Computer Literacy Skills and Institutional Factors as Determinants of Electronic Resources Use by Postgraduates in a Nigerian University

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Abstract

The purpose of this study was to investigate the level of computer literacy skills and institutional factors influencing postgraduates' use of Electronic Resources (ERs) at the Federal University of Agriculture, Abeokuta. The Yamane formula for calculating sample size was used to determine 312 postgraduate students who represented the sample size of the study. A simple random sampling technique was used to administer the structured questionnaire, while the SPSS was also used to analyze the data.

The majority (92.3%) of the postgraduates in FUNAAB have high computer literacy skills with skills in internet usage, word processing applications (81.6%) and spreadsheet applications (75.5%). They use e-prints, e-journals (76.9%), AGORA and HINARI (67.0%) often, but EBSCOHOST had low usage (34.6%). However, inadequate space, insufficient computer systems and inadequate ICT training programmes were institutional factors identified as challenges to using ERs by the respondents. The study established that computer literacy skills do not affect the use of ERs by postgraduates in FUNAAB. It was recommended that library management should work towards the expansion of the e-library unit as this will provide enough space to accommodate a large number of students using the library and improve the use of ERs by postgraduates.

Keywords: Computer Literacy Skills, Institutional Factors, Electronic Resources Use, Postgraduates, University in Nigeria

Introduction

The advent of Information and Communication Technology (ICT) has accelerated the availability and use of electronic resources for teaching and learning in academic environments in this digital era. At present, higher institutions of learning are shifting from teacher-based instruction to student-based learning where ICT is predominantly used as a means of delivering instruction to students. It is therefore necessary for every student to be computer literate to further enhance their information access and maximally utilise electronic resources in the library. Computer literacy has been an instrument on which individuals depend to manoeuvre in the era of digital information knowledge. Computer literacy is the means of knowing about computers, understanding their usefulness, and controlling the systems. The computer is a resourceful electronic tool that can receive instructions from the user, process information and bring out a noticeable result, and work with remarkable speed to enhance information knowledge (Boenig-Liptsin, 2015). Computer literacy is an evaluation of a user's ability to operate a computer with the support of a computer device (Levy, 2018). In line with this, students who are computer literate would conveniently use their phones, laptops, tablets, and desktops to complete a given task.

Computer literacy is a vital organ of digital knowledge acquisition that stands out as an engine

room for economic growth and development. The system equips users with the necessary skills to use and apply technology for societal growth. The application of computers to retrieve information based on knowledge has brought tremendous development in scholarly research and publishing. Understanding computer use and search terms or keywords facilitate the information retrieval skills of students and help them meet their needs. Computers are now used in libraries for various information processing tasks, which has resulted in positive results in service delivery areas such as CD-ROMs, internet use, OPAC, electronic resources, and so on (Akpojotor, 2016). Ekwelem, Okafor, and Ukwuoma, (2019) observe that it gives recognition to the knowledge creation and transmission capability of academic libraries around the world. The application of the internet, online catalogues, digital libraries and archives, the World Wide Web, government portals, websites, and CD-ROM databases and online databases are some of the electronic resources that augment library service delivery. According to Oyedokun, Oyewumi, Akanbi, and Laaro (2018), ICT has enabled access to full-text digital content in local and remote library databases via computers and the internet. It is therefore imperative for postgraduate students to acquire the necessary skills for their effective use of the computer, knowing how to find suitable sources that will enhance their successful use of electronic resources.

It is generally believed that the successful use of electronic resources can be facilitated by institutional factors such as the provision and availability of computer systems, stable power supply, and internet connectivity, as well as proper orientation and awareness of the available resources, among others. In a situation these are not available in a university setting, students are likely to face some difficulties with the use of EIRs. In view of this, Okiki (2018) agrees that institutional challenges are some of the major hindrances that constantly determine the use of EIRs by university students. Other barriers to the use of EIRs in Nigerian higher education institutions include the high cost of hardware, high import tariffs for electronic devices, information transmission costs, high cost of internet access, shortage of skilled manpower, poor telecommunication infrastructure, computer illiteracy among students, the cost of installing equipment; incessant power supply, maintenance culture, and bandwidth limitations.

