

## ICT Skills Variables And Utilization Of Online Information Services By Postgraduate Students of Abia State University, Uturu

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### ABSTRACT

The possession of ICT skills and utilization of online information services is essential for everyone in this digital age, and especially for postgraduate students to achieving the aims and objectives of their programmes. Survey research method was adopted, with self-developed questionnaire used for data collection, which was constructed in likert scale format, with reliability of  $r=0.72$ . The population of the study is 220 postgraduate students, and all were used because of the small size. 203 respondents representing 92% response rate attended to the questionnaire, which were analysed using mean benchmark of 2.5 for the research questions, and Pearson Product Moment Correlation (PPMC) used for testing the two null hypotheses. The findings revealed that the postgraduate students of ABSU possess very high ICT skills such as computer manipulation skills and Internet navigation skills, which are applied for using online information services, mostly online literature search (e-books, e-journals, e-thesis, e-monographs), online user education/information literacy instructions, online documents and database delivery services, and online current awareness services, which were accessed through the university library, cyber cafes and personal computers with internet connectivity. Unfortunately, the students were found not capable of troubleshooting routine computer problems; and they hardly use other online information services like online reference services, online selective dissemination of information and online referral and translation services. Test of hypotheses showed that there are significant relationships between computer manipulation skills and utilization of online information services ( $r=0.922$ ;  $n=203$ ;  $p<0.05$ ), as well as Internet navigation skills and utilization of online information services ( $r=0.823$ ;  $n=203$ ;  $p<0.05$ ). Key challenges affecting the students' utilization of online information services were inadequate funding, poor internet services due to shared bandwidth, epileptic power supply, inadequate ICT content in the curricular and poor ICT competence. The study concluded that acquisition of ICT skills by students are inevitable in this digital era; and therefore recommends that the postgraduate school of ABSU should make it a policy to limit admission opportunities to only students that possess ICT skills; there should be continuous training of postgraduate students on ICT skills, which will not only facilitate their use of online information services, but also aid their entire postgraduate studies among other recommendation.

**Keywords:** ICT Skills, Online Information Services, Utilization, Postgraduate Students, ABSU. Single Account ..

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## **1. BACKGROUND TO THE STUDY**

The present era is the age of information and communication Technology (ICT). As a result of the advent of ICT, life has become easier. During the last few decades, there has been a tremendous growth in the use of ICT in all fields such as education, industries, businesses, health and so on (Roy, 2015). Developments in information and communication technology have offered today's information seekers different opportunities to access online information in a variety of formats including commonly available e-information services such as CD-ROM databases, online public Access catalogues (OPACs) and the Internet (Igwe, 2012:3). Tella, Ajayi and Omoba (2007) remarks that in the digital age, any student in the institution of higher learning who intends to excel in academics should have the ability to effectively explore and utilize online information services through the use of search engines such as google.com, yahoo.com, Mama.com to mention just a few as well as the use of uniform resources locators of virtual libraries such as library portals, subject portals and online. public Access catalogues.

### **1.1 Background Information on the School of Postgraduate Studies, Abia State University, Uturu**

Abia State University which is one of the foremost state universities in the country, started in 1981. At first, it was established on two campuses at Etiti and Aba before moving to the present site in Uturu in 1986. The college of postgraduate studies of Abia State University Uturu took off in 1988. Postgraduate programmes are carried out in almost all the departments of the university for the production of higher level manpower for the university, state and the country at large.

The college was changed to school of Postgraduate Studies in 2008 by the directive of the Association of Deans of postgraduate studies in Nigerian Universities.

All postgraduate programmes of the university operate through a central organ called the school of Post Graduate Studies. The school among other functions has the responsibility for coordinating, streamlining and ensuring compliance with all approved postgraduate programmes of the various colleges and faculties of the university. Abia State University has a library which has grown steadily to the effect that the present book volumes is well over 70,000 with over 10,000 serial volumes. The library automated its services in 2006. The main library is partly automated as there are plans to commence full automation later. The library has 390 computers used in providing online information services to users in the form of Internet services and browsing. The library subscribes to a number of databases which includes EBSCO Host, e-Granary, DATAD, AGORA, JSTOR and Greenhouse. Students can have access to these databases through wireless Internet services.

### **1.2 Statement of the Problem**

The growth and development of information and communication technologies (ICTs) have made possible the availability of digital resources and online information services which help to transform learning behaviour and academic research. There are vast open access e-resources and online information services, and libraries are digitizing their print materials thereby transporting their services to the electronic environment. It is a fact that a student in any tertiary institution in Nigeria, including postgraduate students of Abia State University, (ABSU) Uturu who intends to excel in academics, should have the ability to explore digital environment, and utilize online information services.

