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# Current Trend in Internet Access and Utilization Using Mobile Devices Among Pharmacy Lecturers in South-South Universities in Nigeria

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**Abstract**

The aim of this study is to assess the current trend in accessing the Internet using mobile devices and the utilization pattern among pharmacy lecturers in South-South universities in Nigeria. Questionnaire was the instrument used for data collection. Simple random sampling was adopted to select a sample of 161 lecturers from a total population of 201 and the questionnaire was administered to them. A response rate of 103 (63.3%) was achieved and analyzed using percentage and Chi square ($X^2$) statistics. Findings revealed that 3G modem and laptop were mobile devices mostly used by pharmacy lecturers to access Internet. 3G modem usage didn't significantly influenced Internet utilization but awareness. The lecturers accessed the Internet mostly at home on a daily basis and there is no significant difference in mobile devices owned by the lecturers. Most lecturers used the Internet to access electronic journals and databases for research related activities using Google. The current trend in accessing Internet among pharmacy lecturers in South-South universities in Nigeria is through the use of 3G modem together with laptop.

**Keywords:** Pharmacy lecturers, Internet access, 3G modem, Mobile devices, Internet utilization, Nigeria.

## 1. Introduction

The interconnection of millions and millions of computers to each other on a global scale resulted in what is called the Internet. According to Aina, (2004) the Internet has been severally described as the Net, Network of networks, information highway or super highway, a gateway etc. Anyira (2011) opined that the Internet has become an integral part of university education as it plays an undisputed role in meeting the educational, research, information and communication needs of academics, researchers and students. Pharmacy lecturers by their nature require current, timely and quality Internet information to carry out their tasks of teaching, research, administrative, clinical and community services irrespective of the university they work. Confirming the above, Nnadozie and Nnadozie (2008) study affirmed that there is no significant difference between the information needs of lecturers in Nigerian private and public universities. To retrieve information from the Internet, a user must have access to it. Batti (2010) opined that Internet accessibility to pharmacy lecturers from their various universities facilities is inadequate thus hindering access to Internet resources needed for their daily activities. As a result, individual lecturer had to make effort to access the Internet using alternative sources.

The use of mobile and wireless technologies such as 3G Internet modem (IM), mobile phones (MP), smart phones like blackberry (BB) and other mobile devices have been identified as alternative wireless access to the Internet irrespective of time and location. Nkomo and Mugwisi (2010) posits that mobile devices include laptops, netbooks, notebook computers, cell phones, audio players, cameras, and e-book readers, and they are used to perform various functions including Internet searching. Mobile devices (MD) have penetrated all spheres of human endeavour and their utilisation has pervaded the university communities in the 21st century. While smartphone and cell phone with in-built modem can connect to the Internet directly, PCs and laptops need a modem to connect to the Internet. Mittal, Gupta and Gupta (2010) define a modem as an electronic device that provides a communication interface, connecting your home network to the Internet through an Internet Service Provider. This device is a modulator-demodulator instrument capable of encoding and decoding digital information that is sent and received, thus reproducing the original data. There are different types of modem – internal and external modem. The "third generation, 3G modem" is a common example used in Nigeria. Modems usually use SIM card to allow users connect to a network. A 3G modem usually come as a plug-in device and it is plugged into a USB slot on a computer, and it closely resembles a portable memory or flash drive. In Nigeria, major global systems of mobile communication (GSM) network operators such as (MTN, Globalcom, Etisalat, Starcom, etc.) have this facility.

Another popular source of Internet access in Nigeria is the use of mobile phones (MP). MP and BB can be used to connect to the Internet directly or indirectly. Mittal, et al (2010) posits that smartphones can be used as a modem to connect your laptop or computer to the Internet. Most laptops, BB and MP can browse the Internet

 

because of the wireless cards or Bluetooth interface built into them, and are more expensive compared to MP without browsing facilities. The use of these mobile devices facilitates access to the net irrespective of location provided there is GSM network or signal. The ultimate goal of using mobile devices is to enhance the utilization of the Internet. The use of modem and MP have gained acceptance among academics including pharmacy lecturers in South-South universities in Nigeria. There are six states that makeup the South-South geopolitical zone in Nigeria. The states are Akwa-Ibom, Bayelsa, Cross River, Edo, Delta, and Rivers states. The universities in these states are called South-South Universities in this study. Careful observation in these Universities revealed that pharmacy lecturers are using 3G modem, laptops, blackberry and mobile phones to access Internet. This is a clear departure from their earlier attitude where majority of them browse Internet at cyber café. The purpose of this study therefore is to investigate the use of 3G modem, laptops, and mobile phones as sources of Internet access, and how their usage has changed the utilization pattern of Internet among pharmacy lecturers in South-South Universities in Nigeria.