In a similar view, Ogunlade (2018) claims that the lack of basic infrastructure or resources, space for computers, internet connectivity, electric generators, and adequate furniture, lack of ICT technicians and a personnel shortage of experts that can handle installations, operational maintenance of ICT facilities, inadequate funding, and budgetary allocations are other institutional factors depriving students of the use of electronic resources. The basic goals of universities, according to Arua, Eze, Ebisi, Ukwuaba, Ezeanuna & Nwebiem (2018), are to provide an enabling environment for teaching, research and the dissemination of information for societal development. To avoid the various difficulties that students have when using EIR, Oni (2015) claimed that the former National Universities Commission (NUC) executive secretary, Peter Okebukola, advised the government to provide adequate funding for tertiary institutions for infrastructural development and ensure that ICT skills are taught in Nigerian tertiary institutions. If not incorporated at an earlier stage of their studies, graduating students' lack of computer literacy skills could cause a setback for technology advancement and youth innovation. Also, through a preliminary investigation by the researchers, it was discovered from the statistical record that there is low patronage of postgraduate students at the e-library section of Nimbe Adedipe Library, Federal University of Agriculture, Abeokuta, despite the availability of electronic resources facilities. Moreover, these resources are essential for postgraduate students as they will aid their research activities. This observation about the postgraduate students in FUNAAB is coupled with previous studies by Oluwaseye & Abraham (2013) on the students of tertiary institutions in Oyo State using EIR, where it was reported that the patronage of students was low due to deficiencies in computer literacy skills. In line with this, the researchers were prompted to investigate the level of computer literacy skills and institutional factors as determinants of electronic resource use in the Nimbe Adedipe library by postgraduates at the Federal University of Agriculture, Abeokuta.

Objectives of the study

1. Investigate the level of computer literacy skills of the postgraduates at the Federal University of Agriculture, Abeokuta;

2. Determine the e-resources used by postgraduates at the Federal University of Agriculture, Abeokuta;

3. Determine the importance of e-resource use among postgraduate students at the Federal University of Agriculture, Abeokuta; and

4. Examine the institutional factors that encourage e-resource use by postgraduates at the Federal University of Agriculture, Abeokuta;

Research questions

1. What is the level of computer literacy skills of the postgraduates at the Federal University of Agriculture, Abeokuta?

2. What determines the resource use by the postgraduates at the Federal University of Agriculture, Abeokuta?

3. What is the significance of e-resource use among postgraduates at the Federal University of Agriculture, Abeokuta?

4. What are the institutional factors that encourage postgraduates' use of e-resources at the Federal University of Agriculture, Abeokuta?

Hypotheses

H_{01}: There is no significant relationship between computer literacy skills and e-resources used by postgraduates at the Federal University of Agriculture, Abeokuta.

H_{02}: There is no significant relationship between institutional factors and e-resources use by postgraduates of the Federal University of Agriculture, Abeokuta.

H_{03}: Computer literacy skills and institutional factors will not significantly determine the use of electronic resources among postgraduates

Literature review

The incorporation of computers into the institutional curriculum adequately prepares students for university knowledge acquisition, knowledge development, and exposure to various media networks that benefit users, such as e-mail, World Wide Web documents, electronic databases, research opportunities, critical thinking skills, and the development of visual literacy and research collaboration skills. Computers in tertiary institutions assist students to learn independently and rapidly participating in a changing world of activities, which can also be transformed by access to information. Okon (2015) observes that information professionals require information handling skills, evaluating skills, training and facilitation skills, and traditional skills to impact knowledge and access information in diverse or specific areas of their needs.

Information Communication Technology in this context encompasses all technology used to create, store, exchange, and use information in its various formats (Adeyoyin, 2017). Business data, voice chats, still photographs, motion pictures, multimedia presentations, and microelectronic or combined computers and telecommunications have enabled us to process, store, retrieve, and share information without distance, time, or space constraints. As a result of the revolution, worldwide access to electronic resources has increased, and virtual learning environments have emerged. These new technologies have altered and redefined our society to make it the best location for commercial activities, sports, business transactions, transportation, and entertainment, among other things. It has improved test scores, student performance, instruction, and the educational experience for both students and instructors, resulting in a well-informed student population for a high-tech society. This also necessitates computer proficiency and highly specific information-searching abilities. Ayoku (2007) stated that search terms, search phrases, and search expressions are fundamentals of the information retrieval process by students.

The integration of IT into the mainstream of education and training through restructuring of the education system to effectively respond to any challenges facing information development reflects the observation of Usman (2016) that the allocation of special IT development funds for education is still not in conformity with the objectives of Information for All. According to Aitokhuehi and Ojogho (2014), the introduction of IT and computer literacy programs was primarily intended to produce a computer-literate society, which is still a pipe dream in Nigeria. As buttressed by Abubakar and Ademitirin (2015), computer literacy skills are needed in searching for required information using electronic devices. The Association of College and Research Librarians (ACRL, 2000) cited by Onyebuchi and Ugwuchukwu (2010), mentions the need for people to be computer literate to access information, appreciate literature, and participate effectively in group activities.

