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Influence of computer literacy and subject background on use of electronic resources by undergraduate students in universities in South-western Nigeria

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The extent to which electronic resources are utilised by undergraduate students will depend largely on some factors pertaining to the users, especially computer literacy and subject background. Therefore, the study investigated the influence of computer literacy and subject background on the use of electronic resources by undergraduate students in two universities in South-western Nigeria. The survey research design was adopted in the study with the questionnaire as a major instrument for data collection. Simple random sampling and purposive sampling techniques were adopted to select three faculties and two departments each from the universities and 275 respondents out of 904 undergraduate students. Simple descriptive statistics was used to analyse the data. Results of the study revealed that 8(7.1%) of the respondents at the Federal University of Technology Akure (FUTA) and 30(19.0%) at the Obafemi Awolowo University Ile-Ife (OAU) visit the library to consult electronic resources. Although electronic resources in general are very important for academic tasks, 30(26.8%) of the respondents at FUTA and 32(20.3%) at OAU indicated that the Internet is most useful in discovering literature relevant to their subject background. Computer literacy and subject background influenced use of electronic information resources by the students. The study, therefore, recommended that measures should be taken to increase the level of computer literacy among the students for increased use of electronic resources available in the university libraries.

Key words: Computer literacy, electronic resources, university libraries.

INTRODUCTION

Electronic resources are increasingly available in Nigerian universities thereby making it possible for students to access and use current and relevant literature for studies and research. Over the last decade, a significant transformation has been noticed in collection development policies and practices. Print medium is increasingly giving way to the electronic form of materials (Sharma, 2009).

Lukasiewicz (2007) observed that undergraduate students are looking for a convenient, time saving and fast

response as they move from using physical collections to the digital library in the various university campuses.

The primary purpose of university libraries is to support teaching, learning, and research in ways consistent with, and supportive of, the institution's mission and goals. In addition, library resources and services should be sufficient in quality, depth, diversity, and currency to support the institution's curriculum. As a result of this, university library is often considered the most important resource centre of the parent institution. Adequate library resources and services at the appropriate level for degrees offered should be made available to support the intellectual, cultural, and technical development of students enrolled in Nigerian universities (Oyewusi and

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Oyeboade, 2009).

With the introduction of information and communication technology facilities in the universities, information dissemination among the university communities has been tremendously enhanced. Kyrillidou (2008) believes that libraries are the crucible of genius and they are fundamental to the intellectual experience and natural activity of the mind. Indeed, there are no great universities without great libraries.

In this Internet-dominated age and information rich culture, information literacy skills are of great value. There is a mass of user-created content and collaborative work embedded in the digital technology that aids students to achieve their academic relevance and pursuit. The growth of research in all fields of human endeavour is becoming increasingly detailed and sophisticated. Faculty members and students have realized that the library has great roles to play in the provision of information necessary for their day to day research.

The rapid growth of information and communication technologies is changing the way academic libraries operate today. Adewale et al. (2006) argued that "the library is the heart of an academic institution and its objectives revolve round the mother institution's objectives". In other words, apart from the fact that university libraries provide needed information sources and services, they also promote teaching, learning and research in the universities. According to Aniebiet (2009), university libraries assist the universities in the discharge of their functions by acquiring all the relevant information resources necessary for sustaining the teaching, learning, research and the public service functions of their universities. Reid (2000) submitted that emerging information and communication technology allows for the virtualization of teaching and learning. The use of information and communication technology in universities makes it possible for courses, modules, art-training programmes that are interactive and multimedia based to be delivered at anytime and anywhere, to enable the institutions' objectives to be expeditiously achieved.

University libraries are charged with the provision of information services for users, acting in the changing academic environment. Therefore, the librarians need to liaise with library users, faculties, departments and lecturers to support effective teaching, learning, and research in the universities. These challenges require university libraries to offer user-friendly facilities. In Nigeria, the use of computer terminals in information searching is gradually gaining popularity and so the students need to be computer literate. Thus, many Nigerian university libraries are striving to be fully automated while some are still in the process of computerisation. To derive benefit from the increasingly electronic library use environment, the user of Nigerian university libraries need to be computer literate.

Computer literacy, the ability to use computers to perform a variety of tasks, is in today's world fundamental

to the learning process. Computer literacy refers to the comfort level someone has with using computer programs and other applications associated with the computer. A valuable component of computer literacy is knowledge of how computers work and operate. To have basic computer skills is a significant asset to the student in the university. Computer literacy entails the ability to operate a computer and to understand the language used in working with a specific system or systems. According to Otokunefor (2005), "computer literacy refers to the level of computer knowledge of an individual and the degree to which such knowledge can be used in problem solving". Computer literacy is also seen as the ability to achieve desired outcome through a computer. The tasks comprising computer literacy, according to Saadi (2002), vary in different environments. For users, computer literacy could be defined as having three components: understanding of basic computing principles, knowing how to use, at least, one computer operating system, and proficiency with specific software programmes.

Electronic resources are important in libraries due to their enormous advantage to students and the university libraries. It offers students the chance of access to relevant and current information from different subject areas. The emergence of electronic resources has tremendously transformed information-handling and management in Nigerian academic environments and university libraries in particular (Ani and Ahiauzu, 2008). The use of electronic resources has given rise to new modes of organising the educational environment of tertiary institutions, new concepts of the teaching process and recasting the role played by the participants in education process. Electronic resources are very important and useful to undergraduate students because it supports high quality information service network which provides access to a full range of learning and teaching materials in various formats (Mcharazo, 2006).

