effectively. Tyagi (2011) the ability to use e-resources efficiently depends on basic computer skills, knowledge of what is available and how to use it, and ability to define a research problem. How postgraduate students attain the above skills and knowledge depends on many factors, such as their disciplines, academic status and ranks, age, access. To further buttress this, Prangya and Rabindra (2013) conclude that lack of training; poor infrastructure and high cost of accessing some e-resources are the obstacles to proper and full utilization of EIRs.

The use of electronic information resources by postgraduate students in Nigerian schools comes with a couple of challenges like the nation's poor telecommunications infrastructure which has been a subject of debate to researchers and higher institutions (Adomi, 2005). In the face of poor telecommunications infrastructure, poor user skills in navigating e-resources, high cost of Internet subscription and restricted access to e-resources are also major challenges plaguing the use of electronic information resources by postgraduate students' in Nigeria universities.

Well, it's pertinent to note that when postgraduate students are aware of e- resources they make adequate use of them for academic and research purposes. It is also important that for the students to make use of the resources, they ought to be skilled in information and communication technologies (ICTs) applications in other to gain independent use of various electronic information resources around the globe. Be that as it may, it has been observed that postgraduate students in Nigerian universities are confronted with various challenges relating to inadequate telecommunications' infrastructure, high cost of subscription, poor user skills, amongst others in the use of e-resources. Consequent upon these, this study seeks to explore awareness and usage of electronic information resources among postgraduate students' of library and information science in southern Nigeria.

## Statement of the Problem

In earlier times, information resources were mainly presented in paper formats. At present information is generated in an exponential rate and the need to make them readily available, accessible to all became an issue and in a bid to overcome this problem, brought about the quest for an alternative media for holding and propagating information resources. Several attempts were made until the emergence of information and communication technology (ICT) especially the Internet in the early 1990s, which brought about the needed change to cope with the ever increasing volume of information. With the Internet and other electronic information resource (EIR) media such as CD ROM, databases, OPAC, etc., information can be stored in one place and be made simultaneously available to all for usage. According to Fabunmi, Paris and Fabunmi (2006) the manual system of searching for information resources does not permit multiple accessibility and usage of the same information resources by different users unlike online services. It is worthy of note that, EIRs are of great importance to the academic and research needs of postgraduate students of library and information science, since they are available in various formats in libraries.

However, observations as shown that postgraduate students of library and information science seem not to be utilizing these e-resources available to them, could it be that they are not aware of these EIRs and if they are aware why is it that usage is hindered. Based on this premise, Ekenna and Ukpebor (2012) stressed that EIRs have received high patronage with functional acceptance in other countries globally as against the situation in Nigeria. In the same vien, Igbeka and Okpala (2004) opined that since 1995, introduction of CD ROM literature search into the university library system, the number of users of CD ROM facility is still very small as against the number of registered library users. This they revealed might be due to lack of or inadequate awareness of e-resources. Also, studies have indicated that factors

such as awareness and skill are the determining factors that may influence users' decision to use EIRs (Obuh, 2009; Omotayo, 2010; Prangya & Rabindra, 2013).

Therefore, the crux of this study is to investigate the awareness, usage, skillfulness of electronic information resources among postgraduate students' of library and information science in Southern Nigeria universities.

## Research Questions

This research sought to answer the under-listed research questions:

i. What is the level of awareness of postgraduate students' of library and information science towards electronic information resources in Southern Nigeria universities?

ii. What is the level of usage of electronic information resources by postgraduate students of library and information science in Southern Nigeria universities?

iii. To what extent are postgraduate students of library and information science skilled in the use of electronic information resources in Southern Nigeria universities?

## Research Hypotheses

This study will be guided by the following null hypotheses:

i. There is no significant relationship between postgraduate library and information science students' level of awareness of electronic information resources and their usage of the resources.

ii. There is no significant relationship between postgraduate library and information science students ICTs skills and their usage of electronic information resources.

## Purpose of the Study

The purpose of this research is to determine the awareness and usage of electronic information resources among postgraduate master students of library and information science.

## REVIEW OF RELATED LITERATURE

Literatures were reviewed in line with the research questions.

## Awareness of E-Resources in Southern Nigerian Universities

Awareness is knowledge about particular information and manifested through a particular behavior. Awareness is paramount if postgraduate students are to effectively and efficiently use electronic resources. Abinew and Vuda (2013) survey on acceptance and use of electronic library services in universities respondents were asked about their awareness of the available e-library services to indicate their answers by way of saying "Yes", "No" and "To some extent". Majority of the respondents (57.97%) responded "To some extent" to indicate that they have only limited awareness about the existence of e-libraries resources and didn't know well and in detail. 20.65% of respondents do not know anything about the existence of the e-library services at all. Only 21.38% of the respondents were well aware of the existence of the e-library services. They also found in the same study that there is no significant difference in awareness of e-library services that existed between universities, academic staffs and postgraduate students, and among streams (faculties/colleges/institutions).