## 2. Statement of the Problem

University academics are a unique group of Internet users and they rely on current, timely and quality information accessible on the Internet. Despite that the Internet has been available for over five decades, its acceptance and effective utilization in Nigeria has been below expected levels. Lack of Internet access has contributed to this problem. The introduction of mobile phones in 2001 and 3G modem in 2009 into the Nigeria market have provided alternative Internet access to Nigerian. The use of 3G modem and mobile devices to facilitate Internet access has
received little attention in recent literature particularly as it affects pharmacy lecturers in Nigeria. Also, there are different studies on the utilization of Internet among academics in Nigeria. However, the use of Internet by pharmacy lecturers in both private and public universities in South-South Nigeria has not received adequate attention. These are the subjects of investigation in this study.

## 3. Objectives of the Study

The main objective of this study is to investigate the current trend of Internet access and utilization using mobile devices such as 3G modem, laptops, blackberry and mobile phones among pharmacy lecturers in universities in South-South Nigeria. Specific objectives are:

1. Identify the sources of Internet access used by pharmacy lecturers in South-South Universities in Nigeria.
2. Ascertain Internet access devices owned by pharmacy lecturers in South-South Universities in Nigeria.
3. Find out the location of Internet access used by pharmacy lecturers.
4. Assess the level of satisfaction of Internet access available at faculty libraries in South-South Universities in Nigeria.
5. Determine the extent of awareness and utilization of the Internet among pharmacy lecturers in South-South Universities in Nigeria.
6. Determine the frequency of using the Internet among pharmacy lecturers in South-South Universities in Nigeria.
7. Find out the most highly used Internet resources or services by pharmacy lecturers in South-South Universities in Nigeria.
8. Determine the search engines used by the lecturers in South-South Universities in Nigeria.

## 4. Hypotheses

The null hypotheses to be tested in this study are as follows:

1. There is no significant difference in the sources of Internet access used by pharmacy lecturers across South-South Universities in Nigeria.
2. there is no significant influence of 3G modem usage on Internet utilization by pharmacy lecturers in South-South Universities in Nigeria.
3. There is no significant difference in mobile devices owned by pharmacy lecturer in South-South Universities in Nigeria.
4. There is no significant influence of awareness on the utilization of the Internet among pharmacy lecturers in South-South Universities in Nigeria.

## 5. Literature Review

Internet access is the key to accessing Internet resources and services. When there is effective Internet access provided by universities, usage by lecturers will be high and users very satisfied. In Africa, Echezona and

 

Ugwuanyi, (2010) opined that African Universities use various types of connectivity to link to the Internet Service Providers, and low Internet bandwidth is depriving lecturers and students from deriving maximum satisfaction using the Internet. Despite these drawbacks, Internet can now be accessed and used virtually anywhere in Nigeria by numerous means such as libraries, Internet cafes, modem, mobile phones etc. where computers with Internet signal is accessible. This view was supported by Osang (2012) that the main Internet access points for Nigerian youth are cyber café, offices, homes, mobile and wireless Internet modems. Investigating the use of web-based resources for medical education and research by lecturers at the University College Hospital (UCH), Ibadan, Olubunmi (2008) findings showed that access to the Internet was over 82 percent through various sources – personal desktop (17%), Odeku medical library (31%), ETF cyber café (24%) and mostly sources outside the university community (64%). This implies that institutional access to Internet is low that is why the lecturers had to use personal computers possibly with a modem and outside sources to access Internet. In a similar study of three private universities – Convenant, Babcock, and Bellstech - in Southwest Nigeria, Utulu (2008) findings revealed that Internet access is very readily available, reliable, and accessible to over 79% of the lecturers; mostly through their offices (81%) and cyber café (51%) within the universities than through commercial cyber cafes outside the campuses. Impressive as this result may be, there is still need for more Internet access in these universities if over 51% use cyber café and over 11% access Internet through their PCs and laptops. At the University of Benin, Erah and Dairo (2008) evaluated 165 pharmacy students' perception of the application of learning management system (LSM) and the result revealed that 16% of the students had their own computers, 84% of the students had access to the Internet, while 82% of them used cyber café to access Internet. It means that Internet access in their faculty is lacking. Unfortunately, the student could not use their own computers to browse Internet due to cost. This may be different for the lecturers who may continue to use their PCs not minding the cost. In another study, Anyira (2011) findings on Internet use by lecturers at Western Delta University, Oghara revealed that there is limited Internet access in the university thus staff and students access Internet from personal laptops or at cyber café occasionally and when the need is severe. The point of Internet access influences the frequency of Internet usage. Also, Owolabi and Agboola (2010) found Internet access at Cyber café for sending email and web browsing by most academic staff surveyed. Findings from Madonna University, a private university in South-South Nigeria, Nnadozie and Nnadozie (2008) revealed that lack of information technologies was a major impediment to information access by lecturers, and therefore call for the provision of ICTs facilities in the university. Similarly, Aliyu (2011) recommended that free Internet services should be made available to lecturers at Modibbo Adama University of Technology, Yola, to encourage the lecturers to access and use Internet facilities. Overall, Internet access was through cyber café.