Electronic resources can, therefore, provide a number of advantages over traditional print based sources. These advantages include the fact that electronic resources are often faster to consult than print indexes especially when searching retrospectively, and they are straight forward when wishing to use combination of keywords. They open up the possibility of searching multiple files at a time. Electronic resources can be printed, searched and saved to be repeated or consulted at a later date. They are updated more often than printed resources. Electronic resources have the potential for enhancing student's learning, as the resources provide teachers and students with vast quantities of information in an easily accessible non-sequential format. Thus, the role of electronic resources in teaching and learning is rapidly becoming one of the most important and widely discussed issues in contemporary education policy. Ani and Ahiauzu (2008), citing Tsakonas and Papatheodorou (2006), states that "the transition from print to electronic medium apart from resulting in a growth of electronic

information has provided users with new tools and applications for information seeking and retrieval".

Norris (2004) asserts that electronic resources reduce pressure on academic libraries for physical space for storage of books and journals, gives the librarian the assurance that the electronic books and journals are complete, unanalyzed and in the right place and provides unlimited access to users. Electronic resources hold huge volumes of information which allow students to retrieve as quality information to meet their needs. Nigerian university libraries are to varying degrees operating in an electronic environment and so the more computer literate a student is, the more effective will be the library use.

Objectives of the study

The objectives of the study are to:

1. Identify the types of electronic resources available in the libraries of the Federal University of Technology, Akure and the Obafemi Awolowo University, Ile-Ife for undergraduate students;
2. Determine the types of electronic resources most frequently used by the undergraduate students in the two universities;
3. Identify the academic tasks for which the students use electronic resources in the universities;
4. Find out the level of computer literacy skills of the undergraduate students of the two universities;
5. Determine the influence of computer literacy skills on use of electronic resources by undergraduate students in the universities;
6. Determine the influence of subject background on use of electronic resources by undergraduate students in the two universities; and
7. Identify major inhibitors to the use of electronic resources by the undergraduate students.

LITERATURE REVIEW

The literature shows that librarians have shown great concern over the availability of electronic resources for academic purposes and factors affecting their effective utilisation. This review starts with a conceptual framework and examines the concerns of writers on electronic information resources and factors affecting their use.

Electronic information resources (e- resources) are part of the total library collection put together to meet the user's immediate and potential needs. However, this study is based on the framework that electronic information resources are unique and so their use is affected by certain user, institutional and product centred factors.

Singh et al. (2011), in their study of factors affecting the use of electronic information services by international

students in Malaysia, observed that information specialists have long sought to understand what factors are pertinent in encouraging a person to search for information. They also noted a shift in focus of the inquiry, more recently, to factors affecting access to, retrieval, evaluation and use of electronic information resources especially through library mediation. They cited several studies to show that factors like language proficiency, computer literacy and information literacy affect the use of electronic information resources of the library (McGuigan, 2001; Badke, 2002; Patton, 2002; Howze and Dorathy, 2003; Huang and Liaw, 2005; Teo, 2006).

A study to examine the factors that influenced use of electronic information resources and services in academic and research institutions in Tanzania found that access was limited by lack of skills, lack of awareness of available resources or lack of interest, time and commitments to use the resources.

Other factors affecting the utilization of e- resources that were identified include lack of competence of the e- resources users, lack of knowledge, negative attitudes and poor practices and inadequate and limited infrastructure (Manda, 2005; Smith et al., 2007). In another study, Alison et al. (2012) found that utilization of e- resources was influenced by human and institutional factors including information literacy, low bandwidth and limited number of resources available to users. The literature review for this study has also revealed that availability of e- resources, discipline and institutional factors affecting the use of the resources by students and researchers (Eason et al., 2000; Tenopir, 2003).

From the literature, therefore, a conceptual framework is drawn for this study and represented in Figure 1. The figure shows that information literacy, institutional factors, such as adequacy of ICT use facilities and personal factors, for example, subject background.

University library objectives

A university is a citadel of learning and research. A university library is regarded as a repository of knowledge and information gateway where various information materials are stored. Lawal and Okwueze (2007) pointed out that university libraries are set up to assist the execution of their statutory duties. University libraries are the centre of both learning and research activities in the universities. To fulfil its mission of supporting educational objectives of its parent bodies, which include teaching, research and cultural development, the library has to develop and maintain standard books, journals, multimedia, electronic resources and information and communication technologies and services.

One of the objectives of university libraries in Nigeria is to develop and maintain collections in all formats –print and electronic and to make these information resources available and accessible to all including lecturers. It is

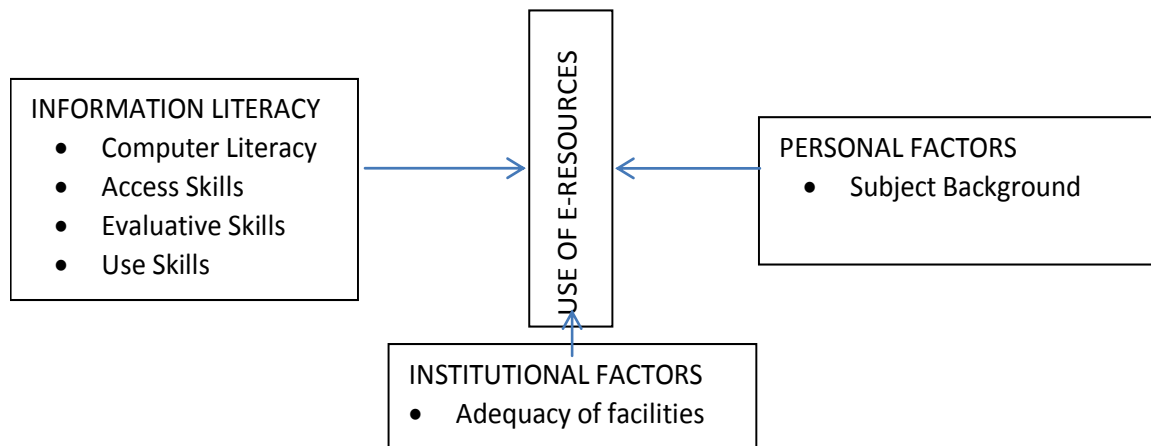


Figure 1. Conceptual framework on factors affecting use of electronic information resources constructed by the authors.

pertinent, therefore, that academic libraries should facilitate uninterrupted Internet access to scholarly electronic publications to meet lecturers' resource needs. Chisenga (2006) observed that the central purpose of libraries is to provide a service access to information and modern information and communication technologies, especially computers, information networks and software applications are making it possible for libraries to provide a variety of library and information services to their clientele.