Obuh (2009) believe that awareness of electronic information resources has been a major concern for academia, postgraduate students' and researchers in recent days. He further conclude that often it is in college that users become aware of libraries' electronic resources, usually while having to write research papers. Assuming that on average most students face the same number and type of papers and assignments during their college career, it is critical to understand what makes one student use the library's electronic resources while another will not think of the library as a place to find specialized resources for their papers. Ekenna and Ukpebor (2012) asserted that electronic resources are highly accepted in the Netherlands especially by scientists and social scientists. Vakkari (2006) argued that the high patronage enjoyed by e-resources is because it is readily accessible and functional, not necessarily because of its rich contents. Dilek-Kayaoglu (2008) revealed that one of the barriers to the use of e-resources as reported by 42.7% of respondents in his study is lack of awareness of e-resources services in their library.

Igbeka and Okpala (2004) posited that since the 1995 introduction of CD-ROM literature search into the University of Ibadan library system, the number of users of the CD-ROM facility was still very small as against the number of registered library users. This they revealed might be due to lack of current awareness or dissatisfaction of users. Ali (2005) cited by Bashorun, Isah and Adisa (2011) use of electronic information services (EIS) among the users of Indian Institute of Technology (IIT) library in Delhi, India and revealed that 95 percent of users have awareness about EIS provided by the library. Dafioghor (2012) survey on problems and prospects of electronic resources usage in Nigerian academic libraries found that 57% of students sampled could not use a computer, that the use of database was poor, due to lack of awareness.

Suleiman and Katsekpor (2007) cited by Adesoye and Amusa (2013) report on a survey on convenient access to, and use of electronic databases (CD-ROM and online) including full text journals and their effect on information seeking behavior of health sciences faculty at the college of health sciences of the University of Ghana Medical School. The study documented preference between print and electronic resource use, and the specific databases and full text journals that faculty found useful. The findings reveal faculty lack of awareness and use of the two most resourceful full text journals databases available at the library (HINARI and PERI), hence they resorted to PUBMED as their source of access to full text journals to the traditional print indexes and abstracts, and hard copy publications; and paucity of time and distance from the library's Internet facilities have made the faculty members conducted their searches through intermediaries at the library. This finding is in line with the findings of Ogunyade and Oyibo (2003) in their study which examined the use of Medline – the database of life sciences and biomedical bibliographic information – by medical students at the University of Lagos. The study found that the use of the database was poor, due to lack of awareness. Prangya and Rabindra (2013) shows 12(52%) postgraduate students are aware about the e-facilities and e-resources,11(48%) are not aware about the facilities, similarly 12(52%) research scholars were aware about the e-resources , 11(48%) research scholars are not aware about the e-facilities given by library.

Egberongbe (2011) survey on use and impact of electronic resources at the University of Lagos revealed that 80 (71.4%) postgraduate students and 55(78.6%) research scholars were reported in the survey as being aware of e-resources. Awareness of e-resources indicated user knowledge of the availability of the resources, their services and the extent they made use of them. Whereas 32 (28.6%) lecturers and 15 (21.4%) scholars were not aware of electronic information resources, there is no doubt that a larger percentage of the postgraduate students are aware of the availability of electronic information resources. From observation, majority of the postgraduate students visit internet websites to gain access to electronic information resources. Gunter (2005) study on use of electronic books in the UK concluded that 85% of the users surveyed are aware of e-books. Zhang (2011) survey on e-book usage among chemists, biochemists and biologists revealed that  seventy-four percent of the respondents stated that they were aware that a large number of e-books from Wiley, Elsevier, Ebrary, Springer are available to the IUB campus, while 26% were not. It is interesting to note, that while the URL for a web page listing

the most important e-books for chemistry and life science subjects and lists were sent out every month with new e-book titles, there were still quite a few graduate students, scientists, and faculty members who were not aware of the availability of e-books.

Tyagi (2011) survey on use and awareness of electronic information sources at IIT Roorkee, India found that users have knowledge about the availability of electronic journals, but many use them as the supplementary way to use information. Many users need to be aware of the complete potential of the electronic journals. However, the preference for the electronic format is related to the discipline and age of the respondents and is higher among academic status. The present survey reflects a growing interest in online journals among the user at IIT Roorkee. The study also revealed that most users are aware about the availability of online journals through the library, and they can make maximum use of it for various purposes. Dolo-ndlwana (2013) use and value of library's electronic resources by academic and postgraduate student at Cape Peninsula University of Technology found that the majority of the respondents used electronic resources, but a few respondents did not use e-resources because they were not aware of them. Ahmad and Panda (2013) survey on awareness and use of electronic information resources by the faculty members of Indian Institutes in Dubai International Academic City revealed that majority of the faculty members were aware of and used e-resources. They study further confirmed lack of knowledge and use of library specific resources such as e-theses, patents and CD-ROM databases.

Dange, Girish, Savitha, Sushma and Veenakumari (2013) study on awareness and usage of digital information sources and services by postgraduate students of Kuvempu University revealed that there is significant difference between previous and final year students of digital information sources awareness, digital information services awareness, and digital information sources usage. Also, there is significant difference between arts, science and education postgraduate student's digital information sources awareness, digital information services awareness, digital information sources usage and digital information services usage. But there is no significant difference between previous and final year students' digital information services usage, digital information sources awareness. There is no significant difference between digital information sources usage, digital information services awareness, and digital information services usages of male and female postgraduate students.