However, the utilization of online information services requires the possession of ICT skills by postgraduate students. There is hardly any empirical evidence on the ICT skills of postgraduate students of Abia State University, Uturu for the utilization of online information services. Thus, because of the influx of centres of internet services and cybercafés in the campus, many people may erroneously assume that postgraduate students of ABSU utilize online information services based on the purported ICT skills they possess. It is this varied opinions and speculations that have necessitated this research work on ICT skills variables and utilization of online information services by postgraduate students of Abia State University Uturu. The area of ICT skills variable that the work is interested in are computer manipulation skills and Internet navigation skills, which are central for the utilization of online information services

### 1.3 Objectives of the Study

The general objective of the study is to ascertain the ICT skills of ABSU postgraduate students for effective utilization of online information services.

The specific objectives are to:-

- i. Determine the computer manipulation skills of ABSU postgraduate students for the utilization of online information services.
- ii. Determine the Internet navigation skills of ABSU postgraduate students for the utilization of online information services.
- iii. Ascertain the types of online information services utilized and frequency of utilization by ABSU postgraduate students
- iv. Investigate where postgraduate students of Abia State University access online information services.
- v. Establish where postgraduate students of ABSU acquire ICT knowledge and skills
- vi. Identify the challenges postgraduate students of ABSU face in the utilization of online information services.
- vii. Proffer possible solution to the identified challenges.

### 1.4 Research Questions

The following research questions were provided to guide the study

- i. What are the computer manipulation skills of ABSU postgraduate students for the utilization of online information services?
- ii. What are the Internet navigation skills of ABSU postgraduate students for utilization of online information services?
- iii. What are the types of online information services utilized and the frequency of utilization by the post-graduate students?
- iv. Where do ABSU postgraduate students access online information services?
- v. Where do postgraduate students of ABSU acquire ICT knowledge and skills?
- vi. What are the challenges facing postgraduate students of ABSU in the utilization of online information services?
- vii. What are the possible ways of solving the identified challenges?

### 1.5 Hypothesis

The research was based on these two hypotheses

- H<sub>0</sub>: There is no significant relationship between computer manipulation skills and utilization of online information services by ABSU postgraduate students.
- H<sub>0</sub>: There is no significant relationship between Internet navigation skills and utilization of online information services by ABSU postgraduate students?

### **1.6 Scope of the Study**

The study is on the ICT skills of ABSU postgraduate students for utilization of online information services. It is limited to the postgraduate students of Abia State University, Uturu. The areas of ICT skills to be covered include computer manipulation skills which include: knowledge of manipulating computer application devices and peripherals, using Microsoft office packages such as Word Processing, Ms word, Access, Ms Excel etc. The Internet navigation skills to be covered include ability to surf the World Wide Web; ability to formulate online search queries for information; using online catalogues and library portals; ability to use social media applications such as facebook, Twitter, YouTube and so on.

### **1.7 Significance of the Study**

This report would be significant to different stakeholders in the education sector. This is because the emphasis is on students and the prevalence, and rapid development of information and communication technology (ICT) has transformed the human society from the information technology age to the knowledge age. In fact, ICT are becoming natural part of man's daily life, thus, their use in education is becoming a necessity. This report may help to determine the ICT skills of students. It may enable administrators of tertiary institutions (Vice-chancellors, Rectors and Provosts) to assess the ICT content of their curriculum, make reviews where necessary and introduce more -viable strategies for teaching ICT skills to students and also monitor the performance of these students for future challenges.

The infusion of ICT into all human activities has changed the practice of professions all over the world. Therefore, ICT knowledge and skill acquisition should be included in the curriculum of all disciplines in tertiary institutions. Information professionals (librarians and information officers), working in libraries and information centres will see this report as a reminder and an eye opener for them to provide Internet services in their institutions. The report will be useful to the government in the area of educational planning. It may expose them to the importance of ICT knowledge and skills for satisfactory performance of students.

## **2. LITERATURE REVIEW**

ICT is an acronym for information and communication technology. It has three parts; information, communication and technology. Information is the summarization of data. Technically data are raw facts and figures that are processed into information. Communication is a process which disseminates information and knowledge. Technology is a mode or media through which information can be disseminated. In other words, ICT is the technology required for information processing and spreading (Roy, 2015:2).

According to Roy (2015:3) ICT are technologies such as radio and the newer digital technologies like computer, satellites, mobile phones and the Internet. ICT are electronic collection editing, storage, distribution and presentation of information. ICT is the means in which people interact with their colleagues around the world, exchange their ideas, information, messages and coordinate each other through variety of technological means. ICT includes communication services and applications like computer hardware, networks, software, mobile technology, satellite communication, video conferencing, RFID technology, Wifizone, pen drives, Internet www.web.2.0 and social media.