Oyedokun, Oyewumi, Akanbi, and Laaro (2018) affirm the value of strategic knowledge of computer applications. They go on to say that having access to ICT entails not only having computer software and connections but also having the basic skills to use them effectively and efficiently. In the just cited work, the authors also emphasize that students should be given basic computer training, computer application packages, and internet navigation. McDonald (2004) noted that the ability to have knowledge of using the

command keys of a computer system is an indication that an individual is progressing in computer usage. Kold and Fry (1975), agreed with the submission of McDonald (2004), However, their own opinion focuses on three-dimensional views of study; that is, education teaches us the technicality of problem-solving, the ability to approach new developments and reason critically, and the ability to work concretely and achieve tangible results. All these involve acquiring skills needed for the accomplishment of a task. Having appreciated the value of computer literacy skills, McDonald (2004) examined university students' computer literacy skills at Georgia State University. The study revealed that the university's current policy encourages students to have personal computers, but students should be aware that having a personal computer does not guarantee effective use of technology if they do not strive to acquire the necessary skills.

According to reports on the plans of the Educational Testing Service (ETS) (2012), which launched the ICT Literacy Assessment Standardized test to measure the computer literacy skills of college students in the United States, It was noted that the majority of the students had acquired knowledge of computer usage before their admission. It was discovered that the students could use the computer for chatting, downloading files, and receiving instant messages, but lacked the ability to conduct academic research. And this is why the Economist Intelligence Unit (2008) cited by Okiki (2018) points out that users need more awareness of computer literacy skills. According to reports on the plans of the Educational Testing Service (ETS) (2012), they launched the ICT Literacy Assessment Standardized test to measure the computer literacy skills of college students in the United States. It was noted that the majority of the students had acquired knowledge of computer usage before their admission. It was discovered that the students could use the computer for chatting, downloading files, and receiving instant messages, but lacked the ability to conduct academic research. And this is why the Economist Intelligence Unit (2008) cited by Okiki (2018) points out that users need more awareness of computer literacy skills.

Another study by Shivaraja (2015) on the effective use of electronic resources was investigated in the academic community at the Xavier Institute of Management and Entrepreneurship in India. The findings revealed that 52.3% of respondents agreed that electronic information sources (EIS) provide reliable access to information resources, with 92.5% preferring the internet. Abubakar and Adetimirin (2015) conducted another study on the influence of computer literacy on postgraduate students' use of e-resources in Nigeria. It was noted that computer literacy had a positive relationship with the postgraduate use of e-resources in the library. The finding showed that using computers and telecommunication in acquiring, processing, storing, and dissemination of information helped solve a wide range of problems in individual and organizational lives. This supports Okiki and Asiru's (2019) observation that increased utilization of electronic information resources has come from technological adoption. The advent of these technologies is a welcomed development because it has the opportunity to provide suitable practice and active interaction between learners and instructional programmers.

A wide range of electronic resources and research information are provided online using various formats by producers. Therefore, librarians have to provide services that sustain the objectives of teaching, learning, research, and other activities of tertiary institutions by facilitating access to the needed information at the appropriate time. The types of electronic resources found in the library include e-journals, e-data archives, e-manuscripts, e-maps, e-bibliographic databases, e-books, e-magazines, and e-research reports (Abubakar and Adetimirin, 2015). Electronic resources are online resources that can be accessed electronically with the use of a computer network. Electronic resources give students access to a large range of knowledge, as well as up-to-date information and information that is delivered faster and more easily. To harness these e-resources, computer literacy and competency in database searching are vital for academic and research purposes. As a result, using e-resources will be futile if students are not well-trained in computer literacy skills and lack the search skills required to access this information.

A study conducted by Danner and Pessu (2013) on ICT competencies among students in teachers' preparation programmes at the University of Benin, Nigeria, the study revealed that students' use of ICT, particularly the use of the internet and e-mail, was low. The students were reportedly good at word processing and file navigation. A total of (72%) were noted to be competent in powerpoint use, while 70% of the respondents could not use other computers applications. The findings from the just cited study demonstrate the need for computer literacy among students.

As rightly pointed out by Sahyadri et al. (2017), computer literacy is a measure of the ability of users to handle tasks with the help of computers. This was further established in research conducted by Emwanta and Nwalo (2013) that showed the level of computer literacy skills of undergraduate students in universities in South-Western Nigeria is below average. As the study revealed, Mozilla Firefox (43.18%) and Internet Explorer (37.12%). However, it was further discovered that even though the student usage of computers is below average, the science students tend to use the web browsers, i.e., the Google search engine. Based on this discovery, the science students opined that they should create and sacrifice their time to learn most of the features of computer systems that will benefit their internet searching and easy use.