Aina (2014) survey on awareness, accessibility and use of electronic databases among academic staff of Babcock University found that majority of respondents were aware of Academic Journal 59 (69.4%), followed by JSTOR 48 (56.5%) as well as Dissertation and Theses and Ebscohost with 46 (54.1) and 43(50.6) respectively. The analysis also revealed that majority of respondents were not aware of Bookboon, World Bank Open Knowledge Repository and National Virtual Library with 22(25.9%), 28 (32.9%) and 25(29.4) respectively. He further concludes that nine out of thirteen databases under consideration were averagely aware by respondents. This implies that there is need to increase awareness to cover all electronic resources the library subscribed to.

## Usage of E-Resources by Postgraduate Students of LIS in Universities

Effective use of library materials in both print and electronic resources is expected to enhance the quality of teaching and research by postgraduate library and information science students of any institution. In Nigeria, the use of computer terminals in information searching is gradually gaining popularity and so the students need to be computer literate. Thus, many Nigerian university libraries are striving to be fully automated while some are still in the process of computerization. To derive maximum benefit from the increasingly electronic library use environment, the user of Nigerian university libraries need to be computer literate. Bhukuvhani, Chiparausha and Zuvalinyenga (2012) study revealed that 86.7% of the respondents indicated that they used at least one or more electronic information resources to find information for use for their teaching and/or research. Only 13.3% lecturers indicated non-usage of electronic information sources, of the lecturers who participated in this study, 66.67% indicated that they had attended the EIRST workshops provided by the University library while 33.33% did not attend. Aina (2009) also revealed that the highest usage point of any database among academic staff of Babcock

University was less than 17%. Despite the fact that electronic resources have a lot of benefits, there are some hindrances and challenges to its effective use.

Velmurugan (2013) found in his study that one common problem faced by the users of electronic resources is that a greater number of respondents complained of slow internet access. The slow speed results in to wastage of time required to retrieve relevant information. Others may include lack of constant electricity supply and access to electronic resources. According to Aina (2014)  study on awareness, accessibility and use of electronic databases among academic staff of Babcock university business school figure 5, it can be obviously seen that only Academic Journal, Ebscohost, and JSTOR, were fully utilized with 38 (44.7%), 40 (47.1%) and 36 (42.4%) respectively. Finding also depicts that the following electronic databases were not Utilized: SAGE 23 (27.1%), World Bank Open Knowledge Repository 31 (36.8%), International Research Journal and National Virtual Library with 25 (29.4%) each. This is an indication that the rate at which respondents were aware of electronic resources was not the same way these resources were used. When respondents were asked to indicate reasons for using the internet, majority of them agreed that they used the internet to access electronic resources for teaching, research and checking mails. Few of the respondent mentioned general browsing and discussion group. Challenges of effective use of electronic resources were highlighted by respondents as follows: Unavailability of the internet facilities in their offices and at home, lack of constant internet network and inconsistence of electricity supply.

Postgraduate students' use EIRs generally, in particular CD-ROM, has been positive, with students enjoying using these sources and finding relatively few problems while using them (Ray & Day, 1998). This is clearly confirmed by Milne (1999) in the case of a survey undertaken at Oakland University into students' satisfaction with CD-ROMs.  Ali (2005) also found that 83% of students surveyed felt that using this source saved them time, and found it relatively easy to use. Two thirds of those surveyed stated that if the CD-ROM was busy, they would wait for it to become free rather than use the print tool. According to Madhusudhan's (2008) study on the use of electronic resources by teachers, students and research scholars of universities and research organizations seventy-eight per-cent (78%) of the respondents feel that the use of the UGC – Infonet e-journals has created high dependency value on their research work and they needed current article alert services and electronic document supply services. Ojo and Akande (2005) in a survey of 350 respondents examined student's access, usage and awareness of electronic information resources at the University College Hospital (UCH) Ibadan, Nigeria. The study revealed that the level of usage of the electronic information resources is not high. A major problem however identified is lack of information retrieval skills for exploiting electronic resources, thus making the level of usage of resources by medical students very low. Roger's (2001) study on electronic journal usage at Ohio State University found that the study was different from others on e-journal usage in that document change in usage pattern.

Kaur and Verma (2009) opined that a large number of users have started using electronic journals at Thapar University. Maharana, Sethi and Behera (2010) survey on the use of internet and e-resources among students of business management, Sambalpur university and found that e-resources and services in varied forms are rarely used by majority of management students as well as they are also of the opinion that these resources are highly important for self learning. Nikam and Pramodini (2007) study on use of e-journals and database among academic community of university of Mysore and found that librarians have important role to play in assisting the library users to make the best use of electronic information resources to maximum extent. Sethi and Panda's (2012) survey on use of e-resources by life scientists: a case study of Sambalpur University and they found that they unearthed the fact that 92.18 % of the respondents preferred to use e resources compared to print documents. The users to access e-resources are considered as one of the major constraints in effective use of e-resources. Shukla and Mishra (2011) has found that the postgraduate students  use of e-resources effectively, 76% of the respondents study use of e- resources daily, while 88% of the respondent use e- resources for their research work by research scholars at Institute of Technology, Banaras Hindu University. Suseela (2011) concluded in his survey on

application of usage statistic for assessing the use of e-journal in university of Hyderabad that the usage reports and the significance of usage and usefulness of the e-journals in the library cannot be overemphasized.