There is a growing interest in providing Internet access in Nigerian universities through mobile devices such as 3G modem, blackberry and mobile phones to ameliorate the problem of Internet access using PCs and laptops. Observation has shown that 3G modem is now used by students and lecturers including those in pharmacy. Lister (2013) posits that 3G modem is a device that allows a computer to connect to the Internet via a high-speed broadband mobile wireless connection anywhere there is Internet reception, much like a cell phone. In a similar vein, Mittal, Gupta and Gupta (2010) opined that Blackberry or smartphones can now be used as a modem to connect your laptop or computer to the Internet. At the Zimbabwe Open University, Richard and Dzimano (2011) reported that 83% of their full-time lecturers had 3G Internet connectivity used to access the library Dialup Internet connection. Nkomo and Mugwisi (2010) study of ICTs access and use at the University of Zululand revealed that the dominant Internet connection type for both students and staff as at 2009 was the cable modem connection with little wireless access. To boost Internet access in the university, individual lecturer now take the initiative to connect using 3G giving full access to all staff, and 29% have both home and office Internet access. In Nigeria, Globacom introduced high speed 3G Internet modems into Nigeria in 2009 (Hall, 2009) while Adetoro and Nkiko (2009) reported that Internet usage by academic staff of Covenant University ranked second while the use of modem ranked ninth which is low.

Mobile phones are another source of Internet access. Mobile phones have been integrated into university education system and they are used by students and lecturers. In Cyprus, Ktoridou and Eteokleous (2005) reported the use of 3G GSM wireless mobile phones to facilitate fast Internet access for communication between lecturers and students through file sharing, networking, online discussion and email as well as an instruction tool to conduct electronic quizzes and tests. In South Africa, Brown, Letsididi and Nazeer (2009) research result indicated that cell phone use is widely pervasive, but the use of cell phone as a modem in homes is considered costly that is why many customers still use dial-up connections despite the many varieties of Internet access. Similarly, Liebenberg, Chetty and Prinsloo (2012) investigation found that affordability is the main determinant of Internet access among University of South Africa students. The mobile phone was their third most popular option for online Internet access, and it has reduced their usage of public Internet access facilities such as cyber cafe. In Nigeria, Mobile phones (MP) have been widely accepted and used for various purposes as a veritable communication facility since they were introduced into the Nigerian economy by Global system of Mobile

 

communication (GSM) network providers (Okoro, 2010). Apart from communication purposes, different types of MP that are capable of connecting to the Internet have flooded the Nigerian market such as Blackberry, iphone, Ipad etc. Erah and Dairo (2008) study revealed that over 95% of pharmacy students have mobile phones but they were rarely used to access the Internet due to its prohibitive cost. That may have improved today. At the Abubakar Tafawa Balewa University, Isyaku (2010) study revealed that the students use cell-phone mainly for communication purposes, to check time, send text messages, browse Internet among other things. Also, Atsumbe, Raymond, Enoch and Duhu (2012) investigation showed that lecturers and students of Federal University of Technology, Minna both have computers and laptops and can access the Internet with them. Nwezeh (2010) reported that most academic staff at Obafemi Awowlo University, Ile-Ife used their PCs connected to Internet as source of Internet access. It is therefore evident that the use of mobile devices by lecturers and students as Internet access has come to stay and Internet utilization will take a new dimension.