In the words of Igwe (2012:19) the Internet has made possible access to online information services. Online information services is information presented and available in digital binary formats over computer networks and are accessible on the internet from any location in the world. Online information services offer access to information via the Internet, online databases and digital collections. These online information services include access to CD-Rom databases electronic mail, access to online public access catalogues (OPAC). Internet browsing, access to digital collections of libraries, electronic theses and dissertations (Oduwole, 2003). There are many types of electronic resources that provide users with access to online information services namely online databases and CD-Roms, OPACs, online literature search through e-books, e-journal, e-monographs, e-magazines, e-theses and dissertations, e-reports, e-pamphlets, etc, digital reference services via library portals, online user education information instructions, online current awareness, online selective dissemination of information, online documents and database delivery services, online referral and translation services, subject gateways, online lecture course materials (Moahi, 2002; ; Kumar; 2010, Ilo and Ifijeh, 2010).

Michael (2015) define online information services as those activities concerned with ensuring the availability, accessibility and use of information by users remotely. With the adoption of information and communication technology (ICT), academic libraries could employ any of these ICT services like e-mail, SMS alerts and online databases to showcase what the library has. The Internet provides access to online information services. It is the domain and shelter of online information services. The Internet is a network of networks that link computer, by telephone lines, coaxial cables, optic fibres, satellite technology etc which are located at different points all over the world for easy communication of information in textual graphical pictorial numerical, audio and video format between and among persons, organization and institutions. It has many applications and services such as electronic mail, (e-mail) world, wide web (www), file transfer protocol (FTP), bulletin board services, (BBS) usenet, newsgroup, mailing list, list services, discussion groups, telnet etc (Igwe, 2012:19).

Skill is the ability to perform an activity in a competent manner (Nkannebe, okeke, Udem and Nkannebe, 2015). ICT skills are those skills related to the use of computers, other technologies such as the ability to transmit stored information through fixed line networks or through wireless phone networks (Attwell, 2005). ICT skill is the generic terms for information and communication technology literacy which are the key skills required in finding online information services it consists of a range of capabilities, knowledge and competencies for the manipulation of ICT components and use of online information services for the satisfaction of information needs (European organization for Economic Cooperation Development (2005) cited in Igwe (2012:24).

The ability to use computers effectively has become an essential part of every student's education. These skills constitute a set of computerized practice that form the core ICT skills packages, spreadsheets, word processing, database and presentations (Haywood, 2003). Isreal and Ederisi (2016) opine that in a rapidly changing world, information and communication technology skills are essential for students to be able to access and apply information. ICT skills are needed in this global village for students to function optimally.

The School of Information science of the University of Tennessee (2011) as cited by Igwe (2012:25) identified ICT skills to include Basic knowledge of computers which has to do with understanding the operational systems of the computer; proficiency in using productivity software which has to do with how to use different types of software programs; electronic communication skills which entails how to send messages online and understanding what an electronic discussion list is and how to sign up and leave one; and Internet skills which has to do with knowledge of the world wide web and its functions.

### 3. METHODOLOGY

The study used the survey method. The survey research method is suitable because it is capable of bringing out the current status of an event. In this case, it is concerned with the current status of ICT skills of postgraduate students of Abia State University, Uturu for the utilization of online information services. The population of the study comprised of postgraduate students of Abia State University Uturu in eight (8) faculties in the university. The population of this research is two hundred and twenty (220). Sample size and sampling techniques. The population of the study is 220 and the entire population was used, therefore census method was adopted.

The instrument for data collection is the structured questionnaire tagged ICT Skills variables and utilization of online information services by postgraduate students of Abia State University questionnaire (ICTSVUOISPSAUQ). The questionnaire was divided into two sections. Section A is designed to elicit personal information about the respondents and section B is to elicit response on ICT skills for utilization of online information services is a four point likert scale response of 48 items designed to elicit answers from 8 research questions used for the study. The responses shall be weighted using four point likert rating scale as thus: strongly Agree (4), Agree (3), disagree (2) strongly disagreed (1). The questions cover all aspect of the research questions.