Shuling (2007) analyzed the use of electronic resources in Shaanxi University of Science and Technology. The sample consists of 909 respondents of all types of library users. The study found that nearly 80 percent of respondents knew little about electronic resources. Nearly half the respondents use both printed and electronic resources, followed by print periodicals. Another study by Tenopir (2003) studied the 200 recent research publications that focus on the use of electronic library resources and were published between 1995 and 2003 in the report for the council on library and information resources. The study used a variety of research methods, including observations, surveys, interviews, experiments and transaction log analysis. The findings show that both faculty and students use and like electronic resources and most readily adopt them if the sources are perceived as convenient, relevant, and time saving to their natural work flow. Heterick (2002) reports that more than 60% of faculty studied are comfortable using electronic resources. De Groote and Dorsch (2001) examined research online journals impact on print journal usage. The research tried to determine the impact of online journals on the use of print journals and interlibrary loan (ILL). Results of the statistical analysis showed print journal usage decreased significantly since the introduction of online journals (F (1,147) = 12.10, P < 0.001). This decrease occurred regardless of whether a journal was available only in print or both online and in print. Interlibrary loan requests have also significantly decreased since the introduction of online journals (F(2,30) = 4.46, P < 0.02).

Buttenfield (1999) established a correlation between in-house use, circulation, and citation by faculty, which suggests that the gathering of many types of data is impractical and that one method may be used with the confidence that it correlates with other types of uses. Electronic information resources are increasingly in use for cores at all levels of higher education (Macdonald, Heap & Mason, 2001). Obaje and Camble (2008) report that on-line electronic journals are mostly used for literature searches, during project/dissertation and thesis writing as well as personal research by staff. Academics at Obafemi Awolowo University, Ile-Ife, use on-line electronic journals mostly for literature search in research and professional growth (Omotatyo, 2010). Kumar and Kumar (2008) however, highlighted six reasons for using on-line electronic journals. Users in the study use on-line electronic journals in support of their study (70%) and teaching (59%). One third of respondents used the sources for project work. (88%) medical science users accessed OEJ sources for study, followed by engineering (67%) and management studies (55%).

In Catalan Universities, electronic journals were consulted for both research and teaching by 53.6% of the respondents to a survey. They were consulted only for research by 37.4% and only for teaching by 2.7%. Respondents in Exact and Natural Sciences and Engineering mainly use journals for research, whereas those in Biomedicine use them for both teaching and research. When the results are disaggregated by age, respondents under the age 30 mainly use them for research, respondents in the 41-50 age group use them for both teaching and research, and respondents over 51 use them for teaching and research or only for teaching. Disaggregated by academic position, only the associate professors showed a high proportion of use for teaching (35.9%) (Borrego, Anglada, Barrios & Comellas, 2007). According to Bansode and Pujar (2008) survey on use of internet by research scholars at Shivaji University, Kolhapur found that the research scholars of Shivaji University, Kolhapur use the Internet for their research and communication purposes and more awareness about Internet resources and training in the use of the some needs to be provided by library professionals.

Rajeswari (2005) study on use of information sources in digital environment - A case study, reveals that majority of the user including faculty members, research scholars and students are using OPAC system in the library and also using INFLIBNET services for accessing thousands of e-journals. Das, Anushandhan and Maharana (2013) study on access, awareness and use of electronic information resources by research scholars of Berhampur University were two options adequately and not adequately

were given, 8(35%) research scholar adequately using the electronic information resources and 15(65%) are not adequately using the electronic information resources.

## ICTs Skills of Postgraduate Students of Library Information Science in Universities

The use of information and communication technology (ICT) as a tool for enhancing students' learning, teachers' instruction, and as catalyst for improving access to quality education in formal and non-formal settings has become a necessity. Simply having ICT in schools will not guarantee their effective use. Regardless of the quantity and quality of technology available to students, the key to how those tools are used is the student's skill; therefore students must have the competence and the right attitude towards technology (Kadel, 2005; Yusuf & Balogun, 2011). Observation has show that there is a low level of skillfulness in the use of ICT among respondents (Obuh, 2009; 2010). He further suggested that the skills required to maximize the potential of electronic resources are much greater than those required for searching printed sources. These skills include a knowledge of the structure of the database and the instructions which must be input into the computer by the searcher, as well as an understanding of the ways in which the instructions are linked with one another.

Krubu and Osawaru (2011) conducted a study on the impact of ICTs in Nigerian university libraries. The survey design was employed, data were collected through questionnaire, and simple percentages were used for the analysis of data. The authors found that out of the 48 respondents studied, Majority of the respondents who have good computer skills are 21 (43.7%), followed by those that have fair computer skills, they are 19 (39.6%) respondents; few of the respondent representing 5 (10.4%) had no skill at all. Only 3 respondents representing 6.3% had excellent computer skills. The result of the study revealed that majority of the respondents, i.e. 18 (37.5%) acquire ICT training skills via formal training; followed by 17 (35.4%) respondents which also acquired the skills via trial and error, while few i.e. 10 (20.8%) respondents acquired ICT skills via self - study and the least was 3 (6.3%) respondents that acquired the skills via staff-in-house training.