Awareness of the Internet has been seen to influence the use of the Internet. Owolabi and Agboola (2010) and Parameshwar and Patil (2009) study of the use of Internet by academics and scholars showed high level of Internet awareness and usage in Nigeria and India respectively while Olubunmi (2008) recorded low Internet usage in spite of high awareness level in Nigeria.

On the frequency of Internet use, Ukpebor (2011) surveyed Internet use by lecturers and students in Engineering faculties in Edo State and found that the frequencies of Internet use by the respondents was significantly encouraging and about 48% of them used the Internet daily against the drawback of the inadequacies of Internet infrastructures in the engineering faculties. Similarly, Idiegbeyan-ose and Odion (2012) reported daily Internet use by majority (76%) of

lecturers in two universities in Edo State, Nigeria. However, Aliyu (2011) investigation showed that majority of the lecturers at Modibbo Adama University of Technology, Yola, use Internet occasionally to access information to get support or sponsorship for studies rather than for research.

There are various Internet services that pharmacy lecturers can use for their daily activities such as e-mail, discussion groups, bulletin board, e-journals and databases, e-publishing, web surfing etc. Aina (2004) opined that the WWW is one of the most rapidly developing facilities on the Web. Ogunyade and Obajemu (2006) reported that health professionals enjoyed e-mail, MEDLINE and Internet services in their health institutions libraries in Lagos. However, Emokinovo and Ogunrombi (2012) found inadequate computers and Internet services as sources of dissatisfaction in utilizing faculty libraries including pharmacy library at the University of Benin. The literature reviewed above has shown that Internet use by lecturers including pharmacy lecturers in Nigeria is encouraging and the lecturers use internet daily. However, Internet was mostly access through cyber café resulting in low satisfaction. Therefore, there is need for mobile wireless devices to facilitate Internet access that will help improve Internet utilization.

## 6. Methodology

The descriptive survey research method was adopted in this study. The questionnaire was used as data collection instrument and it consists of 30 questions in 4 sections eliciting information on respondents' demographic data, computer and Internet literacy, awareness and usage of Internet and EIS and training needs. Data was collected from lecturers in five South-South Universities - University of Benin, University of Portharcourt, University of Uyo, Niger Delta University and Igbinedion University Okada that had full accreditation of their pharmacy programmes. This study adopts simple random sampling method to select 161 out of 201 pharmacy lecturers from each of the five selected universities. The sampled fraction was 80%. The questionnaire was pre tested and validated in July 2012, out of which 103 (63.9%) usable response was obtained as shown in Table 1. Data collected were tabulated in frequency table. Percentage and chi square statistics ($X^2$) were used to analyze the data using SPSS 16.

**Table 1. Response Rate of Respondents**

| S/N | University | No of lecturers | No sampled | No respondents | % Response |
|---|---|---|---|---|---|
| 1 | University of Benin | 55 | 44 | 29 | 65.9 |
| 2. | Igbinedion University, Okada | 26 | 21 | 11 | 52.3 |
| 3. | Niger Delta University | 30 | 24 | 15 | 62.5 |
| 4. | University of Port Harcourt | 35 | 28 | 18 | 64.2 |
| 5. | University of Uyo, | 55 | 44 | 30 | 68.1 |
| | Total | 201 (field data) | 161 | 103 | 63.9 |

## 7. Results and Discussion

### 7.1 Sources of Internet Access

This study evaluated five sources of Internet access used by pharmacy lecturers as presented in Table 2. The

 

result shows that the lecturers used more than one source to access the Internet. However, the 3G modem was mostly used by majority of the lecturers followed by mobile phones. Cyber café, university/Office server, blackberry and faculty library recorded less than average thus making 3G modem the major source of Internet access. This study has revealed 3G modem as the current sources of Internet access used by pharmacy lecturers in South-South Universities in Nigeria. Until Internet access from these universities improve, this trend will subsist as these lecturers will continue to use 3G modem and mobile phones to access the Internet. Similar studies by Richard and Dzimano (2011) and Nkomo and Mugwisi (2010) revealed high usage of modem at the Zimbabwe Open University and University of Zululand respectively while Adetoro and Nkiko (2009) study of Covenant University in Nigeria reported low usage of modem.