Copies of the questionnaire was administered one-one to postgraduates in the faculties/departments for one week by the researcher with the two research assistants. The study employed descriptive statistical tables and simple percentage to present the responses from the questionnaire in section A. Pearson Product Moment Correlation Coefficient (PPMC) was used to test the two null hypotheses. For items related to Likert questions 1-8 the average mean score will be used as minimum scale of positive result. So that the mean score below 2.50 is a negative result while mean score above 2.50 indicates positive responses

### 4. DATA ANALYSIS AND DISCUSSION OF FINDINGS

#### 4.1 Demographic Characteristics of Respondents

**Table 1 Gender of Respondents**

Gender of Respondents	Frequency	Percentage
Male	146	71.9
Female	57	28.1
<b>Total</b>	<b>203</b>	<b>100</b>

This shows that majority of the respondents are males, with 71.9%.

**Table 2 Age Bracket of Respondents**

Age Bracket of Respondents	Frequency	Percentage
Below 30 Years	48	23.7
31 - 35	64	31.5
36 - 40	62	30.5
41 - 45	8	3.9
46 - 50	15	7.4
51 - above	6	3.0
<b>Total</b>	<b>203</b>	<b>100</b>

Individuals within age brackets of 31 - 35 and 36 - 40 occupy the highest percentage of postgraduate students in Abia State University, Uturu. However, the least are those from 51 years and above.

**Table 3: Postgraduate Qualifications the Respondents are pursuing**

Postgraduate Programme	Frequency	Percentage
Post Graduate Diploma (PGD)	28	13.8
Masters (M.Sc., M.A., MLIS, MBA, M.Ed., etc)	113	55.7
Doctor of Philosophy (Ph.D.)	62	30.5
<b>Total</b>	<b>203</b>	<b>100</b>

The majority of postgraduate students of ABSU are running Master degree programmes, which could be M.Sc., M.A., MBA, MPA, M.Ed., MLIS, M.Eng and so on; whereas the least are pursuing PGD programmes.

**Table 4: Faculties of the Respondents**

Faculty	Frequency	Percentage
Agriculture	10	4.9
Biological and Physical Sciences	15	7.5
Humanities and Social Sciences	40	19.7
Environmental Studies	21	10.3
Business Administration	39	19.2
Education	37	18.2
Law	19	9.4
Medical and Health Sciences	22	10.8
<b>Total</b>	<b>203</b>	<b>100</b>

Faculties of Humanities and Social Sciences (19.7%), Business Administration (19.2%), and Education (18.2%) are where majority of postgraduate students of Abia State University are found.

**Table 5 Mode of Study of the Respondents**

Mode of Study	Frequency	Percentage
Full Time	120	59.1
Part Time	83	40.9
<b>Total</b>	<b>203</b>	<b>100</b>

59.1% of the students are running their programme on Full Time basis.

#### 4.2 Answers To The Research Questions

**Research Question One: What are the Computer Manipulation Skills of ABSU Postgraduate Students for the Utilization of Online Information Services?**

**Table 7: Computer Manipulation Skills of ABSU Postgraduate Students for the Utilization of Online Information Services (N = 203)**

	Computer Manipulation Skills	SA	A	D	SD	MEAN	RANK	REMARK
	<i>I have the ability/capacity to ...</i>							
1	use mouse pointing device and keyboard of computer systems	197	-	6	-	3.94	1	Accept
2	start up, log on and shut down computer systems	138	60	5	-	3.66	3	Accept
3	use Microsoft office packages like word processing, excel, access and power-point slides for managing documents/files	136	63	4	-	3.65	4	Accept
4	use storage devices, computer applications and peripherals	135	65	3	-	3.65	4	Accept
5	minimize, maximize and move computer windows	137	65	1	-	3.67	2	Accept
6	use icons, folders, files and short-cuts	138	60	5	-	3.66	3	Accept
7	troubleshoot routine problems associated with computers	27	24	40	112	1.83	5	Reject

#### Criterion Mean 2.5

*Table 6* reveals the computer manipulation skills of ABSU postgraduate students for the utilization of online information services. Based on the ranking, it is observed that the most common computer manipulation skills of ABSU postgraduate students for the utilization of online information services are; use mouse pointing device and keyboard of computer systems, minimize, maximize and move computer windows, start up, log on and shut down computer systems, use icons, folders, files and short-cuts, use Microsoft office packages like word processing, excel, access and power-point slides for managing documents/files and use storage devices, computer applications and peripherals (means = 3.94, 3.67, 3.66, 3.66, 3.65, and 3.65 respectively). However, the other item such as troubleshoot routine problems associated with computers, was rejected (mean = 1.83).