Al-Ansari (2006) as cited by Nweze (2010) focused on the Internet use by the faculty including purpose of use, impact on teaching and research, Internet resources that they use and the problem faced while using the Internet. It was discovered that majority of them have been using the computer and Internet for more than five years. The Internet has helped them save time, find up-to-date information and compare with their colleagues. Almost all of them want to improve their Internet use skill through formal training. Bassi and Camble (2011) stated that different studies have identified how students acquire their search skills for the use of e-resources. Klatt (2001) opined that a majority of students obtained their knowledge by trial and error or with the help of fellow students. Similarly, Adomi, Omodeko, and Otlo (2004) revealed that electricity failure has been a persistent problem militating against ICT application and usage in Nigeria this also prevents universities with ICT facilities for postgraduate students to use them regularly; unstable electricity makes information, communication and technology impossible. In this same vein most students acquired Internet knowledge and skills through practical self-teaching. (Adomi, et.al, 2003; Adomi, 2005).

The study of Bassi and Camble (2011) on gender differences in use of electronic resources in university libraries of Adamawa State, Nigeria table 6 shows the most common ways through which students acquire their search skills. A total of 321 (64.7%) and 138(60.5%) males and females students agreed that they acquire the skills through friends and colleagues respectively, 253(51.0%) and 120 (52.7%) males and female students obtained their search skills through library instructions and 250 (50.4%) males students agreed that they obtained their search skill through courses they offer in the university. On the other hand 109 (47.8%) females responded that they acquire the search skills through trial and error. Other results show that the margin between how males and females acquire their search skills is negligible, because basically both male and female students obtained their search skills and knowledge in the same ways. The ability to use e-resources efficiently depends on basic computer skills,

knowledge of what is available and how to use it, and ability to define a research problem. The findings of Okiki (2012) revealed that 30 respondents, representing 27% of total postgraduate students had 'excellent' computer skill. Further, the computer skill of 45 respondents (40%) was 'good', followed by 17 respondents (19%) with 'satisfactory' level computer skill, and 16 respondents with (14%) were 'fair' in their computer skill. The results show that University of Lagos Academic Staff members to certain degree were computer literate as a result of compulsory computer training program organized by the University Centre for Information Technology and Systems (CITS).

Bashorun, Isah and Adisa (2011) asserted that computer skills and the attitudes of users towards computing are important factors towards use and non-use of e-resources cited in LIS literature. This explains that computer skills and computer literacy insignificantly influence the low use of e-resources in the UNILORIN. One can concretely stress that the high frequency of using Web and Microsoft software has increased the exposure of UNILORIN community on the internet. Ratcliff, Swartz and Ivanitskaya (2013) in their study, 87% of the respondents reported insufficient knowledge and skills to use the PubMed online database, and almost half of the respondents indicated limited knowledge of electronic databases concepts. This was true despite other results of the same survey that showed that professionals who graduated within the past 10 years were more likely to respond to online correspondence than those who graduated >10 years ago. The result from the study of Egberongbe (2011) indicated that 67 (69.8%) and 10 (14.3%) postgraduate students and scholars respectively had taken training regarding access to electronic resources, while 33(38.4%) postgraduate students and 60(86%) scholars did not get training in the use of electronic resources.  The study showed that majority of scholars did not receive training in the use of e-resources. The study revealed that the level of IT skills among lecturers, scholars and also library staff were variable and low. Most users used informal methods for training themselves.  It was also observed that these groups of users were not getting proper encouragement from the University management to participate in training programmes.

Abdullahi and Haruna (2008) found that lack of basic knowledge of ICT is the second major constraint after the problem of erratic power supply to the use of ICT in the university libraries in Adamawa State, Nigeria. The result from the study of Igun (2005) shows that, 71% of the respondents rated their internet skills between average and very high.  78.8% acquired their Internet skills either online or through teaching by colleagues or friends.  World Wide Web (WWW) skills were the most sought after additional skill (73%).  Continuing education and self-study were the most preferred ways to acquire new skills. The majority of respondents reported that they talk less on phones because of their Internet use and that it had improved their teaching and research. This paper concludes that given the current constraints on opportunities for Internet skills acquisition and Internet connectivity in Nigeria and at the Delta State University, the University should pursue vigorously and urgently to completion its current drive (through an ICT department) to install and run a functional and comprehensive Internet and University-wide information system. Thus, the University will ultimately create the enabling environment for Internet and ICT skill acquisition and link the University fruitfully to the seamless World Wide Web.

## Methodology

The study is a descriptive research that adopts the survey method. A sample size is 375 which is the total postgraduate master students' of library and information science in eight (8) universities, that is, five (5) federal and three (3) state universities offering library and information science at the postgraduate level in Southern Nigeria. The questionnaire tagged: awareness and usage of electronic information resources among postgraduate students of library and information science questionnaire (AUEIRPSLISQ) was the only instrument used for data collection while simple percent statistical tool was used to answer the research questions and Pearson Product Moment Correlation Coefficient (PPMCC) to test the research hypothesis. A total of 375 copies of the questionnaire were distributed and 329(87%) copies were

returned. The response rate of (87%) is considered adequate for the study because the standard and acceptable response rate for most studies is 60%.

## Data analysis and Discussion of Findings

Data were analyzed and results were presented in line with the study research questions and hypotheses.