**Table 2. Sources of Internet Access Utilized** N = 103

**VAR00001 * VAR00002 Crosstabulation**

Count

| | | VAR00002 | | | | | |
|---|---|---|---|---|---|---|---|
| | | IOU | NDU | UNIBEN | UNIPORT | UNIUYO | Total |
| VAR00001 | 3G_Modem | 10 | 14 | 26 | 17 | 24 | 91 |
| | Blackberry | 3 | 2 | 5 | 1 | 2 | 13 |
| | Cyber_Cafe | 6 | 5 | 7 | 10 | 18 | 46 |
| | Faculty_Library | 0 | 0 | 0 | 0 | 2 | 2 |
| | Mobile_Phone | 8 | 10 | 15 | 6 | 14 | 53 |
| | Univ._Network | 0 | 4 | 20 | 1 | 4 | 29 |
| Total | | 27 | 35 | 73 | 35 | 64 | 234 |

**Test of Null Hypothesis 1**: There is no significant difference in the sources of Internet access used by pharmacy lecturers across South-South Universities in Nigeria.

Data in Table 2 was subjected to $X^2$ test of significance. Calculated result obtained was 40.303 against the table value of 31.41 Table 3. Therefore the null hypothesis is rejected and the alternative upheld that there is a significant difference in the sources of Internet access used by pharmacy lecturers in South-South Universities in Nigeria. Based of the above, examination of the result of Internet access revealed that pharmacy lecturers at the University of Benin use four major Internet sources (3G modem, mobile phones, cyber café and their university server) while the rest lecturers use only three main sources. This accounted for the significant difference obtained in the test. It therefore means that the pharmacy lecturers at the University of Benin had more sources of Internet access than the others. Therefore sources of Internet access are not the same in all the universities. This result supported the earlier findings of Echezona and Ugwuanyi (2010) that African Universities use various types of connectivity to link to the Internet.

**Table 3. Chi square result of sources of Internet access usage**

**Chi-Square Tests**

| | Value | df | Asymp. Sig. (2-sided) |
|---|---|---|---|
| Pearson Chi-Square | 40.303[a] | 20 | .005 |
| Likelihood Ratio | 41.954 | 20 | .003 |
| N of Valid Cases | 234 | | |

7.2 Influence of 3G Modem on Internet Utilization

Furthermore, since the 3G modem was used to access and use the Internet, its' usage should influence Internet utilization. Data in Table 4 was analysed using $X^2$ test of independence to ascertain if 3G modem influences Internet utilization among the respondents.

 

**Table 4. Influence of the usage of 3G modem on Internet utilization by pharmacy lecturers**

**VAR00001 * VAR00002 Crosstabulation**

Count

| | | VAR00002 | | |
|---|---|---|---|---|
| | | NON_USERS | USERS | Total |
| VAR00001 | 3G_MODEM_USAGE | 12 | 91 | 103 |
| | INTERNET_USAGE | 20 | 83 | 103 |
| Total | | 32 | 174 | 206 |

**Test of Null Hypothesis 2:** There is no significant influence of usage of 3G modem on Internet utilisation by pharmacy lecturers in South-South Universities in Nigeria.

Result of $X^2$ test of independence Table 5 revealed that the calculated $X^2$ result was 2.368 against the table value of 3.84. Therefore, the null hypothesis is not rejected meaning that there is no significant influence of the usage of 3G modem on Internet utilization. Despite that the frequency of lecturers using 3G modem is high, actual Internet users is lower. The above result implied that 3G modem has not significantly impacted on Internet usage by pharmacy lecturers meaning that not all the lecturer using 3G modem can actually use them to explore Internet resources and services. Thus the lecturers need to be encouraged to use modem to access and use the Internet.

**Table 5. Chi square result of Influence of the usage of 3G modem on Internet utilization**

**Chi-Square Tests**

| | Value | df | Asymp. Sig. (2-sided) | Exact Sig. (2-sided) | Exact Sig. (1-sided) |
|---|---|---|---|---|---|
| Pearson Chi-Square | 2.368[a] | 1 | .124 | | |
| Continuity Correction[b] | 1.813 | 1 | .178 | | |
| Likelihood Ratio | 2.389 | 1 | .122 | | |
| Fisher's Exact Test | | | | .178 | .089 |
| N of Valid Cases[b] | 206 | | | | |

7.3 Ownership of Mobile Devices (MD)

The need to access Internet has made pharmacy lecturers purchase mobile devices. Result in Table 6 shows that pharmacy lecturers owned more than one mobile device and laptop was the mobile device mostly owned. This result differs from Richard and Dzimano (2011) and Utulu (2008) findings that majority of academics in the universities they studied owned more PCs than laptops. Therefore, Internet access using laptops is now the current trend.