**Research Question Two: What are the Internet Navigation Skills of ABSU Postgraduate Students for Utilization of Online Information Services?**

**Table 7: Internet Navigation Skills of ABSU Postgraduate Students for Utilization of Online Information Services (N = 203)**

	Internet Navigation Skills	SA	A	D	SD	MEAN	RANK	REMARK
	<i>I have the ability/capacity to ...</i>							
1	use search engines for accessing and using online services	135	61	7	-	3.63	4	Accept
2	formulate online search queries for information services	134	65	4	-	3.64	3	Accept
3	use world wide web for searching online information services	137	63	3	-	3.66	1	Accept
4	use emails for sending and receiving documents and attachments	136	64	3	-	3.66	1	Accept
5	use online catalogues and library portals for information services	134	67	2	-	3.65	2	Accept
6	navigate and access online information services in virtual libraries	133	67	3	-	3.64	3	Accept
7	downloading and uploading online services on the Internet	133	60	4	6	3.58	5	Accept

**Criterion Mean 2.5**

*Table 7* reveals the internet navigation skills of ABSU postgraduate students for the utilization of online information services. Based on the ranking, it is observed that the most common internet navigation skills of ABSU postgraduate students for the utilization of online information services are; use world wide web for searching online information services, use emails for sending and receiving documents and attachments, use online catalogues and library portals for information services, formulate online search queries for information services, navigate and access online information services in virtual libraries, use search engines for accessing and using online services and downloading and uploading online services on the Internet. (means = 3.66, 3.66, 3.65, 3.64, 3.64, 3.63 and 3.58 respectively).

**Research Question Three: What are the Types of Online Information Services Utilized and the Frequency of Utilization by the Postgraduate Students?**

**Table 8: Types of Online Information Services Utilized and the Frequency of Utilization by the Postgraduate Students (N = 203)**

	Types Of Online Information Services ... Used	Very High	Used High	Rarely Used	Not Used	Mean	Rank	Remark
1	Online/Digital Reference Services via Library Portals	30	70	62	41	2.44	4	Reject
2	Online Selective Dissemination of Information	34	44	88	37	2.37	5	Reject
3	Online Current Awareness Services	56	44	73	30	2.62	3	Accept
4	Online User Education/Information Instructions	120	79	4	-	3.57	2	Accept
5	Online Documents and Database Delivery Services	125	68	10	-	3.57	2	Accept
6	Online Literature Search (e-books, e-journals, e-thesis, e-monographs, e-magazines)	143	57	3	-	3.69	1	Accept
7	Online Referral and Translation Services	5	13	40	145	1.40	6	Reject

**Criterion Mean 2.5**

The analysis on *Table 8* investigates the types of online information services utilized and the frequency of utilization by the postgraduate students. Based on the mean ranking of responses, it can be concluded that the types of online information services utilized and the frequency of utilization by the postgraduate students include; online literature search (e-books, e-journals, e-thesis, e-monographs, e-magazines), online user education/information instructions, online documents and database delivery services and online current awareness services (Mean values; 3.69, 3.57, 3.57 and 2.62 respectively).

Meanwhile, the respondents rejected; online/digital reference services via library portals, online selective dissemination of information and online referral and translation services (means = 2.44, 2.37 and 1.40 respectively).

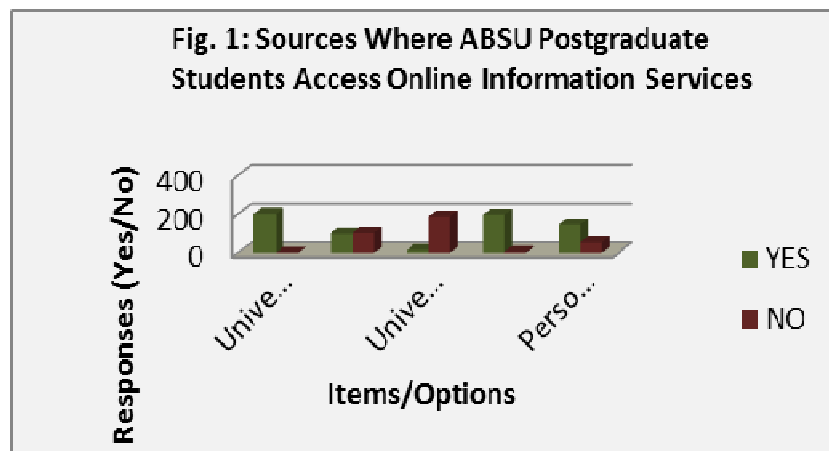
**Research Question Four: Where do ABSU Postgraduate Students Access Online Information Services?**

**Table 9: Sources Where ABSU Postgraduate Students Access Online Information Services (N = 203)\*-09**

S/N	Indicate the places you access online information services	YES	%	NO	%
1	University Library	201	99	2	1
2	Other Libraries	99	49	104	51
3	University ICT centre	16	8	187	92
4	Cyber cafes	196	97	7	3
5	Personal Computers with Internet connections	147	72	56	28

Table 9 shows the sources where ABSU postgraduate students access online information services. As observed from the analysis, majority of the respondents accepted items 1, 4 and 5. This is evident in their percentages (yes = 99%, 97% and 72% respectively). This implies that the sources where ABSU postgraduate students access online information services include; university library, cyber cafes and personal computers with internet connections.