Oladunjoye and Benwari (2013) conducted a study of students' computer literacy skills, which observed that the socio-economic status of students affects their exposure to computer resources. The study further notes that students brought up in urban settings were more exposed to computer study centres and other computer-related resources than students in rural settings. This could be attributed to infrastructural development in urban centres rather than those in rural villages. Similarly, Adetimirin (2012) conducted another study on the availability, use, and literacy in information and communication technologies of undergraduates at seven Nigerian universities. The descriptive survey research design was used and four faculties were purposively selected with a student population of 8,497. A random sampling procedure was employed using a sampling percentage of 20% to give a sample size of 1,702. The findings revealed that computers, telephones, and the Internet were the three ICTs most commonly used by undergraduates.

In another related study on ICT skills and e-resources use by undergraduates at the state universities (Benue State University and Imo State University; Ahmadu Bello University and the University of Maiduguri), it was found that the respondents have poor ICT literacy skills. Some of the challenges affecting the ICT literacy of the undergraduates were identified as irregular power supply, inadequate ICT facilities, and limited-time created for the use of ICT. The enabling environment also constitutes a major problem with ICT functionality in the study areas. It was therefore recommended that To enhance ICT literacy skills development among Nigerian undergraduate students, university administrators should introduce courses on ICT competency in the school curriculum, especially for first-year students, and should also encourage all lecturers to use ICT for teaching and learning.

Meanwhile, the library is known to be the heart of academic institutions. And the objective of the library is to support the teaching, learning, and research activities of its community. Despite the importance of the library in achieving the goal of a tertiary institution, it was discovered that institutional factors such as inadequate funding to support learning and promote the use of library resources among its users were the major challenges facing tertiary institutions in Nigeria (Ajayi, Diyaolu and Amusa 2019). Funding has been a major challenge to ICT development in tertiary institutions. Ajayi et al. (2019) conducted a study on the comparative analysis of funding and finance of libraries in federal universities, polytechnics, and colleges of education in Ogun State. According to the findings, there was variance in the statutory allocation to libraries, which hampered the supply of necessary resources. It particularly restricted the provision of materials that were critical for studies. The observed inconsistency is in agreement with the study of Iwhiwhu and Okorodudu (2012) that discovered the inadequacy of ICT facilities such as computers, the internet, air conditioners, and photocopies, among others, in libraries as major barriers to users' satisfaction with library services at the Edo State Central Library.

Consequently, Alison, Kiyingi, and Baziraake (2012) conducted a study on factors affecting the utilization of electronic health information resources among students at universities in Uganda. The study affirmed institutional factors as one of the challenges to discouraging library users from patronizing the library. This was also observed by Okon, Ngulube, and Onyancha (2014) that institutional factors such as physical facilities (furniture, fans, computers, and internet resources) are serious obstacles to the use of electronic resources by the respondents. Okiki (2018) listed institutional challenges including the high cost of hardware, high import tariffs, less price competition, transmission cost of information, high cost of internet access, shortage of skilled manpower, poor telecommunication infrastructure, computer illiteracy among students, cost of installing gadgets, incessant power supply, maintenance culture, and bandwidth limitation.

Ogunlade (2018) emphasises that the lack of basic infrastructure or resources, such as space for computers, internet connectivity, electric generators, and adequate furniture, poses great problems for the

usage of ICT. Lack of ICT expertise that can handle operational maintenance of ICT facilities, inadequate funding, and budgetary allocations are some of the institutional factors affecting the use of computers. Ajegbomogun and Busayo (2019) conducted a study on Information Communication Technology (ICT) literacy among staff members of the Kenneth Dike and Nimbe Adedipe libraries in Nigeria and found that some of the factors that hampered the use of ICT facilities in the library included power outages, insufficient technical staff for immediate assistance, and constant equipment breakdowns. It is recommended that library administration provide ICT facilities in their libraries.

Another study on the impediments to harnessing scholarly electronic resources on the internet in developing countries by Ajegbomogun (2017) revealed that inadequate provision of computer facilities ranked highest, with the inability to exploit search engines ranking second. The power supply is unreliable, low internet connectivity, the high cost of dial-up connections, and low bandwidth were challenges faced by users in the study area. It was recommended that users put off their careless attitude and embrace the new technology. In contrast, Oluwasusi, (2014) surveyed ICT utilisation among agricultural students in South Western Nigeria and found that there is high knowledge of ICT utilisation despite poor electricity, insufficient financial resources and inadequate ICT infrastructure. The paper recommended that the institution should seek help from the private sector for ICT amenities.