The university is an important agent of change in the development of human resources of any nation (Ntui, 2009). The major role of the university as defined in the National Policy on Education (Federal Ministry of Education, 2000) includes the provision of high level manpower for national development and this role is achieved through its programmes of teaching, learning and research. The university library occupies a significant position in every university. This is so because a good university library is one that effectively helps in galvanizing the universities' human intellectual capacity by providing adequate and timely information in support of the teaching, learning and research activity of the university (Uwaifo, 2008).

According to Walton (2010), the objectives of the university library are to:

1. Support and facilitate the research, learning, teaching and administrative activities of the university, by organising, maintaining and providing access to appropriate literature and information resources in such a way as to provide optimum benefit for library users.
2. Supply services and expertise designed actively to promote the effective exploitation of library and information resources, including the teaching of transferable information handling skills; and
3. Provide an appropriate and comfortable environment;

accommodation and facilities for the use of library resources and for individual and group study.

The place of electronic resources in the attainment of university libraries' objectives

Electronic resources have boosted the collection of libraries worldwide and in a special way, the ageing collections of many universities in Nigeria. This also has raised the hope of meeting the user information needs and automated operations. As a result of serious economic downturn in Nigeria from the 1990s, most university libraries in the country had difficulty in acquiring recent journals and other publications to meet the user needs for teaching, learning, research and community service. With the increasing availability of electronic resources, the users would have better quality collection and that would enable them to appraise their collections effortlessly and to assess the value of expensive journals and databases both within and outside the library. Mutshewa (2000) asserts that traditional libraries stored different types of information resources in different formats in their buildings. Various tools and guides to locate these resources were available only when a patron physically visited the library. The situation has now changed and access to these guides has become paramount. He concludes that with the advent of computers and telecommunication technologies, libraries and information centres can provide access to these resources through workstations within the library building. Advances in information technology, particularly the Internet, have enhanced the potential for widespread online search and retrieval of electronic resources by students and other researchers.

Electronic resources have affected the functioning of libraries and information seeking habit of users (Tenopir,

2003). The development and availability of Internet services has increased the impact that information has on people by placing vast information resources at people's doorsteps. Electronic resources are also said to provide more comprehensive information for the users (Harle, 2010; Kumar and Kumar, 2008; Obaje and Camble, 2008; Thanuskodi, 2012; Saka and Abdulrahman, 2008).

Nigerian universities are gradually joining the rest of the world in the use of information and communication technology and electronic resources in their academic and administrative activities. The amount of scientific information and the number of electronic journals on the Internet continue to increase, and researchers are increasingly making their work available online. Internet connectivity has fundamentally changed the way people work, think, and interact with others (Ekwelem et al., 2009). Electronic resources have become an increasing substantial component of academic library collections over the last two decades. Electronic resources are important in libraries due to their immense benefits to students and university libraries. Electronic resources afford students the opportunities to access relevant and up-to-date information from different subject fields.

The need to have ready access to relevant information for improving knowledge is of strategic importance to the society (Lakos and Shelly, 2004). The growth of electronic publications is reshaping the nature of collections and the mode of delivery and accessing information in libraries. Among various resources for learning, staff and students all over the world can retrieve seemingly endless volumes of information from all over the globe in a short span of time. The introduction of electronic information sources into academic environments, particularly universities, is almost predictably followed by rapid growth in awareness and use of the resources by students and academics (Sheard et al., 2003).

Use of electronic resources in university libraries

Electronic resources are those information resources that can only be accessed by the use of computers and other ICT devices. These materials may require the use of a peripheral device directly connected to a computer, for example, CD-ROM drive or a connection to computer network, for example, the Internet. There are different types of electronic resources such as Compact Disc Read Only Memory (CD-ROM), Internet, online public access catalogues (OPAC), electronic books, electronic journals and electronic index. Electronic resources are popularly used by students for information retrieval. This is due to their time saving qualities and the convenience of remote access to full-text journals (Barret, 2005). The use of electronic resources has given rise to new modes of organising the educational environment in tertiary institutions. It has also introduced a new concept of the teaching – learning process and recast the role played by

the participants in the education process. They are potentially powerful tools for extending educational opportunities.

Siddiqui (2007) emphasised access to remote learning resources as a development that electronic resources have brought into education. Consequently, teachers and learners no longer have to rely solely on printed resources housed in libraries which are available in limited quantities for their educational needs. With the Internet and the World Wide Web, abundant learning materials in almost every subject in a variety of media can now be accessed from any part of the world. Electronic resources when appropriately used are said to help expand access to education, strengthen the relevance of education to the increasingly digital workplace, and raise educational quality by helping to make teaching and learning into an engaging, active process connected to real life.

Dadzie (2005) posited that e-resources are convenient to use since users are able to access information from the library, Internet café, offices and private residence at any time of the day or night. Frequency of library use by students is another factor influencing the use of electronic resources. However, if students use the library primarily as a quiet and convenient place to study, they may not be aware of its resources at all, as compared to the student who never puts a foot in the library (Waldman, 2003).

According to Dadzie (2007), electronic resources are invaluable research tools that complement the print-based resources in a traditional library setting. Their advantages, according to her include access to information that might be restricted to the user due to geographical location or finance, access to more current information, and provision of extensive links to additional resources related contents. The facilities make possible a synchronous learning, or learning characterised by a time lag between the delivery of instruction and its reception to learners. The use of electronic information resources has been established as very essential for communication as well as make for interactive sessions with groups and individual students in distance locations (Mabawonku, 2004). This has enhanced learning and teaching both far and near as the facilities provide both teachers and students with vast quantities of information in an easily accessible and non-sequential format. The impact of using electronic resources is very significant. This is simply because it supports high quality information service network which provides access to full range of learning and teaching materials in various formats (Mcharazo, 2006).