 

**Table 6. Ownership of Mobile Devices** N = 103
**VAR00001 * VAR00002 Crosstabulation**

| Count | | | | | | | |
|---|---|---|---|---|---|---|---|
| | | VAR00002 | | | | | |
| | | IOU | NDU | UNIBEN | UNIPORT | UNIUYO | Total |
| VAR00001 | 7"MID | 0 | 0 | 1 | 0 | 0 | 1 |
| | ANDROID | 1 | 1 | 0 | 0 | 0 | 2 |
| | BLACKBERRY | 4 | 2 | 6 | 1 | 2 | 15 |
| | DESKTOP | 8 | 8 | 19 | 8 | 14 | 57 |
| | IPAD | 0 | 0 | 2 | 1 | 1 | 4 |
| | IPHONE | 0 | 1 | 0 | 0 | 0 | 1 |
| | LAPTOP | 8 | 13 | 25 | 13 | 21 | 80 |
| | MOBILE_PHONE | 8 | 10 | 15 | 6 | 14 | 53 |
| Total | | 29 | 35 | 68 | 29 | 52 | 213 |

**Test of Null hypothesis 3:** There is no significant difference in mobile devices owned by pharmacy lecturer in South-South Universities in Nigeria.
Data in Table 6 was subjected to further analysis using $X^2$ test of significance. Calculated result obtained was 19.819 against table value of 41.34 Table 7. Therefore, the null hypothesis is not rejected meaning that there is no significant difference in the mobile devices owned by pharmacy lecturer. It means that all pharmacy lecturers are in tune with mobile devices.

**Table 7. Chi square result of ownership of mobile devices**
**Chi-Square Tests**

| | Value | df | Asymp. Sig. (2-sided) |
|---|---|---|---|
| Pearson Chi-Square | 19.819[a] | 28 | .871 |
| Likelihood Ratio | 19.586 | 28 | .879 |
| N of Valid Cases | 213 | | |

7.4 Usage of Desktop and Laptop with 3G Modem
The 3G modem can not be used to access Internet without desktop computer or laptop. The 91 respondents who used 3G modem to access Internet were asked to indicate the computer they use.
The result in Table 8 revealed that majority of the lecturers used laptop computers with their modem to access the Internet. Atsumbe et al. (2012) and Anyira (2011) also found the use of laptop to access Internet. Therefore, authorities in South-South Universities in Nigeria and GSM operators should provide cheap laptops for pharmacy lecturers to motivate them to use 3G modem to access the Internet. Such arrangement was reported by Richard and Dzimano (2011) that personal laptops were purchased for full time lecturers at the Zimbabwe Open University through the initiative of the university.

**Table 8. Usage of 3G modem with desktop or laptop computers** N = 91

| **Variables** | **Used** | **Non used** |
|---|---|---|
| Laptop | 71 (78) | 20 (22) |
| Desktop | 55 (60) | 36 (40) |

7.5 Location of Internet Access
The location of Internet access greatly influences the use of Internet services. The nearer the access, the higher usage tends to be. Bamigboye and Agboola (2011) reported good Internet access to academic staff and students in their offices, classrooms and hostels. Result in Table 9 shows that pharmacy lecturers use various locations to access Internet, but majority of them access the Internet from their homes. This is a clear departure from previous Internet access which was through cyber café. This trend has been made possible with the use of mobile connection devices such as laptops, mobile phones, and 3G modem that can guarantee Internet access any where

 

as indicated by some respondents. Ukpebor (2011) and Bhatti (2010) reported similar result of Internet access at homes among faculty members in three universities in Edo State, Nigeria and Islamia University, Pakistan.

**Table 9. Location of Internet Access** N = 103

| Location | IUO | NDU | UNIBEN | UNIPORT | UNIUYO | Total | % |
|---|---|---|---|---|---|---|---|
| Home | 11 | 14 | 24 | 18 | 27 | 94 | 91.3 |
| Office | 7 | 10 | 27 | 14 | 18 | 76 | 73.8 |
| Cyber café | 9 | 4 | 7 | 11 | 18 | 49 | 47.6 |
| Fac. Library | 3 | 2 | 3 | 1 | 4 | 13 | 12.6 |
| Any where I am | 2 | 1 | - | 1 | - | 4 | 3.9 |

7.6 Satisfaction with Internet Access at Faculty Libraries

In the university environment, the faculty library is the ideal location where Internet access should reside. Respondents were asked to indicate their levels of satisfaction with Internet access at their faculty libraries. Result in Table 10 revealed that majority of pharmacy lecturers were dissatisfied with Internet access at their faculty libraries and the result is similar in all the universities. This is a critical issue the university authorities should quickly address. The above result conform to the findings by Emokinovo and Ogunrombi (2012) that inadequate computers and Internet services are sources of dissatisfaction in utilizing faculty libraries including pharmacy library at the University of Benin despite Internet access at the main library.

