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May 2019

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Abba, Tukur Dr. and Lamido Gora, Abbas Adamu Mr., "University Lecturers' Level of Awareness and Proficiency of Internet Services and Resources for Academic Activities in Adamawa State, Nigeria" (2019). *Library Philosophy and Practice (e-journal)*. 2615.
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University Lecturers' Level of Awareness and Proficiency of Internet Services and Resources for Academic Activities in Adamawa State, Nigeria

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Abstract

Internet services and resources are useful tools that facilitate effective and efficient conduct of academic activities such as teaching, learning, research, publishing, collaboration and communication. This paper determined the level of university lecturers' awareness and proficiency of Internet services and resources for academic activities in Adamawa State, Nigeria. The study was guided by two objectives and two research questions. Survey research method was adopted. Stratified random sampling technique was used in selecting sample, while, Krejcie and Morgan (2006) was used to obtain sample size of 265 lecturers from Adamawa State University Mubi, American University of Nigeria Yola and Modibbo Adama University of Technology Yola. Self-designed questionnaire was used as the research instrument and data collected were analysed using descriptive statistics of frequency counts and percentages to answer the research questions using Statistical Package for Social Sciences (SPSS) tool, version 20.0. Findings of the study revealed that the level of university lecturers' awareness of Internet services and resources for university lecturers' academic activities in Adamawa State was moderate. The study has also established that the level of university lecturers' proficiency of Internet services and resources for academic activities was moderate. The study recommended provision of Internet services and resources in the university libraries, sensitizing the lecturers on the importance of using the available Internet services and resources for their academic activities and providing instruction on information literacy programmes by the university libraries.

Keywords: Awareness, Proficiency, Internet, Services, Resources, Academic Activities, Lecturers, Universities, Adamawa State, Nigeria

Introduction

The library is regarded as the heart of any academic organisation. The main objective of every university library is to provide support in the areas of teaching, learning and research. University libraries all over world have their own importance in the scheme of higher learning. They are not only repositories of knowledge but also dispensers of such knowledge. There is no doubt that where university libraries are ignored or not given due recognition, the entire nation suffers because the standard of study, teaching and research very heavily depend upon the qualitative and quantitative services offered by the university libraries (Kona, Sasikala & Rudraksha, 2017).

Abba and Adamu (2017) revealed that cyber café is mostly used by academics to access internet services and resources while, the purposes for accessing Internet services and resources were teaching, research, communication, collaboration and publication.

Academic activities in universities comprise of teaching, research, publication, communication and collaboration amongst the faculty. These activities are very fundamental to the survival of universities in the contemporary world. This is because, the quality of the universities and the degree of efficiency of programmes are measured by the effectiveness and efficiency of academic activities carried out by the lecturers. Lecturers carry out researches in order to solve problems in their areas of specialisation. It is also the means through which ideas are generated towards solving practical problems in various aspects of the society, ranging from educational, economical, medical, technological, financial, social, cultural, and political, among others.

The ICT has revolutionised the world into a global village. According to Madu (2008), the Internet is regarded as the largest global connections of computer network, making it the network of networks. Talk services, private enhanced mail, net-news, e-mail, mailing list, list serves, news group, World Wide Web (WWW) and telnet connections are referred to as Internet services and resources (Bhatti, et al., 2011). Kaur and Manhas (2008) enumerated e-mail, World Wide Web (WWW), search engines, Internet, File Transfer Protocol (FTP), Archie, list service/discussion groups, bulletin board service, Frequently Asked Questions (FAQ) and chatting as Internet services. While, conference proceedings, database, e-books, standards and patents, reference works, e-journals, technical reports, and theses and dissertations are among resources available on the Internet (Kaur & Manhas, 2008). Fasae and Aladeniyi (2012) outlined achieve, bulleting, chatting, e-mail, FAQ, File Transfer Protocol (FTP), list services, search engine and the World Wide Web (WWW) as Internet services. Ogunjobi and Fagbami (2012)

confirmed that Internet services and resources are capable of providing Nigerian researchers and scholars the enabling environment to overcome the barriers of communication and collaboration and also providing scholars, researchers, individuals and their organisations the advantages of presenting their research finding and ideas across the globe.