Influence of computer literacy on use of electronic resources

Computer literacy refers to the comfort levels one has with using computer programmes and other applications

that are associated with computers. Similarly, application of computer literacy in literature searching could be described as the extent to which the students are capable of conducting electronic information searches or use computer facilities to locate relevant sources and information for academic or research purposes. Computer literacy does not mean that one needs to know how to use every piece of software nor how to write programme or network a computer. Wikipedia Encyclopaedia (2006) states that computer literacy is the knowledge and ability a person has to use computers and technology efficiently which include:

- i) Plugging in and turning the computer on;
- ii) Composing, editing and printing documents;
- iii) The ability to communicate with others using computer through electronic mail (e-mail) or instant messaging services;
- iv) Managing and editing pictures (from cell phones, digital cameras and even scan); and
- v) Opening files and recognising different types. That is, to perform several common functions such as; open a file, save a file, quit the programme.

Computer usage for electronic information resources searching depends on the user's knowledge of the search system, as well as the ability to identify the information problem as the starting point of the search. In a related study, Bashorun et al. (2011) found that there was no ICT use skill among the respondents at the University of Ilorin, Nigeria and this was a barrier to the use of E-resources.

Moreover, McGuigan (2001) observed that the level of computing and Internet experience with which students enter higher education might influence whether or not they will use the library's electronic resources. In order to utilise the growing range of electronic resources, students must acquire and practice the skills necessary to exploit them. The ability to find and retrieve information effectively is a transferable skill useful for future life as well as enabling the positive and successful use of the electronic resources while in the university. Students need to possess both computer and information literacy skills in order to access electronic information on the Internet. A study by Ozoemelen (2009), on use of electronic resources by postgraduate students of the Department of Library and Information Science, Delta State University Abraka, reviewed there was low level of skilfulness in the use of ICT among the respondents. Lack of search skills was found to be a major hindrance to the respondent's use of electronic resources.

Influence of subject background on use of electronic resources

Studies have shown that one of the major factors

explaining the use of electronic libraries is the scholar's discipline. It seems that representation of science and medicine use electronic resources more frequently than humanists and social scientists (Tenopir, 2003). Eason et al. (2000) observed that the availability of relevant electronic resources affects how frequently scholars use them. In a related study, Borgman (2000) states that the provision of electronic resources varies among disciplines. They are most available in science and medicine and least in social sciences and humanities. It is evident that not only the characteristics of a discipline, but also the availability of electronic resources in the discipline that explains the use of electronic resources and libraries. Consequently, if the availability of electronic resources in libraries was more, there would not be such great difference in their use among the disciplines (Eason et al., 2000).

Some authors, for instance, Eason et al. (2000) and Tenopir (2003) have found that users' discipline and institutional context strongly affect the use of electronic resources. Electronic resources are typically most widely used in natural and technical sciences. In humanities and social sciences, these resources are used less often. Rempel and Davidson (2008) observed that graduate students, like the undergraduates, come from a wide variety of educational background and frequently have knowledge gaps about finding and using information for their research.

Despite the vast amount of literature devoted to increasing the information literacy of university students, much of the library literature about graduate students indicates that they primarily use journal articles rather than books, prefers electronic access whenever possible and desires cross-database searching (Jankowska et al., 2006).

Problems affecting the use of electronic resources in Nigerian university libraries

One obstacle to the use of a library's resources and in particular, its electronic resources is that they are not seen as being easily accessible. This is in contrast to an Internet search engine where a single keyword search could result in thousands of hits, no matter the topic. In the library, students have to choose a particular database and be more selective in the search words they use (Waldman, 2003). Watts and Ibegbulem (2006) examined some of the barriers to the use of electronic resources available at the medical library of the College of Medicine, University of Nigeria, Nsukka. Their findings revealed that lack of an adequate ICT infrastructure and affordable online access, absence of in-depth ICT skills and information searching skills among library staff and users are barriers to the use of electronic resources. In the same vein, Ondari-Okenwa (2004), Ashcroft and Watts (2005), Adomi (2005) and Oduwole and Sowole

Table 1. Purposes of library visit.

Why do you visit the library?	Federal University of Technology Akure (FUTA)		Obafemi Awolowo University (O.A.U.)	
	No	Yes	No	Yes
To consult the reference sources	59(52.7%)	53(47.3%)	92(58.2%)	66(41.8%)
To read newspapers/magazines	83(74.1%)	29(25.9%)	130(82.3%)	28(17.7%)
To use its electronic resources	89(79.5%)	23(20.5%)	128(81.0%)	30(19.0%)
To do class assignments	39(34.8%)	73(65.2%)	79(50.0%)	79(50.0%)
To read for examination	59(52.7%)	53(47.3%)	67(42.4%)	91(57.6%)
To study personal lecture notes, to borrow books and others	57(50.9%)	55(49.1%)	73(46.2%)	85(53.8%)
	53(47.3%)	59(52.7%)	122(77.2%)	36(22.8%)
	104(92.9%)	8(7.1%)	150(94.9%)	8(5.1%)

(2006) identified problems in the adoption and usage of ICT and electronic resources in Nigeria to include lack of adequate ICT skills among staff and users, low basic information literacy levels in the Nigerian population and prohibitive cost in developing countries to gain access to the Internet. The findings were corroborated by those of Salaam and Adegboire (2010) who studied Internet access and use by the students of private universities in Ogun State, Nigeria.