However, other sources where ABSU postgraduate students rarely access online information services are; other libraries and university ICT centre (yes = 48% and 8% respectively).



**Research Question Five: Where do Postgraduate Students of ABSU Acquire ICT Knowledge and Skills?**

**Table 10: Where Postgraduate Students of ABSU Acquire ICT Knowledge and Skills (N = 203)**

S/N	Places where ICT Knowledge and Skills are acquired	SA	A	D	SD	MEAN	RANK	REMARK
1	Postgraduate course of study	50	8	32	113	1.98	2	Reject
2	Computer/ICT training centres and schools	203	-	-	-	4.00	1	Accept
3	Business centres and cybercafés	203	-	-	-	4.00	1	Accept
4	Training from friends, relatives and colleagues	203	-	-	-	4.00	1	Accept
5	Trial and error method/personal effort and reading of ICT books	203	-	-	-	4.00	1	Accept

**Criterion Mean 2.5**

The result on *Table 10* reveals the where postgraduate students of ABSU acquire ICT knowledge and skills. Based on the mean ranking of responses, it can be concluded that the places where postgraduate students of ABSU acquire ICT knowledge and skills include; computer/ICT training centres and schools, business centres and cybercafés, training from friends, relatives and colleagues and Trial and error method/personal effort and reading of ICT books (Mean values = 4.00 across all items). The respondents rejected 'Postgraduate course of study' as a means through which postgraduate students of ABSU acquire ICT knowledge and skills (mean = 1.98).

**Research Question Six: What are the Challenges Facing Postgraduate Students of ABSU in the Utilization of Online Information Services?**

**Table 11: Challenges Facing Postgraduate Students of ABSU in the Utilization of Online Information Services (N = 203)**

S/N	Challenges Affecting Utilization of Online Information Services	AGREE	%	DISAGREE	%
1	Inadequate funding	203	100	-	0
2	Low or inadequate internet services due to shared band width	203	100	-	0
3	Epileptic power supply	203	100	-	0
4	Inadequate ICT content in the curricular	203	100	-	0
5	Inadequate/poor ICT competence	203	100	-	0

The analysis on *Table 11* investigated the challenges facing postgraduate students of ABSU in the utilization of online information services. It is apparent that the respondents agreed to all the items raised and this concludes that the challenges facing postgraduate students of ABSU in the utilization of online information services include; inadequate funding, low or inadequate internet services due to shared band width, epileptic power supply, inadequate ICT content in the curricular and inadequate/poor ICT competence.

**Research Question Seven: What are the Possible Ways of Solving the Identified Challenges?**

**Table 12: Possible Ways of Solving the Identified Challenges (N = 203)**

S/N	Solutions to the Challenges	AGREE	%	DISAGREE	%
1	Adequate funding	203	100	-	0
2	Providing dedicated services and bandwidth	203	100	-	0
3	Improvement in the supply of electricity by providing a suitable standby generator	203	100	-	0
4	Making the acquisition of ICT skills for PG students compulsory in the curriculum	203	100	-	0
5	Enhance the acquisition of ICT competence among PG students	203	100	-	0

The analysis on *Table 12* investigates the possible ways of solving the identified challenges. All the items raised were accepted (agree = 100%) this concludes that the possible ways of solving the identified challenges facing postgraduate students of ABSU in the utilization of online information services include; adequate funding, providing dedicated services and bandwidth, improvement in the supply of electricity by providing a suitable standby generator, making the acquisition of ICT skills for postgraduate students compulsory in the curriculum and enhance the acquisition of ICT competence among them.

### 4.3 Test of Hypotheses

#### Hypothesis One

**Ho:** There is no significant relationship between computer manipulation skills and utilization of online information services by ABSU postgraduate students

The outcome of this hypothesis was tested using Pearson's Product Moment Correlation (PPMC) technique at 0.05 level of significance.

**Table 13(a) SPSS Output of Correlation between Computer Manipulation Skills and Online Information Services Utilized**

	Computer Manipulation Skills	Online Information Services Utilized
Computer manipulation skills	1	.922**
Pearson Correlation		.000
Sig. (2-tailed)		
N	203	203
Online Information Services utilized	.922**	1
Pearson Correlation	.000	
Sig. (2-tailed)		
N	203	203

\*\* . Correlation is significant at the 0.05 level (2-tailed).