From the above review of literature, it is clear that computer literacy skills are essential for accessing and using electronic resources. For students to do well in writing their assignments, term papers, projects, coursework, and exams and to succeed academically while in school, they must be computer literate. This is even more compelling because teaching and learning have gone beyond classroom learning. Therefore, students should brace up to compete favourably with others in order not to be left behind in this digital age. The literature reviewed for this paper also shows that university management should seek ways to alleviate the challenges faced by students in acquiring computer literacy skills in their various institutions, as this could encourage the effective use of e-resources by students.

Methodology

The study was quantitative research in which the population comprised one thousand six hundred and forty (1,640) postgraduates. These postgraduates include M. Phil, Master and PhD students of the Federal University of Agriculture, Abeokuta (FUNAAB). There are ten (10) colleges in FUNAAB, namely: College of Agriculture Management and Rural Development (COLAMRUD); College of Animal Science and Livestock Production (COLANIM); College of Environmental Resources Management (COLERM); College of Physical Sciences (COLPHYS); College of Biological Science (COLBIOS); College of Plant Science and Crop Production (COLPLANT); College of Engineering (COLENG); College of Veterinary Medicine (COLVET); College of Food Science and Human Ecology (COLFHEC); and College of Management Sciences (COLMAS). Except for COLMAS, nine (9) of these colleges offered postgraduate programs. The Yamane (1967) formula for calculating sample size was used to determine four hundred respondents (400) who represented the sample size of the study. According to Yamane (1967), as cited in Sarmah and Hazarika (2012), for a 95% confidence level and p = 0.5, the size of the sample should be calculated thus:

$$n = \frac{N}{1 + N(e)^2}$$

n= Sample size
N= Population
1= Constant
e= Error margin

$$n = \frac{1640}{1 + 1640(0.05)^2}$$

$= 0.05 \times 0.05 = 0.0025$

$= 1 + 1640 \times 0.0025 = 4.1025$

$$= \frac{1640}{4.1025} = 399.75$$

$= 400$

As a result, a questionnaire was designed in line with the objectives of the study to elicit responses from the respondents. The questionnaire was presented to specialists in the field of Library and Information Studies to guarantee the face validity of the instrument for the study. Based on their complaints, observations, comments, and ideas, a correction was made. A total of four hundred (400) copies of questionnaires were administered physically to the postgraduate students, out of which three hundred and twelve (312) were returned. This represents 78 percent of all

questionnaires distributed, and it was determined to be usable for further research. The research instrument was administered to postgraduate students in the 2020/2021 second semester of the academic year. The distribution occurred in the lecture rooms and the PG library reading section using a simple random sampling procedure, and the data was analyzed using the Statistical Package for Social Sciences (SPSS).

Result and findings

Table 1. Gender and programmes of respondents N=312

Gender	Frequency	(%)
Male	115	(36.9%)
Female	197	(63.1%)
Programme of study	**Frequency**	**(%)**
M.Phil.	51	(16.3%)
Master	175	(56.1%)
PhD	86	(27.6%)

Table 1 shows that the majority of 197 (63.1%) of the respondents were female and 115 (36.9%) were male. A total of 175 (56.1%) are master's students; the PhD has 86 (27.6%) respondents, while the M.Phil. has 51 (16.3%) respondents.

The level of computer literacy skills of the respondents was investigated with the aid of a structured questionnaire that inquired about various computer applications that could be used by the respondents. The questionnaire was a four-Likert scale, which indicated very high levels of skills; high levels of skills; very low levels of skills; and low levels of skills.

Assessments of the responses showed that the majority (92.3%) of the respondents were proficient in internet usage. These were closely followed by 255 (81.6%) of the respondents who had high skills in using word processing applications. In addition, 236 (75.5%) of the respondents had high skills in spreadsheet

Table 2: Level of computer literacy skills of the postgraduates at the Federal University of Agriculture, Abeokuta N=312