**Table 10. Satisfaction with Internet Access at Faculty Libraries**

| Location | IUO | NDU | UNIBEN | UNIPORT | UNIUYO | Total | Total % |
|---|---|---|---|---|---|---|---|
| Very satisfied | - | - | 1 | - | 3 | 4 | 3.9 |
| Satisfied | 2 | 1 | 2 | 3 | 3 | 11 | 10.7 |
| Dissatisfied | 7 | 10 | 22 | 5 | 16 | 60 | 58.2 |
| Very dissatisfied | 2 | 4 | 4 | 10 | 8 | 28 | 27.2 |
| Total | 11 | 15 | 29 | 18 | 30 | 103 | 100.00 |

7.7 Emerging Trend and Pattern of Internet Utilization

7.7.1 Internet Awareness and utilization

As a result of the use of 3G modem and mobile devices in accessing the Internet, a new Internet utilization pattern is expected to emerge. On awareness and usage of Internet, it is believed that when one is aware of IT, the possibility to use it is there. Results in Table 11 revealed that majority of the respondents are aware and capable of using the Internet. Atsumbe et al. (2012) obtained similar result that lecturers at the Federal University of Technology, Minna are aware of the Internet and can surf the web.

**Table 11. Internet Awareness and Utilization**

**VAR00001 * VAR00002 Crosstabulation**

Count

| | | VAR00002 | | |
|---|---|---|---|---|
| | | NO | YES | Total |
| VAR00001 | AWARENESS | 2 | 101 | 103 |
| | USAGE | 20 | 83 | 103 |
| Total | | 22 | 184 | 206 |

**Test of Null Hypothesis 4:** There is no significant influence of awareness of the Internet on its' utilisation by pharmacy lecturers in South-South Universities in Nigeria.

Data on Internet awareness and usage Table 11 was further analyzed using Chi square ($X^2$) test of independence to find the relationship between the two variables. Calculated result was 16.488 against table value of 3.84. Therefore, the null hypothesis is rejected and the alternate accepted that Internet usage is dependent on Internet awareness.

 

**Table 12. Chi square result for Internet awareness and utilization**

**Chi-Square Tests**

| | Value | df | Asymp. Sig. (2-sided) | Exact Sig. (2-sided) | Exact Sig. (1-sided) |
|---|---|---|---|---|---|
| Pearson Chi-Square | 16.488[a] | 1 | .000 | | |
| Continuity Correction[b] | 14.707 | 1 | .000 | | |
| Likelihood Ratio | 18.858 | 1 | .000 | | |
| Fisher's Exact Test | | | | .000 | .000 |
| N of Valid Cases[b] | 206 | | | | |

a. 0 cells (.0%) have expected count less than 5. The minimum expected count is 11.00.

b. Computed only for a 2x2 table

7.7.2 Frequency of Internet Usage

Result of frequency of Internet usage Table 13 revealed that majority of the respondents use the Internet daily. This result has shown that Internet has become part and parcel of most pharmacy lecturers' daily working tool and as such, priority attention should be given to its provision, access and proximity. The above result is in agreement with daily Internet usage obtained by Idiegbeyan-Ose and Odion (2012) and Nkomo and Mugwisi (2010) report that academias in the University of Zululand have become Internet reliant and some find it difficult to work without Internet.

**Table 13. Frequency of Internet usage** N = 103

| **Universities** | **Daily** | **2-3 times weekly** | **Weekly** | **Bimonthly** | **Monthly** | **Never** | **Total** |
|---|---|---|---|---|---|---|---|
| IUO | 7 | 3 | 1 | - | - | - | 11 |
| NDU | 13 | 2 | - | - | - | - | 15 |
| UNIBEN | 22 | 5 | 1 | - | - | 1 | 29 |
| UNIPORT | 6 | 12 | - | - | - | - | 18 |
| UNIUYO | 19 | 6 | 1 | 2 | 2 | - | 30 |
| Total | 67 | 28 | 3 | 2 | 2 | 1 | 103 |

7.7.3 Utilization of Internet Resources and Services

On the usage of Internet resources, findings in Table 14 indicate that of the different Internet resources used by respondents, e-journal was highest. All lecturers need journal articles for their research work hence the high level of usage. Sinha (2012), Bhatti (2010) and Parameshwara and Patil (2009) all found that majority of their lecturers use e-journals and databases mostly.