**Table 13(b) Summary of Pearson's Correlation analysis on Computer Manipulation Skills and Utilization of Online Information Services by ABSU Postgraduate Students**

Variable	Correlation Coefficient (r)	t-value
Pearson's Correlation	0.922	10.769**
N	203	
P-value	0.000	

Source: Researcher's computation, 2017

\*\* Correlation is significant at the 0.05 level (2-tailed)

**Decision Rule:** Reject Ho if p-value is  $\leq 0.05$  (significance level, 5%), otherwise do not reject.

**Conclusion:** The correlation analysis result in Table 13(a) and Table 13(b) indicated that at  $p < 0.01$  level of significance ( $r = 0.922$ ;  $t = 10.769$ ), computer manipulation skills have a strong positive effect on utilization of online information services by ABSU postgraduate students. Hence, the null hypothesis (Ho) is rejected and concludes with 95% confidence that there is a significant relationship between computer manipulation skills and utilization of online information services by ABSU postgraduate students. This implies that the higher the computer manipulation skills of ABSU postgraduate students, the higher the utilization of online information services.

### Hypothesis Two

**Ho<sub>2</sub>:** There is no significant relationship between internet navigation skills and utilization of online information services by ABSU postgraduate students.

The outcome of this hypothesis was tested using Pearson's Product Moment Correlation (PPMC) technique at 0.05 level of significance.

**Table 14(a) SPSS Output of Correlation between Internet Navigation Skills and Online Information Services Utilized**

	Internet Navigation skills	Online Information Services utilized
Internet Navigation skills	1	.823**
Pearson Correlation		.000
Sig. (2-tailed)		
N	203	203
Online Information Services utilized	.823**	1
Pearson Correlation	.000	
Sig. (2-tailed)		
N	203	203

\*\* . Correlation is significant at the 0.05 level (2-tailed).

**Table 14(b) Pearson's Correlation analysis on Internet Navigation skills and utilization of Online Information Services by ABSU Postgraduate Students**

Variable	Correlation Coefficient (r)	t-value
Pearson's Correlation	0.823	13.753**
N	203	
P-value	0.000	

Source: Researcher's computation, 2017

\*\* Correlation is significant at the 0.05 level (2-tailed)

**Decision Rule:** Reject Ho if p-value is  $\leq 0.05$  (significance level, 5%), otherwise do not reject.

**Conclusion:** The correlation analysis results in Table 15(a) and Table 15(b) indicated that at  $p < 0.05$  level of significance ( $r = 0.823$ ;  $t = 13.753$ ), internet navigation skills have a strong positive effect on utilization of online information services by ABSU postgraduate students. Hence, the null hypothesis (Ho<sub>2</sub>) is rejected and concludes with 95% confidence that there is a significant relationship between internet navigation skills and utilization of online information services by ABSU postgraduate students. This implies that the higher the internet navigation skills of ABSU postgraduate students, the higher the utilization of online information services.

## 5. DISCUSSION OF FINDINGS

In discussing the findings of the study, the research questions and hypotheses were treated in paragraphs.

Research question one sought to find out the computer manipulation skills of ABSU postgraduate students for the utilization of online information services. Based on the findings, it was observed that the most common computer manipulation skills of the postgraduate students for the utilization of online information services are use of mouse pointing device and keyboards, manipulating and moving computer windows, starting and shutting down computer systems, using icons and folders, as well as using Microsoft office packages like word processing, excel, access and power-point slides for managing documents/files, and using storage devices, computer applications and peripherals. However, the students were found not capable of troubleshooting routine problems associated with computers.

In research question two, the internet navigation skills of ABSU postgraduate students for the utilization of online information services were revealed. Thus, their most common Internet navigation skills involve use of World Wide Web for searching online information, use of emails for sending and receiving documents and attachments, use of online catalogues and library portals, formulating online search queries for information, navigating and accessing online information services in virtual libraries, using search engines for accessing and using online services, as well as downloading and uploading online services on the Internet.

The findings on computer manipulation skills and Internet navigation skills are in line with the findings of Ojedokun and Okafor (2015), that librarians have knowledge and skills of word processing tasks, email use, Yahoo and Google search engines, but lack knowledge of search directories, do not know how to evaluate e-resources, lack knowledge of subject gateways, open access databases, database management and web design skills.

The online information services utilized and the frequency of utilization by the postgraduate students were revealed in research question three. Based on the findings, the types of online information services mostly utilized by the postgraduate students include online literature search (e-books, e-journals, e-thesis, e-monographs, e-magazines), online user education/information instructions, online documents and database delivery services, and online current awareness services.