Several studies have shown that undergraduates use the library mostly as a place to study and make photocopies but they do not make great use of some of the available library services such as interlibrary loan, reference desk and its electronic resources (Whitmire, 2001). Many researches conducted in Africa have also identified the challenges of using electronic resources in the colleges and universities to include low ICT use skills, lack of adequate infrastructure for using electronic resources, especially epileptic power supply (Ani and Ahiauzu, 2008; Dadzie, 2009; Ozoemelen, 2009).

METHODOLOGY

The study adopted the survey research design. The population of the study comprises final year undergraduate students in six selected departments from three (3) faculties/schools at the Obafemi Awolowo University, Ile Ife and Federal University of Technology, Akure. The population of final year undergraduate students in the selected departments in the two universities are 532 and 372, respectively. These sum up to a total population of 904 undergraduate students. The study population also includes the two university librarians, two reference librarians and systems unit librarians of the two universities and this gives a total of six (6) librarians. The combination of purposive sampling and simple random sampling techniques was adopted in selecting the respondents for the study. Three faculties/schools were randomly selected from each university to constitute the study sample. Purposive sampling technique was used to select faculties/schools in both universities. For each faculty/school, two departments were purposively selected on the basis of their being available in all the selected faculties/schools. The departments selected are Agricultural Economics, Animal Science, Agricultural Engineering, Civil Engineering, Physics and Biochemistry. The choice of the

three faculties was based on their availability in the two universities for the purpose of comparison. The population of respondents was distributed to the three faculties and more participants were selected from faculties with greater population.

The sampling fraction used for selecting the sample from each of the selected departments is thirty percent (30%). Thus, a total of 275 respondents out of a population of 904 were selected, giving a sample size of 161 and 114 from Obafemi Awolowo University and the Federal University of Technology Akure, respectively. In all, six (6) librarians made up of the two university librarians, the reference librarians and systems librarians of the two universities were selected for the study. The research instruments used for this study are questionnaire and interview with questionnaire being the major instrument. The questionnaire was pre tested on undergraduate students at the University of Ibadan. The data were analysed with the use of simple descriptive statistics such as tables, percentages and frequency distribution and run on the computer, using the Statistical Package for the Social Science (SPSS).

RESULTS AND DISCUSSION

The results of the study are hereby presented and discussed as follows: Table 1 reveals that the undergraduate students at FUTA and O.A.U visit the library for several reasons. The table shows that at FUTA, 73(65.2%) of the respondents visit the library to do class assignment while 23(20.5%) indicated that they visit the library to use its electronic resources. At O.A.U, 28(17.7%) of the respondents visit the university library to read newspapers/magazines while 91(57.6%) visit to read for examination. This result is contrary to the findings of Thanuskodi (2012) in a study on the use of electronic resources by postgraduate students and research scholars of the faculty of Arts, Annamalai University. The study reveals that the majority of the users use E-resources from writing papers.

From the study, undergraduate students visit the library for different purposes. This reiterates the fact that the university is generally regarded as a custodian of knowledge where every student, especially the undergraduates acquires knowledge in various disciplines for self-development which in turn prepares them for future roles in the society.

Table 2. Awareness of the availability of electronic resources in the university library.

Are you aware that these electronic resources are available in your university library?	FUTA		O.A.U.	
	No	Yes	No	Yes
Internet	17(15.2%)	95(84.8%)	53(33.5%)	105(66.5%)
CD-ROM	76(67.9%)	36(32.1%)	112(70.9%)	46(29.1%)
Electronic Books	78(69.6%)	34(30.4%)	95(60.1%)	63(39.9%)
Electronic Journals	72(64.3%)	40(35.7%)	95(60.1%)	63(39.9%)
Electronic databases	95(84.8%)	17(15.2%)	117(74.1%)	41(25.9%)

Table 3. Electronic resources most frequently used by the undergraduate students in the two universities.

How frequently do you use these electronic resources in your library?	University	Daily	Weekly	Monthly	Never
Internet	FUTA	35(31.3%)	34(30.4%)	26(23.2%)	17(15.2%)
	O.A.U.	36(22.8%)	37(23.4%)	40(25.3%)	45(28.5%)
CD-ROM	FUTA	12(10.7%)	18(16.1%)	12(10.7%)	70(62.5%)
	O.A.U.	15(9.5%)	39(24.7%)	15(9.5%)	89(56.3%)
Electronic Books	FUTA	7(6.3%)	19(17.0%)	18(16.1%)	68(60.7%)
	O.A.U.	23(14.6%)	38(24.1%)	20(12.7%)	77(48.7%)
Electronic Journals	FUTA	8(7.1%)	26(23.2%)	13(11.6%)	65(58.0%)
	O.A.U.	21(13.3%)	38(24.1%)	26(16.5%)	73(46.2%)
Electronic Databases	FUTA	5(4.5%)	19(17.0%)	14(12.5%)	74(66.1%)
	O.A.U.	19(12.0%)	33(20.9%)	22(13.9%)	84(53.2%)

The study also investigated the awareness of the students of the availability of electronic resources in their university library. The result is stated in Table 2.

As shown in Table 2, 95(84.8%) of the respondents indicated that they are aware of the availability of the Internet in their university library while 17(15.2%) affirmed that electronic databases are also available in the university library. The table also revealed that 105(65.5%) of the respondents at O.A.U stated that they are aware of the availability of the Internet in their university library and 41(25.9%) indicated that electronic databases are available in the university library. The interview with the university librarians and observation in both university libraries revealed that there were various types of electronic resources in the university libraries for undergraduate studies but majority of the students were unaware of the availability. In a related study by Bashorun et al. (2011), it was also revealed that there was low level of awareness of the availability of electronic resources in the university library by the academic staff of the University of Ilorin, Nigeria.