Awareness entails the ability of lecturers to know about the Internet services and resources and how they can be used in carrying out their academic activities. Proficiency refers to ability or skills possessed by lecturers in operating or using Internet services and resources for their academic activities. For lecturers to derive maximum benefits from the Internet services and resources they need to be aware and proficient and the impact such services and resources can make to their academic activities. Ankrah and Atuase (2018) states that lack of awareness of information resources, prevents users from realising its potentials of meeting their information needs. Internet services and resources require special skills for their usage by lecturers especially in the 21st century.

Statement of the Problem

Internet services and resources are indispensable tools that can facilitate access to variety of information to lecturers when carrying out their academic activities such as teaching, research, communication, collaborative efforts and publication. Lecturers that are aware and proficient of Internet services and resources such as e-mail, mailing list, list serves, news group, World Wide Web (WWW), telnet, search engines, Internet, File Transfer Protocol (FTP), Archie, list service/discussion groups, bulletin board service, Frequently Asked Questions (FAQ) and chatting would no doubt perform their academic activities efficiently and effectively with ease. However, preliminary investigation carried out by the researchers indicated that, most of the

lecturers in the universities under study do not take the opportunities availed by the Internet services and resources in the conduct of their academic activities. They merely use these tools for sending and receiving email messages. This preliminary investigation agreed with the findings of Dangani and Mohammed (2009) which indicated that many academics in the Nigerian universities cannot use Internet and other ICT facilities very well. Consequently, this has become a barrier in their efforts to carryout breakthrough researches, conduct effective teaching activities, publish quality/good articles in reputable journals, communicate and collaborate with professional colleagues locally and internationally. Does that mean they are not aware of the numerous Internet services and resources? Are they proficient in using them? It is on this basis that this study was conducted to determine the level of university lecturers' awareness and proficiency of Internet services and resources for academic activities in Adamawa State, Nigeria.

Objectives of the Study

The objectives of the study were to determine the:

1. Level of university lecturers awareness of Internet services and resources for academic activities in Adamawa State;
2. Level of university lecturers' proficiency of Internet services and resources for academic activities in Adamawa State.

Research Questions

The following research questions were answered in the of the study

1. What is the level of university lecturers' awareness of Internet services and resources for academic activities in Adamawa State?
2. What is the level of university lecturers' proficiency of Internet services and resources for academic activities in Adamawa State?

Significance of the Study

This study was aimed at determining the level of university lecturers' awareness and proficiency of Internet services and resources for academic activities in Adamawa State. The findings of this study will be significant to management of university, lecturers, students and researchers. The findings of this study will enable management of universities studied as well as other similar institutions to understand the problems associated with awareness and proficiency of Internet services among their lecturers so that efforts would be made towards tackling the immediate challenges in order to enhance academic activities. If the recommendations highlighted are effectively implemented, lecturers and students would benefit from the Internet services and resources for efficient teaching, research, publishing, collaboration and communication. Researchers in the field of Library and Information (LIS) as well as other related fields will find this study useful in the conduct of their research activities, as it will contribute to knowledge in the field.

Review of Related Literature

Recent empirical studies have reported variations about awareness and proficiency of Internet services and resources on academic activities of lecturers in both developed and developing nations. On awareness of Internet services and resources, Aqil and Ahmad (2011) observed that Internet is the transport vehicle for the information stored in files or document on other computers. The Internet carried together various services and information such as electronic mail, online chart, file transfer and the interlinked web pages and other documents of the World Wide Web (WWW). Egberongbe (2011) investigated the use and impact of electronic resources at the University of Lagos established that, 28.6% of the university lecturers were not aware of Internet resources. This implies a high percentage of the lecturers studied were not aware of the various Internet services and resources that could aid their academic activities. On the contrary, Salaam, Ajiboye and Bankole (2013) confirmed from their study on the use of Internet resources by academics in Federal University of Agriculture, Abeokuta, Nigeria, that 93.8% of respondents had a very high level of electronic resources awareness.

Similarly, Okiki (2012) surveyed the awareness, attitude and use of electronic information resources among academics in the University of Lagos, Nigeria. Questionnaire was used to achieve a size of 120 research respondents drawn from a total target of 1,200 subjects giving a response rate of 94.1%. The study revealed 55% awareness level of subscribed electronics resources. However, the response rate was termed to be low, as the researcher maintained that, virtually all scholarly and academic journals, electronic databases, online library catalogues, grey literature and other relevant scholarly materials in all fields of knowledge were not accessible on the Internet.