Meanwhile, the case of online/digital reference services via library portals, online selective dissemination of information and online referral and translation services were found not utilized by the students. This may not be unconnected with the submission of Aina (2014) that core library and information services like digital reference services, selective dissemination of information, among others are rarely provided to users of academic libraries in Nigeria.



Research question four focused on the sources where ABSU postgraduate students access online information services. Findings revealed that majority of the respondents access such services via university library, cyber cafes and personal computers with internet connections. However, other sources like university ICT centre are not avenues of accessing online information services by the postgraduate students.

On the acquisition of ICT knowledge and skills by the postgraduate students of ABSU, as sought in research question five, it was found that places such as computer/ICT training centres and schools, business centres and cybercafés, training from friends, relatives and colleagues and Trial and error method/personal effort and reading of ICT books constitute the major avenues. Unfortunately, postgraduate course of study did not serve as a mean of acquiring ICT knowledge and skills by the students.

The challenges facing postgraduate students of ABSU in the utilization of online information services were revealed in research question six. These are in the areas of inadequate funding, low or inadequate internet services due to shared bandwidth, epileptic power supply, inadequate ICT content in the curricular, and inadequate/poor ICT competence.

For the possible ways of solving the identified challenges, as noted in research question seven, the respondents completely accepted provision of adequate funding, providing dedicated services and bandwidth, improvement in the supply of electricity by providing a suitable standby generator, making the acquisition of ICT skills for postgraduate students compulsory in the curriculum and enhancing the acquisition of ICT competence among postgraduate students.

Hypothesis one and two were rejected. For hypothesis one, it was found that computer manipulation skills have strong positive effect on utilization of online information services by ABSU postgraduate students ( $r=0.922$ ;  $n=203$ ;  $p<0.05$ ). Hence, the null hypothesis ( $H_{01}$ ) is rejected, and concludes with 95% confidence that there is a significant relationship between computer manipulation skills and utilization of online information services by ABSU postgraduate students. For Hypothesis two, it was also rejected. Thus, Internet navigation skills were found to have strong positive effect on utilization of online information services by ABSU postgraduate students ( $r=0.823$ ;  $n=203$ ;  $p<0.05$ ). Hence, the null hypothesis ( $H_{02}$ ) is rejected, and concludes with 95% confidence that there is a significant relationship between internet navigation skills and utilization of online information services by ABSU postgraduate students.

Therefore, the implication is that the combination of computer manipulation skills and Internet navigation skills are significantly related to the utilization of online information services. These are in tandem with Tella, Ayeni and Omoba (2007) as well as Quadri (2012), that ICT skills and abilities are required to explore and utilize online information resources and the associated services.

However, the finding contradicts that of Baro, Endouware and Ubogu (2011), where majority of the students do not use online information services often due to lack of requisite skills, as well as Israel and Edesiri (2014), where no significant relationship was found between the ICT skills of undergraduate students and their use of the Internet, which is an online information service platform.

## 6. CONCLUSION

With the wave of growth and development of ICTs and the associated components, especially the Internet, social media outlets and online networking platforms, the acquisition of ICT skills are inevitable. This is as a result of the application of these ICT skills in all areas of human endeavour, like education and training. More so, the case of students of universities, like those at the postgraduate levels, the possession of these ICT skills for accessing online resources and using online information services are central to their academic pursuits in this digital era.

As revealed in the study, postgraduate students of ABSU possess various ICT skills such as manipulating computer systems and peripherals as well as navigating the Internet and the World Wide Web, and these skills correlate with the students' utilization of online information services. As such, the acquisition of ICT skills is essential for postgraduate students in the pursuit of their studies. This is due to the fact that they need these skills for accessing various types of online resources and then using online information services for the satisfaction of their numerous academic information needs, which would result to academic performance.

## 7. RECOMMENDATIONS

In view of the study's objectives and the findings made, it is therefore recommended that:

- i. The postgraduate school of ABSU should make it a policy to limit admission opportunities to only students that possess ICT skills.
- ii. There should be continuous training of postgraduate students on ICT knowledge and skills, which will not only facilitate their use of online information services, but also to aid their entire postgraduate studies in the university.
- iii. The university library administration should work towards creating platforms for providing comprehensive online information services to postgraduate students, including digital reference services and current awareness services.
- iv. The university management, postgraduate school, university library, and library school should develop a compulsory course on 'Advanced Information Literacy' for postgraduate students, so as to enable them master the art and science of using online information services.
- v. The university library should create an avenue for periodic training of postgraduate students on the use of online information services provided in the institution for satisfaction of their diverse information needs.

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