Ignorance and lack of awareness of the availability of electronic resources in the university library could deprive undergraduate students and academic staff of access to

remote learning resources thereby placing them at a disadvantage in modern teaching and learning processes. The use of electronic resources by undergraduate students in the university libraries is a land mark that is carrying education delivery to the heights. Therefore, awareness of its availability in the university should be of utmost concern. Mcharazo (2006) asserted that electronic resources support high quality information service network which provides access to full range of learning and teaching materials in various formats. There is no doubt that effective use of electronic resources can bring about academic excellence and so the undergraduate students should embrace it.

Table 3 shows that 35(31.3%) of the respondents from the Federal University of Technology Akure (FUTA) use the Internet daily, while 19(17.0%) use electronic books weekly. It also revealed that 65(58.0%) had never used electronic journals in their university library. The table also revealed that 39(24.7%) of the respondents at Obafemi Awolowo University (OAU) use CD-ROM weekly in the library while 77(48.7%) never used electronic books in the library. The interview with the university librarians also revealed that the Internet is the electronic resource that is most frequently used by undergraduate

Table 4. Students' access points for electronic resources in the universities.

Where do you access these electronic resources in your university?	FUTA		O.A.U.	
	Frequency	%	Frequency	%
University Library	48	42.9	40	25.3
Cyber café	59	52.7	68	43.0
Department/Faculty/School	2	1.8	20	12.7
University Premises (campus)	3	2.7	30	19.0

Table 5. Academic tasks for which the students use electronic resources.

Which of these academic tasks do you use electronic resources for?		Class assignment	Writing projects	Seminars	Class work	Term papers	Research purpose
Internet	FUTA	30(26.8%)	24(21.4%)	14(12.5%)	8(7.1%)	17(15.2%)	19(17.0%)
	OAU	32(20.3%)	26(16.5%)	10(6.3%)	15(9.5%)	17(10.8%)	16(10.1%)
CD-ROM	FUTA	12(10.7%)	11(9.8%)	9(8.0%)	2(1.8%)	8(7.1%)	6(5.4%)
	OAU	11(7.0%)	15(9.5%)	7(4.4%)	5(3.2%)	4(2.5%)	6(3.8%)
Electronic Books	FUTA	21(18.8%)	19(17.0%)	13(11.6%)	11(9.8%)	16(14.3%)	13(11.6%)
	OAU	32(20.3%)	26(16.5%)	10(6.3%)	17(10.8%)	15(9.5%)	16(10.1%)
Electronic Journals	FUTA	21(18.8%)	26(23.2%)	22(19.6%)	13(11.6%)	21(18.8%)	18(16.1%)
	OAU	27(17.1%)	30(19.0%)	18(11.4%)	15(9.5%)	14(8.9%)	29(18.4%)
Electronic Databases	FUTA	5(4.5%)	10(8.9%)	7(6.3%)	2(1.8%)	4(3.6%)	8(7.1%)
	OAU	17(10.8%)	19(12.0%)	8(5.1%)	10(6.3%)	9(5.7%)	24(15.2%)

students in the two universities. A related study by Ibrahim (2004) at the United Arab Emirate University had revealed that the use of electronic resources by faculty members was low while Bashorun et al. (2011) found in another study that electronic books were the least frequently used electronic resources in the university library. The users prefer using the Internet and electronic storage devices like the CD-ROM in information searching.

Table 4 reveals that in FUTA, 59(52.7%) of the respondents access electronic resources at the cyber cafe while 2(1.8%) do so through the facilities provided by the parent institution. The table revealed that at O.A.U, 68(43.0%) of the respondents access electronic resources in the cyber café while 20(12.7%) access electronic resources in the department/faculty/school. It was also evident from observation and interview that the students have access to electronic resources both within and outside the university library.

As revealed in Table 5, 30(26.8%) of the respondents from the Federal University of Technology Akure (FUTA) use the Internet to do class assignment, 2(1.8%) indicated that they use the CD-ROM for class work while 19(17.0%) stated that they use the electronic books to

write projects. It also revealed that 22(19.6%) use electronic journals to write seminar papers while only a few 2(1.8%) use electronic databases for class work. The table also revealed that 32(20.3%) of the respondents use the Internet for class assignment while 6(3.8%) use the CD-ROM for research purposes. Furthermore, 26(16.5%) use electronic books for writing projects, while 15(9.5%) use electronic journals for class work and 9(5.7%) indicated that they use electronic databases for writing term papers. Electronic resources present significant opportunities for enhancing efficient and effective academic performance. They are used for various academic tasks like assignments, project writing, seminar presentation, research purposes and writing term papers. This is supported by Adeyemi (2004) who emphasised that undergraduates in Nigeria use electronic resources mainly for class assignments and term papers.

Table 6 shows that 84(75.0%) of the respondents at the Federal University of Technology Akure (FUTA) had a high level of competence in Internet access while their competency level in accessing CD-ROM and electronic books is low, 75(67.0%). The table also revealed that at Obafemi Awolowo University (OAU), 96(60.8%) of the respondents have a high level of competence in

Table 6. Level of ICT literacy of undergraduate students in the two universities.

How would you rate your competency level in the use of the following electronic resources?		High	Low
Internet	FUTA	84(75.0%)	28(25.0%)
	O.A.U.	96(60.8%)	62(39.2%)
CD-ROM	FUTA	37(33.0%)	75(67.0%)
	O.A.U.	45(28.5%)	113(71.5%)
Electronic Books	FUTA	37(33.0%)	75(67.0%)
	O.A.U.	56(35.4%)	102(64.6%)
Electronic Journals	FUTA	40(55.7%)	72(64.3%)
	O.A.U.	55(34.8%)	103(65.2%)
Electronic Databases	FUTA	27(24.1%)	85(75.9%)
	O.A.U.	42(26.6%)	116(73.4%)

Table 7. Influence of computer literacy on use of electronic resources by undergraduate students in the universities.