## Analysis of the Respondents' Demographic characteristics

### Table 1: Gender Distribution of the Respondents

| Gender | Frequency | Percentage (%) |
|--------|-----------|----------------|
| Male | 193 | 58.7 |
| Female | 136 | 41.3 |
| Total | 329 | 100.0 |

Table 1 above shows that there are more male postgraduate library and information science students than their female counterparts.

### Table 2: Age Distribution of the Respondents

| Age | Frequency | Percentage |
|-----|-----------|------------|
| Below 23 years | 22 | 6.7 |
| 26-29 years | 91 | 27.7 |
| 30-34 years | 138 | 41.9 |
| 35-39 years | 70 | 21.3 |
| 40 years and above | 8 | 2.4 |
| Total | 329 | 100.0 |

Table 2 above shows that there are more postgraduate library and information science students 138(41.9%) within the ages of 30-34 years. This is followed by those within the ages of 26-29 years, 91(27.7%) and 35-39 years, 70(21.3%).

### Table 3: University/Library school of the Respondents

| University/Library school of the Respondents | Frequency | Percentage (%) |
|----------------------------------------------|-----------|----------------|
| University of Uyo, Uyo | 18 | 5.5 |
| Nnamdi Azikiwe University, Awka | 37 | 11.2 |
| University of Calabar, Calabar | 22 | 6.7 |
| University of Nigeria, Nsukka | 50 | 15.2 |
| University of Ibadan, Ibadan | 117 | 35.6 |
| Delta State University, Abraka | 36 | 10.9 |
| Abia State university, Uturu | 26 | 7.9 |
| Imo State University, Owerri | 23 | 7.0 |
| Total | 329 | 100.0 |

Table 3 shows that there are more postgraduate library and information science students in the University of Ibadan 117(35.6%). This is followed by University of Nigeria, Nsukka 50(15.2%) and Nnamdi Azikiwe University, Awka 37(11.2%).

### Table 4: Age Distribution of the Respondents

| Age | Frequency | Percentage |
|-----|-----------|------------|
| Below 23 years | 22 | 6.7 |
| 26-29 years | 91 | 27.7 |
| 30-34 years | 138 | 41.9 |
| 35-39 years | 70 | 21.3 |
| 40 years and above | 8 | 2.4 |
| Total | 329 | 100.0 |

Table 4 shows that there are more postgraduate library and information science students 138(41.9%) within the ages of 30-34 years. This is followed by those within the ages of 26-29 years, 91(27.7%) and 35-39 years, 70(21.3%).

**Answering of Research Questions and Discussion of Findings**

**Research Question One:** What is the level of awareness of postgraduate library and information science students towards electronic information resources in Southern Nigeria?

Data in Table 5 provide answers to this question

**Table 5: Postgraduate LIS students' awareness of electronic information resources**

| S/N | EIRs Awareness | Mean | Standard Deviation |
|---|---|---|---|
| 1 | E-journals | 4.71 | 0.63 |
| 2 | E-books | 4.62 | 0.66 |
| 3 | E-databases | 4.55 | 0.63 |
| 4 | E-magazines | 4.52 | 0.68 |
| 5 | E-serials | 4.50 | 0.71 |
| 6 | E-dissertations and theses | 4.43 | 0.69 |
| 7 | WWW | 4.65 | 0.58 |
| 8 | E-mails | 4.60 | 0.75 |
| 9 | CD-ROMs | 4.53 | 0.75 |
| 10 | Online Public Access Catalogues | 4.48 | 0.76 |
| 11 | Reference Databases | 4.37 | 0.80 |
| 12 | E-Images | 4.38 | 0.77 |
| 13 | E- audio visual  resources | 4.32 | 0.80 |
| | **Aggregate Mean** | **4.51** | **0.71** |

Criterion Mean                                                                                    **3.00**

From Table 5 with an average calculated mean of 4.51and standard deviation of 0.71, it shows that the postgraduate library and information science students are highly aware of electronic information resources such as e-journals (4.71, 0.63), e-books (4.62, 0.66), e-mails (4.60, 0.75) and e-databases (4.55, 0.66). This is because both the aggregate/item calculated statistical mean are greater than the criterion mean of 3.00. This implies that postgraduate library and information science students in Southern Nigeria are highly aware of electronic information resources. This finding corroborate with the finding of Egberongbe (2011) whose study showed that 80 (71.4%) postgraduate students and 55(78.6%) research scholars were aware of e-resources. Ahmad and Panda (2013) survey on awareness and use of electronic information resources by the faculty members of Indian Institutes in Dubai international academic city to find out whether the faculty members of universities were aware of and fully utilize the library databases and other e-resources within and outside the libraries. Results revealed that majority of the faculty members were aware of and used e-resources.

Aina (2014) opines that majority of respondents studied were aware of academic journal 59 (69.4%), followed by JSTOR 48 (56.5%) as well as dissertation and theses and ebscohost with 46 (54.1) and 43(50.6) respectively. Bashorun, Isah and Adisa (2011) highlight the use of electronic information services (EIS) among the users of Indian Institute of Technology (IIT) library in Delhi, India and revealed that 95 percent of users have awareness of EIS provided by the library. Furthermore, this finding disagree with the finding of Dilek-Kayaoglu (2008) who stressed that one of the barriers to the use of e-resources as reported by 42.7% of the respondents in the study is lack of awareness of e-resources services in their library. Similarly, Igbeka and Okpala (2004) revealed that since 1995, introduction of CD-ROM literature search into the University of Ibadan library system, the number of users of CD-ROM facility was still very small as against the number of registered library users due to lack of current awareness or dissatisfaction of users. In the same vein Ogunyade and Oyibo (2003) in their study examined the use of Medline database of life sciences and biomedical bibliographic information by medical students at the University of Lagos and concluded that the use of the database was poor due to lack of awareness.