The issue of awareness on the utilisation of Internet services and resources is very fundamental. Opeke and Odunlade (2011) reported on relationship between awareness and the existence of information resources utilisation among lecturers in Nigerian polytechnics. The study established a weak positive correlation ($r=0.37$, $p=0.012<0.05$) between awareness and utilisation of resources. This implies that low or lack of awareness constitutes a problem to the utilisation of information resources among the polytechnic lecturers in Nigeria. Consequences of this phenomenon will lead to ineffective performance in the lecturers academic activities. Onwubiko (2012) found in the study of the impact of the Internet on research efforts of academics in Abia State University, Uturu, Nigeria, that lecturers had no access to cafes and computer laboratories within and outside the university campus for academic information needs. The implication of these findings is that lecturers will be relegated to the background if they could not have access to a variety of services and resources provided on the Internet.

On proficiency of Internet services and resources for lecturers academic activities, Nwokedi, Nwokedi, Chollom and Adah (2017) assessed the online usage patterns of Elsevier database amongst academics of environmental sciences, University of Jos found that, majority of the lecturers 90 (100%) know how to use the Internet services and resources. The findings revealed that 31 (34.4%) of the lecturers admitted awareness of the existence of the database on campus. However, 59 (65.6%) of the lecturers claimed ignorance of the existence of Elsevier database. Moreover, Ahmed (2013) studied use of electronic resources by the faculty members in diverse public universities in Bangladesh revealed that most lecturers are computer/Internet proficient because most of the resources for teaching and research have gradually migrated to the Internet. This then forced most lecturers to acquire the Internet

proficiency for them to remain relevant in this computer age. Trivedi and Joshi (2008) studied faculty at Pramukhswami Medical Collage and Shree Krishna Hospital of HM Patel Centre for medical care Education and Research, Karamsad, Gujarat, India. The study found that most of the respondents had some computer knowledge and were proficient in searching information from the Internet.

Ojeniyi and Adetimirin (2016) studied ICT literacy skills and electronic information resources use by lecturers in two private universities in Oyo State, Nigeria. The study revealed that respondents from Ajayi Crowther University, Oyo, Nigeria (ACU) had high ICT proficiency in general computer operation with 60 (76.9%) and Internet browsing with 59(75.7%), while, Lead City University (LCU) reported 124 (94.7%) high ICT proficiency in each of general computer operation, Internet browsing, Internet searching and computer appreciation.

Methodology

This study adopted survey research method to examine the level of university lecturers' awareness and proficiency of Internet services and resources in Adamawa State, Nigeria. The population of the study comprised eight hundred and forty seven (847) lecturers in the three universities, namely: Adamawa State University Mubi (150), American University of Nigeria Yola (94) and Modibbo Adama University of Technology Yola (603). Stratified random sampling technique was used to obtain proportionate sample size from faculties of all the universities investigated. Krejcie and Morgan (2006) was also used to determine the sample size of 265 lecturers in the universities. Self-designed questionnaire was used as the research instrument for this study where 4 modified Likert scale was used to measure the

respondents' level of awareness and proficiency of Internet services and resources. Data collected were analysed using descriptive statistics of frequency counts and percentages to answer the research questions using Statistical Package for Social Sciences (SPSS) tool, version 20.0.

Data Analysis and Results

Table 1: Response Rate

| Universities | Questionnaire Administered | | Questionnaire Returned | |
|---------------|----------------------------|--------------|------------------------|-------------|
| | F | % | F | % |
| MAUTech, Yola | 189 | 71.3 | 165 | 62.2 |
| ADSU, Mubi | 47 | 17.7 | 42 | 15.9 |
| AUN, Yola | 29 | 11.0 | 28 | 10.6 |
| Total | 265 | 100.0 | 235 | 88.7 |

A total of 265 questionnaire were administered and 235 (88.7%) were filled, returned and found usable for this study, with 42(15.9%) from Adamawa State University, Mubi, while, American University of Nigeria and Modibbo Adama University of Technology, Yola were 28 (10.6%) and 165 (62.2%) respectively. The response rate followed directly according to the population of the lecturers in the universities investigated.

The demographic variables of the lecturers considered were: gender, age range, marital status, rank, highest educational qualification, and faculty/school along with their expressed opinions on the levels of awareness and proficiency of Internet services and resources on teaching, research, communication, collaborative efforts and publication output.