How often do you use the computer to access these electronic resources?		Never	Occasionally	Often	Very often
Internet	FUTA	34(30.6%)	25(22.3%)	17(15.2%)	36(32.1%)
	O.A.U.	51(37.9%)	26(16.5%)	25(15.8%)	47(29.7%)
CD-ROM	FUTA	84(75.0%)	15(13.4%)	6(5.4%)	7(6.3%)
	O.A.U.	25(15.8%)	25(15.8%)	14(8.9%)	3(1.9%)
Electronic Books	FUTA	80(71.4%)	14(12.5%)	8(7.1%)	10(8.9%)
	O.A.U.	103(65.2%)	21(13.3%)	22(13.9%)	12(7.6%)
Electronic Journals	FUTA	74(66.1%)	19(17.0%)	12(10.7%)	7(6.3%)
	O.A.U.	99(62.7%)	25(15.8%)	21(13.3%)	13(8.2%)
Electronic Databases	FUTA	90(80.4%)	16(14.3%)	4(3.6%)	2(1.8%)
	O.A.U.	112(70.9%)	18(11.4%)	16(10.1%)	12(7.6%)

accessing the Internet; 113(71.5%) stated that their competency level in accessing CD-ROM is low. The interview with the librarians and observation revealed that most of the undergraduate students are mostly skilled in using the computer to access the Internet and not other electronic resources.

Table 7 shows that 80(75.3%) of the respondents at FUTA have never used the computer to access CD-ROM while 14(12.5%) of them accessed electronic books occasionally with the computer. It also revealed that 4(3.6%) often accessed electronic databases with the computer. The table also revealed that 47(29.7%) of the respondents at OAU indicated that they access the Internet very often with the computer, 25(15.8%) had access to CD-ROM occasionally while 112(70.9%) never accessed electronic databases. In order to utilise the

growing range of electronic resources in the university libraries, undergraduate students must acquire and practice the skills necessary to explore them. Computer literacy has great influence on use of electronic resources. Therefore, the required skills have to be acquired in order to access them. As observed by Mcguigan (2001), the level of computing and Internet experience with which students enter higher education might have influence on their use of the university library's electronic resources.

There is no doubt that electronic resources cannot be highly accessed without adequate computer literacy skills. The interview with the university librarians showed that most of the undergraduate students do not access the electronic resources because they lack the necessary skills. Effort should, therefore, be made by the library management to improve the computer literacy skills of

Table 8. Influence of subject background on use of electronic resources.

Influence of subject background on use of electronic resources by undergraduate students in FUTA and OAU		Disagree	Strongly disagree	Agree	Strongly agree
Your subject background has encouraged your use of electronic resources.	FUTA	64(57.1%)	34(30.4%)	6(5.4%)	8(7.1%)
	O.A.U.	87(55.1%)	60(38.0%)	5(3.2%)	6(3.8%)
Electronic resources are very readily available in your subject area.	FUTA	54(48.2%)	42(37.5%)	7(6.3%)	9(8.0%)
	O.A.U.	75(47.5%)	71(44.9%)	7(4.4%)	5(3.2%)
Electronic resources are only marginally useful to my subject area.	FUTA	26(23.2%)	35(31.3%)	26(23.2%)	25(22.3%)
	O.A.U.	48(30.4%)	42(26.6%)	30(19.0%)	38(24.1%)
My subject background is a disadvantage to my use of electronic resources.	FUTA	21(18.8%)	14(12.5%)	45(40.2%)	32(28.6%)
	O.A.U.	30(19.0%)	20(12.7%)	64(40.5%)	44(27.8%)

Table 9. Relevance of subject background to use of electronic resources by the undergraduate students.

How relevant are the following electronic resources to your subject background?	University	Irrelevant	Marginally relevant	Relevant	Very relevant
Internet	FUTA	13(11.6%)	1(0.9%)	28(25.0%)	70(62.5%)
	O.A.U.	29(18.4%)	3(1.9%)	31(19.6%)	95(60.1%)
CD-ROM	FUTA	53(47.3%)	14(12.5%)	22(19.6%)	23(20.5%)
	O.A.U.	69(43.7%)	15(9.5%)	33(20.9%)	41(25.9%)
Electronic Books	FUTA	40(35.7%)	14(12.5%)	23(20.5%)	35(31.3%)
	O.A.U.	52(32.9%)	12(7.6%)	36(22.8%)	58(36.7%)
Electronic Journals	FUTA	32(28.6%)	14(12.5%)	25(22.3%)	41(36.6%)
	O.A.U.	55(34.8%)	8(5.1%)	33(20.9%)	62(39.2%)
Electronic Databases	FUTA	43(38.4%)	12(10.7%)	31(27.7%)	26(23.2%)
	O.A.U.	67(42.4%)	18(11.4%)	27(17.1%)	46(29.1%)

the undergraduate students in order to enhance easy access to electronic resources. The findings of the study are in consonance with the observation of McGuigan (2001) that the level of computing and Internet experience with which students enter higher education might influence whether or not they will use the library's electronic resources. In order to utilise the growing range of electronic resources, students must acquire and practice the skills necessary to exploit them. Pask and Saunders (2004) note that, although learning how to use computers could improve information skills, learning information skills might have only minor effects on computer skills.

Table 8 shows that 64 (54.1%) of the respondents at FUTA indicated that subject background did not encourage their use of electronic resources while 21(18.8%) indicated that their subject background is a

disadvantage to their use of electronic resources. At OAU, 87(55.1%) of the respondents indicated that their subject background has encouraged their use of electronic resources while 30(19.0%) stated that their subject background is a disadvantage to their use of electronic resources. Thus, one could infer from the findings that subject background is an important factor in the use of electronic resources by the undergraduate students.

Table 9 revealed that at FUTA, 70(62.5%) of the respondents indicated that the Internet is very relevant to their subject background, 14(12.5%) stated that electronic books are marginally relevant while 43(38.4%) indicated that electronic databases are irrelevant to their subject background. Furthermore, 95(60.1%) of the respondents at Obafemi Awolowo University (OAU) stated that the Internet is very relevant to their subject

Table 10. Problems inhibiting the use of electronic resources by undergraduate students in the two universities.