S/N	Response	VH (%)	H (%)	L (%)	VL (%)	X	SD
1	Power on and off computer	214(68.6)	65(20.8)	33 (10.6)	0 (0.0)	3.58	0.548
2	Identify parts of the computer	195(62.5)	80(25.6)	37 (11.9)	0 (0.0)	3.50	0.626
3	Use word processing Applications	168(53.8)	87(27.8)	57(18.4)	0 (0.0)	3.35	0.767
4	Spreadsheet application	115 (36.6)	121(38.9)	54(17.4)	22 (7.1)	3.05	0.992
5	Database application	99 (31.7)	118 (37.8)	80 (25.6)	15 (4.9)	2.96	0.816
6	Presentations	99 (31.7)	118 (37.8)	79 (25.3)	16 (5.2)	2.96	0.548
7	Keyboard shortcuts	103 (33.0)	128 (41.0)	73 (23.4)	8 (2.6)	3.04	0.992
8	Multimedia searching	111 (35.6)	115 (36.9)	71 (22.8)	15(8.2)	3.03	0.767
9	Use of email	117 (37.5)	92 (29.5)	34 (10.9)	9 (2.9)	2.63	0.626
10	Print document	197 (63.1)	84 (26.9)	25 (8.0)	6 (1.9)	3.51	0.812
11	Using different website	205 (65.8)	65 (20.8)	38 (12.2)	4 (1.3)	3.50	0.612
12	Use of internet	220 (70.5)	68 (21.8)	21 (6.7)	3 (1.0)	3.61	0.992

Note*:* Very High (VH); High (H); Very Low (VL) and Low (L)

Table 3. Level of e–resources use by postgraduates at the Federal University of Agriculture, Abeokuta
N=312

S/N	E-resources	VH (%)	High (%)	Low (%)	Very low(%)	X	SD
1	e-journals	151(48.4)	89 28.5)	58 (18.6)	14 (4.5)	3.20	2.11
2	AGORA	85 (27.2)	124 (39.8)	70 (22.4)	33 (10.6)	2.83	2.22
3	HINARI	85 (27.2)	124 (39.8)	70 (22.4)	33 (10.6)	2.83	1.125
4	e-books	94 (30.1)	156 (50.0)	47 (15.1)	15 (4.8)	3.05	1.017
5	CD-ROM	68 (21.8)	122(39..1)	79 (25.3)	43 (13.8)	2.68	0.942
6	EBSCOHOST	39 (12.5)	69 (22.1)	94 (30.1)	110 (35.0)	2.11	0.997

Table 4. Some of the Identified Institutional factors that discourage e-resources use by postgraduates at the Federal University of Agriculture, Abeokuta **N=312**

S/N	Institutional factors	SA (%)	A (%)	D (%)	SD (%)	X	SD
1	Poor electricity supply	26 (8.3)	16 (5.2)	161(51.6)	109 (34.9)	1.86	0.558
2	Poor network services	28(9.0)	21 (6.7)	130 (41.7)	133(42.6)	1.82	0.744
3	High cost of internet connectivity	94 (30.1)	156(50.0)	47 (15.1)	15 (4.8)	3.05	0.703
4	Insufficient computers	94 (30.1)	156 (50.0)	47 (15.1)	15 (4.8)	3.05	0.676
5	Inadequate ICT training programmes	106(30.0)	131 (40.0)	59 (18.9)	16 (5.1)	3.04	0.812
6	Hostile attitude of ICT staff in the library	39 (12.5)	69 (22.1)	94 (30.1)	110 (35.0)	2.11	0.598
7	Insufficient space in the e-library	131(42.0)	129 (41.3)	33 (10.6)	19 (6.1)	3.19	0.784

application usage. A total of 231 (74.0%) indicated that they knew how to use keyboard shortcuts, while 217 (69.5%) indicated that they knew how to use the presentation packages. Interpretation of these results led to the conclusion that the greater parts of postgraduates have high computer literacy skills.

The results in Table 3 revealed that the majority of 250 (80.1%) of the respondents use e-books more than other e-resources in the library. This was followed by 240 (76.9%) respondents who use e-journals in their educational activities. In addition, 209 (67.0%) use AGORA and HINARI, while EBSCOHOST has a low rate of usage of 204 (65.1%) among the available e-resources in the library.

In Table 4, an assessment of the institutional factors that affect the use of electronic resources by postgraduate students revealed that there is adequate electricity supply at the institution library with 270 (86.5%) of the respondents. In addition, 263 (84.3%) of the respondents disagreed with the statement that poor network services form part of the institutional factors that affect the computer literacy skills of postgraduates. 260 (83.3%) affirmed that the space provided for e-library services is not sufficient. A total of 250 (80.1%) affirmed that there are insufficient computer systems and inadequate ICT training programmes (237 (70.0%). The survey findings also showed that the FUNAAB library can support e-resources for postgraduate students.