Table 2: Demographic Information of Respondents

| Variables | Frequency | Percentage (%) |
|-----------------------|------------------|-----------------------|
| Gender | | |
| Male | 164 | 69.8 |
| Female | 71 | 30.2 |
| Age range | | |
| 30-40years | 32 | 13.6 |
| 41-49years | 103 | 43.8 |
| 50-59years | 83 | 35.3 |
| 60 years and above | 17 | 7.3 |
| Marital status | | |
| Single | 89 | 37.9 |
| Married | 146 | 62.1 |
| Rank | | |
| Professors | 16 | 6.8 |
| Associate Professors | 19 | 8.1 |
| Senior Lecturers | 44 | 18.7 |
| Lecturers I | 32 | 13.6 |
| Lecturers II | 73 | 31.1 |
| Asst. Lecturers | 51 | 21.7 |
| Total | 235 | 100.0 |

Out of 235 respondents, 164 (69.8%) were males while 71 (30.2%) were females. This implied that, male lecturers were more in terms of number than the female. Also, respondents who were between 31-40 were 32(13.6%), 41 and 49 years were 103 (43.8%), while, 83 (35.3%) of the lecturers were between 50 and 59 years. Only 17 (7.3%) of the respondents were above 60 years. The selection could therefore be said to include all ages of the lecturers in the three universities studied. Also, majority of the respondents had their age range between 41 and 49 years which means that young men and women formed the bulk of lecturers in the three universities. Out of the 235 lecturers, 89 (37.9%) were singles, while, 146 (62.1%) were married. This shows that majority of the lecturers were married. Also, majority 73(31.1%) of respondents were lecturers II, 51(21.7%) were Assistant Lecturers,

32(13.6%) were Lecturers I, 44(18.7%) were Senior Lecturers, while, 19(8.1%) were Associate professors and 16(6.8%) were Professors.

Table 3: Level of university lecturers' awareness of Internet services and resources for academic activities in Adamawa State

| Internet services and resources | | Level of awareness of Internet services and resources | | | | | | | | Remark |
|---------------------------------|-------------------------------------|---|------|----------|------|-----|------|----------|------|----------|
| | | High | | Moderate | | Low | | Very Low | | |
| S/ no | Internet Services and Resources | FQ | % | FQ | % | FQ | % | FQ | % | |
| 1 | E-mail services | 188 | 80.0 | 32 | 13.6 | 11 | 4.7 | 4 | 1.7 | High |
| 2 | File/document exchange | 22 | 9.4 | 180 | 76.6 | 21 | 8.9 | 12 | 5.1 | Moderate |
| 3 | File Transfer Protocol (FTP) | 9 | 3.9 | 12 | 5.1 | 29 | 12.3 | 185 | 78.7 | Very Low |
| 4 | Newsgroup | 16 | 6.8 | 27 | 11.5 | 11 | 4.7 | 181 | 77.0 | Very Low |
| 5 | Mailing lists | 6 | 2.6 | 14 | 6.0 | 192 | 81.7 | 23 | 9.7 | Low |
| 6 | World Wide Web (WWW) | 11 | 4.7 | 180 | 76.6 | 35 | 14.9 | 9 | 3.8 | Moderate |
| 7 | Discussion group | 11 | 4.7 | 19 | 8.1 | 163 | 69.4 | 42 | 17.8 | Low |
| 8 | Frequently Asked Questions (FAQ) | 21 | 8.9 | 9 | 3.8 | 46 | 19.6 | 159 | 67.7 | Very Low |
| 9 | Search engines | 63 | 26.8 | 138 | 58.7 | 14 | 6.0 | 20 | 8.5 | Moderate |
| 10 | List Services | 8 | 3.4 | 11 | 4.7 | 31 | 13.2 | 185 | 78.7 | Very Low |
| 11 | Chatting | 13 | 5.5 | 17 | 7.2 | 155 | 66.0 | 50 | 21.3 | Low |
| 12 | Bulletin Board | 28 | 11.9 | 15 | 6.4 | 21 | 8.9 | 171 | 72.8 | Very Low |
| 13 | E-books | 197 | 83.8 | 23 | 9.8 | 11 | 4.7 | 4 | 1.7 | High |
| 14 | Online Databases | 27 | 11.5 | 193 | 82.1 | 11 | 4.7 | 4 | 1.7 | Moderate |
| 15 | OPAC | 36 | 15.3 | 164 | 69.8 | 11 | 4.7 | 24 | 10.2 | Moderate |
| 16 | E-journals | 175 | 74.5 | 45 | 19.1 | 11 | 4.7 | 4 | 1.7 | High |
| 17 | Conference Proceedings | 12 | 5.2 | 165 | 70.2 | 30 | 12.7 | 28 | 11.9 | Moderate |
| 18 | E-theses | 16 | 6.8 | 166 | 70.6 | 39 | 16.6 | 14 | 6.0 | Moderate |