What factor affects the use of electronic resources in your library?	FUTA		O.A.U.	
	Yes	No	Yes	No
It is unavailable	62(55.4%)	50(44.6%)	101(63.9%)	57(36.1%)
It is inaccessible	82(73.2%)	30(26.8%)	124(78.5%)	34(21.5%)
It is not relevant	1(0.9%)	111(99.1%)	9(5.7%)	149(94.3%)
Lack of requisite computer use skills	94(83.9%)	18(16.1%)	134(84.8%)	24(15.2%)
It is inadequate	62(55.4%)	50(44.6%)	101(63.9%)	57(36.1%)
Unstable power supply	77(68.8%)	35(31.3%)	108(68.4%)	50(31.6%)

background, 8(5.1%) indicated that electronic journals are marginally relevant while 67(42.4%) stated that electronic databases are irrelevant to their subject background. The interview with the university librarians also revealed that the content of the available electronic resources in the university library is relevant to the subject background of the undergraduate students because the electronic resources cut across all the subject areas in the university curriculum. The university libraries made serious effort to ensure that the electronic resources provided cover all the subjects in the academic curricula. However, some of the undergraduates were ignorant of the availability of certain information in electronic format.

This finding creates the compelling need for the library management to step up awareness and computer literacy programmes for the users, most of whom are still fresh from secondary schools where they have had very little exposure to ICTs. Rempel and Davidson (2008) observed that graduate students like undergraduates, coming from a wide variety of educational backgrounds frequently have knowledge gaps about finding and using information that can impede their success as researchers. Furthermore, lecturers in the universities need to play a key role in engendering a positive attitude of the students to electronic resources, no matter the subject background.

Table 10 reveals that in FUTA, 94(83.9%) of the respondents indicated that they lack requisite computer skills to access electronic resources in their university library. The table also revealed that 34(84.8%) of the respondents at Obafemi Awolowo University (OAU) indicated that lack of requisite computer skill is a hindrance to their use of electronic resources in the university library while 9(5.7%) stated that electronic resources are irrelevant and this is a surprise and certainly a manifestation of their ignorance. The interview with the university librarians also revealed that lack of fund to acquire more computers, electronic resources and update subscription for online journal and databases adversely affect the effective use of electronic resources by the undergraduates. Some other studies have also identified inadequate funds and low ICT use skills as major challenges to the use of electronic resources (Ani

and Ahiauzu, 2008; Bashorun et al., 2011; Alison et al., 2012).

Other factors affecting the use of electronic resources include unstable power supply, ignorance and lack of awareness of the relevance of the available electronic resources to undergraduate students' subject background. The findings of the study agree with the work of Olalude (2007) who identified key problems hindering electronic resources development in African libraries, including lack of initial capital outlay to put Internet facilities and services in place in Sub-Saharan African countries. Secondly, he noted that the shortage of ICT specialists and adequate skills development on the part of potential Internet service consumers constituted a hindrance to adequate development and utilization of electronic information services. The major constraints to the use of electronic resources as indicated by undergraduate students in FUTA and OAU include unstable power supply, lack of requisite computer skills, poor accessibility, and unavailability of electronic resources. This corroborates the findings of Adeyemi (2004) that irregular power supply, inadequate infrastructure facilities and high cost of electronic resources are the major constraints to the use of electronic resources in Nigeria. It is noteworthy that in Nigeria, frequent and prolonged power outage is the order of the day but the government is implementing a far reaching power sector to redress the situation.

Conclusion

The study revealed that undergraduate students do not highly utilise the available electronic resources and the subject background has not influenced the use of electronic resources. This is because they lack awareness of the available electronic resources in the university library. While computer literacy greatly influences use of electronic resources, subject background is the reverse. This is as a result of some inhibiting factors on the use of electronic resources which cut across unavailability and inaccessibility of electronic resources, lack of requisite computer use skills and unstable power supply. Based on the findings of the study, one would conclude that

computer literacy rather than subject background influenced use of electronic resources by undergraduate students in the two universities in South-western Nigeria. Whereas electronic resources were widely available to meet the information needs of the undergraduate students no matter the discipline, many could not substantially utilize them because of either low computer literacy skills or ignorance of their availability and relevance.

RECOMMENDATIONS

Based on the findings of the study, the following recommendations are hereby made to improve the undergraduate students' use of electronic resources in the university libraries:

1. The university library management should create awareness about the electronic resources available in the library and its relevance to student's subject background. This could be achieved through group training for the library users especially during the library orientation programme for fresh undergraduate students.
2. Library management should also make effort to provide sufficient internet connected computer terminals and electronic devices that will serve a reasonable number of students at the same time. The number of computers that are presently in use is grossly inadequate for the population in both universities.
3. More electronic resources should be provided by the university libraries and also made accessible to the users. Users who lack skills in the use of electronic resources should be given necessary assistance to encourage the use.
4. To ensure a higher computer literacy level of the undergraduate students at the time of entry into the university, education authorities in Nigeria should ensure adequate provision of computers in schools and well trained computer teachers to impact practical skills in the students.
5. It was observed in the two universities that there is no sufficient staff, especially in the System Unit and so, there is limited time to serve the users. Therefore, more staff should be employed to serve the users. It is also advisable for the libraries to run shift. They should be running shift from morning to evening so that the undergraduate who are bogged with lectures could visit their university libraries at convenient period to use the resources.
6. The libraries should have alternative power supply system to generate steady power supply for effective use of electronic resources in the university libraries. Electronic resources can only be fully harnessed when there is steady power supply. Therefore, management of the universities should make adequate arrangement for alternative and more dependable power supply to the

library since the public power supply system is very unreliable.

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