**Research Question Two:** What is the level of electronic information resources usage by postgraduate students of library and information science?

Data in Table 6 provide answer to this question.

**Table 6: Usage of EIRs by Postgraduate LIS students'**

| S/N | Usage | Mean | Standard Deviation |
|---|---|---|---|
| 1 | E-journals | 4.76 | 0.52 |
| 2 | E-books | 4.53 | 0.82 |
| 3 | E-databases | 4.73 | 0.57 |
| 4 | E-magazines | 4.70 | 0.56 |
| 5 | E-serials | 4.63 | 0.55 |
| 6 | E-dissertations and theses | 4.56 | 0.59 |
| 7 | WWW | 4.51 | 0.78 |
| 8 | E-mails | 4.57 | 0.65 |
| 9 | CD-ROMs | 4.61 | 0.69 |
| 10 | Online Public Access Catalogues | 4.40 | 0.84 |
| 11 | Internet resources | 4.55 | 0.71 |
| 12 | E-Images | **4.38** | **0.77** |
| 13 | E- audio visual  resources | **4.32** | **0.80** |
|  | **Aggregate Mean** | **4.60** | **0.66** |

Criterion Mean                                                    **3.00**

From the Table 4.6 with an average calculated mean of 4.60 and standard deviation of 0.66, it shows that postgraduate library and information science students use electronic information resources. This is because both the aggregate/item calculated statistical mean are greater than the criterion mean of 3.00. They use e-journal (mean = 4.76), e-database (mean =4.73) and e-magazines (mean = 4.70) and other electronic resources to a very large extent. This implies that postgraduate library and information students in southern Nigeria universities make use of electronic information resources to a very large extent in their academic work. The finding of this study conforms to that of Sethi and Panda (2012) on the use of e-resources by life scientists in Sambalpur University and they found that the unearthed the fact that 92.18 % of the respondents preferred to use e resources compared to print documents. Shukla and Mishra (2011) has found that the postgraduate students  use of e-resources effectively, 76% of the respondent study use of e- resources daily, while 88% of the respondent use e- resources for their research work by research scholars at Institute of Technology, Banaras Hindu University.

Suseela (2011) concluded in his survey on application of usage statistic for assessing the use of e-journal in university of Hyderabad that the usage reports and the significance of usage and usefulness of the e-journals in the library cannot be overemphasized. Shuling (2007) analyzed the use of electronic resources in Shaanxi University of Science and Technology. The sample consists of 909 information resources are increasingly in use for cores at all levels of higher education. Heterick (2002) reports that more than 60% of faculty studied are comfortable using electronic resources. Rajeswari (2005) on use of information sources in digital environment-A case study reveals that majority of the user including faculty members, research scholars and students are using OPAC system in the library and also using INFLIBNET services for accessing thousands of e-journals. While the finding disagrees with that of Aina (2009) revealed that the highest usage point of any databases among academic staff of Babcock University was less than 17%. Despite the fact that electronic resources have a lot of benefits, there are

some hindrances and challenges to its effective use. Also, Maharana, Sethi and Behera (2010) initiated the use of internet and e-resources by the students of business management, sambalpur university and found that e-resources and services in varied forms are rarely used by majority of management students as well as they are also of the opinion that these resources are highly important for self learning.

**Research Question Three:** To what extent are postgraduate LIS students skilled in the use of electronic information resources in Southern Nigeria?
Data in Table 7 provide answer to this question.

**Table 7: Skillfulness of postgraduate students of LIS in the use of electronic information resources**

| S/N | ICTs Skill in the use of EIRs | Mean | Standard Deviation |
|-----|-------------------------------|------|--------------------|
| 1 | General computer operations | 4.67 | 0.55 |
| 2 | Internet applications | 4.59 | 0.59 |
| 3 | Database management systems | 4.39 | 0.73 |
| 4 | Electronic library tools e.g. CDROM, OPAC, Subject Gateways etc. | 4.40 | 0.80 |
| 5 | Formulating search queries | 4.39 | 0.86 |
| 6 | Interactive platforms e.g. video conferencing, BBS, LISTSERV, Chat room etc. | 4.41 | 0.81 |
| 7 | Computer system/application software e.g. MS Windows XP, Linux, MS Office, etc. | 4.42 | 0.75 |
| | **Aggregate Mean** | **4.47** | **0.73** |

Criterion Mean                                             **3.00**

From Table 7 with an average calculated mean of 4.47and standard deviation of 0.73, it shows that the postgraduate library and information science students are highly skilled in the use of electronic information resources. This is because both the aggregate/item calculated statistical mean are greater than the criterion mean of 3.00. They are highly skilled in general computer operations (mean =4.67), internet applications (mean = 4.59) and computer system/application software e.g. MS Windows XP, Linux, MS office, etc. (mean = 4.42). This implies that postgraduate Library and Information science students in Southern Nigeria are highly skilled in the use of electronic information resources.