Table 3 shows the level of awareness of Internet services and resources for university lecturers' academic activities. Of the 235 lecturers, e-mail services with (80.0%), e-books (83.8%) and e-journals (74.5%) were rated high. The level of awareness of search engine (58.7%), File / Document Exchange (FDE) (76.6%), World Wide Web (WWW) (76.6%), online databases (82.1%), OPAC (69.8%), conference proceedings (70.2%) and e-theses (70.6%) were rated moderate. The level of proficiency of mailing list (81.7%), discussion group (69.4%) and chatting (66.0%) were rated low, while, the level of awareness of File Transfer Protocol (FTP) (78.7%), Frequently Asked Question (FAQ) (67.7%), list service (78.7%), bulletin board (72.8%) and news group (77.0%) were rated very low. The overall analysis revealed that the level of awareness of Internet services and resources for university lecturers' academic activities in Adamawa State was moderate.

Table 4: Level of university lecturers' proficiency of Internet services and resources for academic activities in Adamawa State

| Internet services and resources | | Level of proficiency of Internet services and resources | | | | | | | | Remark |
|---------------------------------|---|---|------|----------|------|-----|------|----------|------|----------|
| | | High | | Moderate | | Low | | Very Low | | |
| S/n | Internet Services and Resources available | FQ | % | FQ | % | FQ | % | FQ | % | |
| 1 | E-mail services | 176 | 74.9 | 43 | 18.3 | 9 | 3.8 | 7 | 3.0 | High |
| 2 | File/document exchange | 20 | 8.5 | 144 | 61.3 | 15 | 6.4 | 56 | 23.8 | Moderate |
| 3 | File Transfer Protocol (FTP) | 20 | 8.5 | 8 | 3.4 | 29 | 12.4 | 178 | 75.7 | Very Low |
| 4 | Newsgroup | 14 | 6.0 | 16 | 6.7 | 10 | 4.3 | 195 | 83.0 | Very Low |
| 5 | Mailing lists | 16 | 6.8 | 24 | 10.2 | 138 | 58.7 | 57 | 24.3 | Low |
| 6 | World Wide Web (WWW) | 5 | 2.1 | 200 | 85.1 | 16 | 6.8 | 14 | 6.0 | Moderate |
| 7 | Discussion group | 20 | 8.5 | 16 | 6.8 | 178 | 75.7 | 21 | 9.0 | Low |
| 8 | Frequently Asked Questions (FAQ) | 10 | 4.3 | 8 | 3.4 | 57 | 24.2 | 160 | 68.1 | Very Low |
| 9 | Search engines | 29 | 12.3 | 179 | 76.2 | 7 | 3.0 | 20 | 8.5 | Moderate |
| 10 | List Services | 12 | 5.1 | 31 | 13.2 | 17 | 7.2 | 175 | 74.5 | Very Low |
| 11 | Chatting | 10 | 4.3 | 29 | 12.3 | 155 | 66.0 | 41 | 17.4 | Low |
| 12 | Bulletin Board | 17 | 7.2 | 21 | 8.9 | 6 | 2.6 | 191 | 81.3 | Very Low |
| 13 | E-books | 156 | 66.4 | 43 | 18.3 | 16 | 6.8 | 20 | 8.5 | High |
| 14 | Online Databases | 42 | 17.8 | 148 | 63.0 | 15 | 6.4 | 30 | 12.8 | Moderate |
| 15 | OPAC | 32 | 13.6 | 184 | 78.3 | 14 | 6.0 | 5 | 2.1 | Moderate |
| 16 | E-journals | 163 | 69.4 | 45 | 19.1 | 17 | 7.2 | 10 | 4.3 | High |
| 17 | Conference Proceedings | 4 | 1.7 | 180 | 76.6 | 25 | 10.6 | 26 | 11.1 | Moderate |
| 18 | E-Theses | 5 | 2.1 | 165 | 70.2 | 29 | 12.3 | 36 | 15.3 | Moderate |