Table 5 presents suggested strategies by the respondent on methods of improving the computer literacy programmes of postgraduates at a Nigerian university with an overall mean score of 25.76. The respondents agreed that the following strategies could be employed to improve the literacy programmes of postgraduates at Nigerian universities: Provide more

Table 5. Recommended Suggestions by Participants on Methods of improving computer literacy programme

S/N	Statement	SA(%)	A(%)	D(%)	SD(%)	X	SD
1	Provide more computers	87(27.8)	93(29.8)	84(26.9)	48(15.3)	2.70	1.038
2	Lower the cost of the internet	70(22.4)	113(36.2)	85(27.2)	44(14.1)	2.67	0.977
3	Focus on practical rather than theory	75(24)	104(33.3)	85(27.2)	48(15.3)	2.66	1.008
4	Training and development	65(20.8)	116(37.2)	83(26.6)	48(15.3)	2.63	0.979
5	Awareness	103(33)	63(20.2)	76(24.4)	70(22.4)	2.64	1.159
6	Power availability	62(19.8)	119(38.1)	80(25.6)	51(16.3)	2.62	0.982
7	Inability to recruit expert in the area of need	93(29.8)	54(17.3)	79(25.3)	86(27.5)	2.49	1.184
8	Teaching computers in junior schools	57(18.3)	96 (30.8)	101(32.3)	58(18.6)	2.48	0.995
9	Included in the curriculum	61(19.5)	87(27.8)	99(31.7)	65(20.8)	2.42	1.046
10	Subsidies from the government	62(19.8)	80(25.6)	106(33.7)	64(20.5)	2.45	1.029

Key: Strongly Agree (SA), Agree (A), Disagree (D), Strongly Disagree (SD)

H_{01}: There is no significant relationship between computer literacy skills and the use of electronic resources among postgraduates

Correlation between computer literacy skills and the use of electronic resources among postgraduates

Variable	N	Mean	SD	r.cal	p-value	Remark
Computer literacy skills	312	3.36	0.64	0.14	0.08	Not Significant
Use of electronic resources	312	2.10	0.69			

H_{02}: There is no significant relationship between institutional factors and the use of electronic resources among postgraduates

Variable	**Mean**	**SD**	**N**	**R**	**P**	**Remark**
Institutional factors	3.82	0.73	312	-0.10	0.22	Not significant
Use of e-resources	2.10	0.69				

H_{03}: Computer literacy skills and institutional factors will not significantly determine the use of electronic resources among postgraduates

Model	**Unstandardized Coefficients**		**Standardized Coefficients**	**T**	**Sig.**
	B	**Standard error**	**Beta contribution**		
Constant	1.88	0.44		4.26	0.00
Computer literacy skill	0.15	0.09	0.13	1.66	0.09
Institutional factors	-0.07	0.07	-0.08	-1.05	0.29

Table 6. Analysis of variance of multiple regressions for use of electronic resources among postgraduates

Model	Sum of squares	Df	Mean square	F	Sig.
Regression	2.00	2	1.00	2.16	0.12
Residual	77.29	167	0.46		
Total	79.30	169			
Model	**R**	**R square**	**Adjusted R Square**		**Std. error of estimate**
1	0.16	0.03	0.01		0.68

computers (mean of 70); lower the cost of internet access (mean of 67); focus on practice rather than theory (mean=2.66); "training and development" (mean of 2.63); awareness (mean of 2.64); and employ qualified staff.

H_{01} - The correlation between computer literacy skills and the use of e-resources is 0.14, at a 0.05 level of significance (r = 0.14, N = 312, P > 0.08). This implies that there is no significant relationship between computer literacy skills and the use of e-resources by postgraduates at the FUNAAB. Therefore, the null hypothesis is accepted, meaning that postgraduates could effectively use e-resources.

H_{02} - The null hypothesis was tested using Pearson product moment correlation at a 0.05 level of significance. The findings indicate that there is no significant relationship (r = -0.10, P = 0.22 > 0.05) between institutional factors and the use of electronic resources, yielding a significant value of 0.22. Since the value (0.22) is more than the significant level (0.05), therefore the null hypothesis is accepted.

H_{03} - The findings above show the relative contribution of each independent variable to the dependent variables: computer literacy skills (B=0.13; p > 0.05), and institutional factors (B=-0.08; P > 0.05). This shows that computer literacy skills and institutional factors were not significant as critical factors for determining the use of electronic resources.

Table 6 shows that the analysis of variance of multiple regression yielded an F value of 2.16, which is not significant at the 0.05 level. This means that the independent variables (computer literacy skills and institutional factors) do not play a significant role in determining the use of electronic resources by postgraduates (F (2,167) = 2.16; R = 0.16; Adj. R2 = 0.03; P >.05). As a result, the satisfied hypothesis is accepted, implying that there is no strong relationship between computer literacy skills and institutional factors in postgraduates' use of e-resources.