The finding of this study conform with that of Igun (2005) who revealed that 71% of the respondents rated their internet skills between average and very high, 78.8% acquire their internet skills either online or through teaching by colleagues or friend, World Wide Web (WWW) skills were the most sought after additional skill 37%, continuing education and self-study were the most preferred ways to acquire new skills. Also, Okiki (2012) revealed that University of Lagos academic staff excellent ICTs skills. Obuh (2009; 2010) disagree with this finding and observed that there is a low level of skillfulness in the use of ICTs among students. He further posited that student do not often appreciate the skills required to search electronic sources stating that they are deceptively easy to use.

**Testing of the Research Hypotheses**
The hypotheses were tested on awareness and usage of electronic information resources among postgraduate students of library and information science in southern Nigeria

**Hypothesis One:** There is no significant relationship between postgraduate students of library and information science level of awareness of electronic information resources and their usage of the resources

To ascertain whether there is any significant relationship between postgraduate library and information science students' level of awareness of electronic information resources and their usage of the resources, the scores of level of awareness of electronic information resources by postgraduate students of

library and information science were cross tabulated with the usage of electronic information resources by postgraduate students of library and information science and the result is shown in Table 8

**Table 8: Summary table of significant relationship between Level of awareness of EIRs and usage of the resources**

|  |  | Level of Awareness of EIRs | Usage of EIRs |
|---|---|---|---|
| Level of Awareness of EIRs | Pearson Correlation | 1 | .360** |
|  | Sig. (2-tailed) |  | .000 |
|  | N | 329 | 329 |
| Usage of EIRs | Pearson Correlation | .360** | 1 |
|  | Sig. (2-tailed) | .000 |  |
|  | N | 329 | 329 |

**. Correlation is significant at the 0.01 level (2-tailed).

From Table 8, Pearson Product Moment Correlation Coefficient r (= 0.360). Since the significant value (Sig. 2-tailed) is 0.00 (which is less than 0.05), it can be concluded that there is a significant relationship between postgraduate students of library and information science level of awareness of electronic information resources and their usage of the resources. Hence the null hypothesis is therefore rejected. The co-efficient of determination ($r^2$) is 0.13. This means that 13% of change in the dependent variable (usage of electronic information resources) was accounted for by the independent variable (awareness of electronic information resources). Therefore, 87% of change in usage of electronic information resources was accounted for by other variables other than awareness of electronic information resources.

**Hypothesis Two:** There is no significant relationship between postgraduate students of library and information science ICT skills and their usage of electronic information resources.

To ascertain whether there is any significant relationship between postgraduate students of library and information science ICT skills and their usage of electronic information resources, the scores of ICT skills were cross tabulated with the usage of electronic information resources by postgraduate students of library and information science and the result is shown in Table 9.

**Table 9: Summary table of significant relationship between ICT skills of postgraduate students of LIS and usage of EIRs**

|  |  | ICT skills | Usage of EIRs |
|---|---|---|---|
| ICT skills | Pearson Correlation | 1 | .561** |
|  | Sig. (2-tailed) |  | .000 |
|  | N | 329 | 329 |
| Usage of EIRs | Pearson Correlation | .561** | 1 |
|  | Sig. (2-tailed) | .000 |  |
|  | N | 329 | 329 |

**. Correlation is significant at the 0.01 level (2-tailed).

From Table 9, Pearson Product Moment Correlation Coefficient r (= 0.561). Since the significant value (Sig. 2-tailed) is 0.00 (which is less than 0.05), it can be concluded that there is a significant relationship between postgraduate students of library and information science ICT skills and their usage of electronic information resources. Hence the null hypothesis is therefore rejected. The co-efficient of determination ($r^2$) is 0.31. This means that 31% of change in the dependent variable (usage of electronic information resources) was accounted for by the independent variable (ICT skills). Therefore, 69% of change in usage of electronic information resources was accounted for by other variables other than ICT skills of the postgraduate students of library and information Science.

## Summary

The aim of this study is to critically examine the awareness and usage of electronic information resources among postgraduate students of library and information science in Southern Nigeria. The sample size for this study was drawn from eight (8) universities in Southern Nigeria. They are University of Ibadan, Ibadan, University of Nigeria, Nsukka, Nnamdi Azikiwe University, Awka, Delta State University, Abraka, Abia State University, Uturu, Imo State University, Owerri, University of Uyo, Uyo and University of Calabar, Calabar. The researcher employed the total enumeration sampling technique and questionnaire method of data collection to collect data from the respondents. The questionnaire was personally administered by the researcher to 375 postgraduate (master) library and information science students.

Four research questions and two null hypotheses were formulated for the study. Based on the analysis, the following findings were revealed:

1. There is significant relationship between postgraduate students of library and information science level of awareness of electronic information resources and their usage of the resources.

2. Postgraduate students of library and information science are highly aware of electronic information resources.

3. Postgraduate students of library and information science use electronic information resources to a very large extent.

4. Postgraduate students of library and information science are highly skilled in the use of electronic information resources.

5. Postgraduate students of library and information science encountered numerous challenges when accessing or using electronic information resources.

## Conclusion

The study concludes that electronic information resources are essential tools for empowering postgraduate students of library and information science in Southern Nigeria.

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