**Table 14. Internet Resources Used by Respondents** N = 103

| **Internet Resources** | **IUO** | **NDU** | **UNIBEN** | **UNIPORT** | **UNIUYO** | **Total count** | **Total%** |
|---|---|---|---|---|---|---|---|
| Electronic journals | 8 | 15 | 24 | 15 | 24 | 86 | 83.5 |
| Electronic databases | 2 | 12 | 19 | 6 | 18 | 57 | 55.3 |
| Electronic thesis/dissert | 7 | 7 | 12 | 8 | 11 | 45 | 43.7 |
| Electronic books | 3 | 7 | 15 | 8 | 11 | 44 | 42.7 |
| Ref/Conference doc. | 6 | 7 | 15 | 8 | 11 | 40 | 38.8 |
| Clinical information | 4 | 4 | 10 | 8 | 11 | 37 | 35.9 |
| Newspapers/magazines | 1 | 1 | - | - | 2 | 4 | 3.9 |

On the awareness and capability of using Internet services, respondents where asked to indicate the Internet services they are aware of and capable of using. Result in Table 15 shows that E-mail, WWW and search engines were the services mostly used by the lecturers. The use of discussion group/listserv was very low indicating that the lecturers are not using the Internet to share information among themselves. This service should be improved upon. Similar results obtained Aliyu (2011) shows that email was mostly used by all the lecturers at Modibbo Adama University of Technology, Yola while Ajala et al. (2010) findings indicate regular use of e-mail and low usage of discussion groups by lecturers at Ladoke Akintola University of Technology, Ogbomoso.

 

**Table 15. Awareness and Capability to utilize Internet services**

| Internet Services | IUO | NDU | UNIBEN | UNIPORT | UNIUYO | Total |
|---|---|---|---|---|---|---|
| E-mail | 10 | 14 | 22 | 14 | 27 | 87 |
| WWW | 9 | 11 | 26 | 14 | 26 | 86 |
| Search Engine | 6 | 13 | 25 | 8 | 21 | 73 |
| Chatting | 5 | 6 | 13 | 4 | 13 | 41 |
| Discussion Group/Listserv | 4 | 1 | 3 | 3 | 4 | 15 |
| FTP | 1 | 3 | 4 | 1 | 5 | 14 |
| Skype | - | - | 1 | - | - | 1 |
| Total | 35 | 48 | 94 | 44 | 96 | 317 |

7.7.4 Search Engines Utilized

In order to access Internet resources and services, search engines are used. Five search engines were evaluated in this study. Result in Table 16 indicates that pharmacy lecturers use Google and Yahoo with Google recording the highest score of over 93%. Sinha (2012) and Bhatti (2010) also found more usage of Google over Yahoo among their respondents.

**Table 16. Search Engines utilized by Respondents N = 103**

| Search Engines | IUO | NDU | UNIBEN | UNIPORT | UNIUYO | Total | % |
|---|---|---|---|---|---|---|---|
| Google | 11 | 12 | 28 | 18 | 27 | 96 | 93.2 |
| Yahoo | 11 | 9 | 23 | 14 | 29 | 86 | 83.5 |
| Big Mama | - | - | 1 | 1 | 4 | 6 | 5.8 |
| Moxilla firefox | 1 | - | - | 1 | - | 2 | 1.9 |
| Alta vista | - | - | 1 | - | - | 1 | 0.9 |

## 8. Conclusion

The study has revealed that the current trend of Internet access among pharmacy lecturers in South-South Universities in Nigeria is the use of 3G modem with laptop. The lecturers access the Internet mostly at home and they use the Internet daily. There is significant difference in Internet access across the universities. The emerging pattern of Internet utilisation is that almost all the lecturers are highly aware and capable of using varieties of Internet services especially e-mail, and Internet resources especially electronic journals and databases.

## 9. Recommendations

It is recommended that university authorities and GSM operators should provide cheap laptops and modem for the lecturers to motivate them to access and use the Internet.

The lecturers should be encouraged to use their modem to Internet access and to improved usage.

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