The same table demonstrates that when the independent variables were combined to determine their influence on postgraduates' use of electronic resources, the coefficient of multiple correlation (R) = 0.16 and the coefficient of determination was adjusted to 0.01, which is not significant at the 0.05 level. The coefficient of determination R2 of 0.01 suggests that the two independent variables that were studied jointly accounted for 0.1% of the variance in the use of electronic resources by the postgraduates.

Discussion of findings

It was revealed in the study that the postgraduates in FUNAAB were proficient in computer usage, which established that their computer literacy skills were high. This is evident in the respondents' indication of their abilities to use the internet, word processing applications, spreadsheet applications, keyboard shortcuts, and presentation packages. This finding is consistent with Danner and Pessu's (2013) findings on ICT skills among students at Nigeria's University of Benin's teacher education programs, which observed that students have good skills in word processing, PowerPoint packages, and the ability to easily navigate through files. But it was in contrast to Abubakar and Adetimirin (2015) in their study of the influence of computer literacy on postgraduate students' use of e-resources in Nigerian universities. It was found that the respondents were averagely computer literate. They only used a few e-resources in their libraries, and they did it extremely rarely. It was discovered that computer literacy correlates positively with postgraduate use of e-resources in the study area.

It was established in the study that institutional factors such as electricity supply and network facilities were sufficient for the institutional library. In essence, this indicated that power supply and network connectivity were not part of the institutional factors that could affect the use of electronic resources by postgraduates in FUNAAB. This emerged as being contrary to Ogunlade (2018), who established the

lack of basic infrastructure, which includes internet connectivity and electricity, as some of the hindrances to the use of electronic resources. In the survey reported in this paper, some institutional factors noted to be affecting the computer literacy skills of the respondents were cited as being insufficient space provided for e-library services, insufficient computer systems, and inadequate ICT training programmes. This is corroborated by Iwhiwhu and Okorodudu (2012), who also observed the inadequacy of ICT facilities, which are computers, air conditioners, and insufficient space, among others, to be the major hindrances to users' satisfaction in the Edo State Central library.

The present study observed that the respondents highly used e-books, e-journals, AGORA, and HINARI in their educational activities, while EBSCOHOST emerged to have low usage. Furthermore, this study established that there is no significant relationship between computer literacy skills and the use of e-resources by postgraduates at the FUNAAB. In addition, the study affirmed that there is no significant relationship between institutional factors and the use of electronic resources. Computer literacy skills and institutional factors have no combined significant effect on FUNAAB postgraduates' use of electronic resources.

The respondents were asked for their thoughts on how the utilization of electronic resources among postgraduate students may be enhanced. The majority of the respondents suggested that more computers should be provided; Internet facilities should be maintained; there should be a focus on practical training in computer usage, and ICT training programmes and development should be organised for postgraduates.

Finally, this study found that computer literacy skills and institutional factors are critical for postgraduates to function effectively in their learning and research because they allow them effective access to needed information. However, it was discovered in the study that computer literacy skills are not a hindrance to the use of electronic resources by postgraduates at the Federal University of Agriculture, Abeokuta, Ogun State, Nigeria.

Fundamentally, the study established that computer literacy skills do not affect the use of electronic resources by postgraduates at FUNAAB. This is based on the fact that the majority of the students have the required skills that are needed to manipulate the various features of computer systems. Although some institutional factors, such as insufficient e-library space, computer systems, and ICT training programs, have been noted to pose challenges to postgraduates' use of electronic resources at FUNAAB, there was no significant effect on the use of electronic resources, as e-books, e-journals, AGORA, and HINARI were conveniently used by the respondents in their quest for knowledge, while EBSCOHOST had low usage among the respondents.

Recommendations

Based on the study's findings, it was suggested that:

1. The library management should work towards the expansion of the e-library as this will provide enough space to accommodate a large number of students and improve the electronic resources used by postgraduates of FUNAAB.

2. The development of e-library units should be paramount to library management when preparing library budgets to accommodate more space for operations.

3. Ensure the provision of more computer systems to encourage more use of electronic resources by postgraduates in FUNAAB.

4. Awareness of the importance and usefulness of EBSCOHOST should be created among postgraduates. This e-resource is enriched with more disciplines for greater benefit.

5. Library management and e-library personnel must raise awareness of the library's electronic resources and provide ongoing in-house training on how to effectively use ICT resources.

6. All stakeholders need to get involved to ensure that the computer literacy skills of postgraduates continue to improve. This will ensure the efficacy of students' electronic resources and increase library usage.

7. Postgraduates should be involved in self-training to improve their computer literacy skills through local and international conferences or ICT training programmes organised by the library.

8. Postgraduates should not hesitate to proffer suggestions, recommendations, and ideas to the stakeholders to improve the provision of electronic resources and promote their use among postgraduates.

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