Table 4 shows the opinions of the 235 lecturers on the level of proficiency of Internet services and resources for university lecturers' academic activities, with email (74.9%), e-book (66.4%) and e-journals (69.4%) recorded high. The level of proficiency of File / Document Exchange (FDE) (61.3%), World Wide Web (WWW) (85.1%), search engines (76.2%), online databases (63.0%), OPAC (78.3%), conference proceedings (76.6%) and e-

theses (70.2%) recorded moderate. The level of proficiency of mailing list (58.7%), discussion group (75.7%) and Chatting (66.0%) recorded low, while, File Transfer Protocol (FTP) (75.7%), Newsgroup (83.0%), Frequently Asked Question (FAQ) (68.1%), List Service (74.5%) and bulletin board (81.3%) were rated very low. Therefore, the overall analysis revealed that level of proficiency of Internet services and resources for lecturers' academic activities was moderate.

Discussion

This study examined the level of university lecturers' awareness and proficiency of Internet services and resources for academic activities in Adamawa State. Two objectives and two research questions guided the study. Research question one sought to find out the level of university lecturers awareness of Internet services and resources for academic activities in Adamawa State. The study found that the level of university lecturers' awareness of Internet services and resources for academic activities in Adamawa State was moderate. This implied that a high percentage of lecturers in the universities investigated were moderately aware of Internet services and resources. This finding is in line with Egberongbe (2011) which established that a high percentage of the lecturers studied were not aware of the various Internet services and resources that could aid their academic activities. Similarly, Okiki (2012) revealed 55% awareness level of subscribed electronics resources. However, the response rate was termed to be low, as the researcher maintained that virtually all scholarly and academic journals, electronic databases, online library catalogues, grey literature and other relevant scholarly materials in all fields of knowledge were not accessible on the Internet. This finding is contrary to Salaam, Ajiboye and Bankole (2013) which confirmed from their study on the use of Internet resources

by academics in Federal University of Agriculture, Abeokuta, Nigeria, that 93.8% of respondents had a very high level of electronic resources awareness.

Research question two sought to find out the level of university lecturers proficiency of Internet services and resources for academic activities in Adamawa State. This study found that the level of university lecturers' proficiency of Internet services and resources for academic activities was moderate. This implied that a high percentage of lecturers in the universities studied were moderately proficient of Internet services and resources. This finding agreed with Nwokedi, Nwokedi, Chollom and Adah (2017) which revealed that majority of the lecturers 90 (100%) know how to use the Internet services and resources. The findings revealed that 31 (34.4%) of the lecturers admitted awareness of the existence of the database on campus. However, 59 (65.6%) of the lecturers claimed ignorance of the existence of Elsevier database. Moreover, Ahmed (2013) revealed that most lecturers were computer/Internet proficient because most of the resources for teaching and research have gradually migrated to the Internet. Similarly, Trivedi and Joshi (2008) found that most of the respondents had some computer knowledge and were proficient in searching information from the Internet. Ojeniyi and Adetimirin (2016) revealed that respondents from Ajayi Crowther University, Oyo, Nigeria (ACU) had high ICT proficiency in general computer operation with 60 (76.9%) and Internet browsing with 59(75.7%). In Lead City University (LCU), 124(94.7%) had high ICT proficiency in each of general computer operation, Internet browsing, Internet searching and computer appreciation.

Conclusion and Recommendations

This study has established that the level of university lecturers' awareness and proficiency of Internet services and resources for academic activities in Adamawa State was both moderate. This implied that a high percentage of lecturers in the universities studied were moderately aware and moderately proficient of Internet services and resources. This indeed is a source for concern as the lecturers might not be able to explore the opportunities availed by the numerous Internet services and resources in the conduct of their academic activities of teaching, research, publishing, collaboration and communication. Based on these findings, the following are recommended:

- i. There is the need for the various university libraries to make available Internet services and resources. This would enable the lecturers be aware of their benefits for their academic activities.
- ii. The university libraries need to embark on sensitising the lecturers on the importance of using the Internet services and resources. This would enable the lecturers understand the opportunities attached to these technologies in the conduct of their academic activities.
- iii. Instruction on information literacy should be organised for lecturers by the university libraries in order to impact awareness and proficiency of using Internet services and resources for their academic activities.

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