

# **Awareness, Access and Use of Electronic Resources among Undergraduate Students in a Specialised Private University in Southwest Nigeria**

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The study investigated undergraduate awareness, access, use, barriers, avoidance reasons and importance of ERs to students academic attainment. A case study research design was adopted. A total of 575 questionnaires were distributed to undergraduates of Bells University from four different colleges during the 2017/2018 academic session and 450 (78.3%) were returned valid. The result revealed 99%, 96%, 75% and 67% of students have awareness of ERs such as DVD, Internet, ebooks and EJournal respectively. 75%, 71% and 67% of them use the internet, Ebooks and Ebrary. Similarly, 46% and 24% use personal laptops and the library as point of access to ERs. The findings of the study revealed that, cost of data, limited access to computer and internet, lack of information retrieval and searching skills constitute barriers and avoidance reasons to the use of ERs. The implications are students avoid the use of the ERs and library as point of access Thus, in order of importance to academic attainment, internet, Hinary, ebooks and eJournal recorded 75%, 71%, 71% and 68% respectively. However, general ERs are preferred to customised and subscribed ERs of the University (such as ebrary, Myilibrary, ebook Central academic complete library). The study recommended the provision of unlimited internet access, computer terminals, periodic hand-on trainings on the use of ERs and information retrieval cum searching skills for students as flexible platform of access for ERs. In addition, ERs use statistical data should be mined and retrieved from providers of subscribed ERs for future planning and development of the library.

**Key Words:** Undergraduate awareness, accessibility, utilisation, electronic resources, electronic resources, private University and academic library

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## **INTRODUCTION**

There has been tremendous transformation in education as a result of rapid advances in Information and Communication Technology (ICT) (Sejana, 2017). The role of technology in teaching and learning has also rapidly become one of the most important and widely

discussed issues in contemporary times. Nwangwu, Obi and Ogwu (2014), defined ICT as set of activities which are facilitated by electronic means, namely information processing, transmission and display. This implies that, ICT involve the handling and processing of information

(text, images, graphics, instructions etcetera) for use, by use of electronic devices such as computers, cameras, and telephone etcetera. Therefore, with ICT there has been several new discoveries of the century which started with the Internet. These includes cloud computing, big data, Internet of Things (IoT), Internet of Everything (IoE), eBanking, eGovernance, eBusiness/eCommerce, eHealth, ePayment,, eDemocracy and eVoting among others. All these as observed, is radically influencing the future of education, learning and research. It has also resulted in professional unfussiness with superlative hyper connectedness (Charles, 2016)

Commenting further on ICT as technologies for data acquisition, processing, storage and retrieval, Asaolu and Fashanu (2012), explained that ICT includes, the electronic hardware, software, people-skills and processes for generating and transmitting information. Thus, in order to ensure educational development during this digital era, it is imperative that ICT technological innovation, access, utilization and skills development be embedded in the educational system. Thus, if the concept of ICT in education includes systems that enable information gathering, management, manipulation, access, and communication in various forms, it implies that the use of ICT should involve all aspects of students activities, their daily routines, learning process and utilisation as a whole. Hence, in order to promote the use of ICT among undergraduate students, awareness and provision of access to ICT facilities is a *sine qua non*. Students develop computer skills only when they have access and or only when they understand the purpose of utilisation (Ismail, Ahmad and Affandy, 2013). In today's highly sophisticated society, ICT has facilitated the storage of huge amounts of data/information in very compact space (Saleem, Tabusum and Batsha, 2013). Therefore, the use of ICT in teaching and learning in higher education has been discovered in reviewed literature to be relevant and functional ways of providing education to learners, with a view to assist them in imbibing the required skills and capacity to locate relevant, accurate and timely information for educational purposes. Accordingly, Amanortsu, Dzandu and Asabere (2013) noted that, as computers and the applications of technology become more pervasive in the society, the need for electronic resources has also become extremely influential. Therefore, University libraries have been acquiring computers, ICT facilities and resources with emphasis shifting from printed sources to electronic resources. Based on this rationale, Bells University of Technology (BUT), Ota Nigeria, the first private university of technology is not an exception.

Thus, the emergence of ICT has profoundly impacted teaching, learning and research. It has led to the development of electronic format of educational resources which are available online. The new trend is

the digitization of all forms and format of information to create educational forms of databases and academic Institutions are utilising institutional repositories as means to provide free access to research output. Thus, as opined by Ojo and Akande (2005), when ICT is combined with the internet, it creates a conduit for students to obtain huge amount of information which exist in varied medium and format. This information can be used in different ways and for different purposes by the students. Thus, in Ojo et. al's.,(2005) view, information is complex, extensive and as a tool, it has brought about a number of changes to higher education. This in turn, was reported to have exerted pressure upon the roles of academic libraries, especially when the use of ICT by students as a tool has been distinguished to have expanded to include the internet, e-mail, chat, programming, graphics, spreadsheet, online shopping, online literature searching, electronic resources and other educational materials. But, students gender, age and year of study was posited to have no significant effect on learner's ICT use (Eguavo, 2016).

Hence, in pursuance of the provision of ERs and in order to go paperless cum hybrid, the BUT took up the challenge from inception by making electronic resources available, accessible and utilisable to both staff and students by developing a befitting a resource-rich e-library. The e-library has over 70 computers and accessories which are open for access and use by students and staff. The e-library provide students and staff with 24hour services, with access to a wide range and ever growing number of ERs, databases and sites, as well as the BUT customized access to ebookCentral (a complete Virtual Library which also provides access to encyclopedia, dictionaries and other reference materials, where users could create book shelves and make notes), which is remotely accessible from any location. The e-library collection in addition to the aforementioned, comprises of web-based, intranet based and stand alone resources. These resources are constantly being updated. It currently holds over 1, 000, 000 (1million) titles in form of e-books, e-journals, report, manuscript, maps, etc. The total number of information materials in CD- ROMS covering all subject areas is about 2,000 in number.

At the electronic library of BUT, access is provided for the ebookCentral, the intranet and stand alone resource databases; they can also browse the Massachusetts Institute of Technology (MIT) Courseware through CD-ROM technology. A fully interactive package, with over 1800 different courses which are fully multimedia (DVDs & CDs) Science and Technology, Web-Med, Library of Congress, General books and Computer based training kits; Complete Harvard Library; Scientific Library On-line (SciElo); Agora; JSTOR, Aluka; Harvard Library; Emerald insight and a host of other on-line resources etc. The e-library, also has a non-web based college-customized e-

resources with mainly relevant books for all colleges, with over 1000 multimedia CDs to support teaching and laboratory practical. There is unrestricted access to the internet with over seventy computers to browse the internet to get information that will meet the teaching, learning, leisure and research needs of staff and students. BUL is currently working out details of a relationship with Kortext, United Kingdom, to provide access to the Kortext platform for digital books and the platform is ubiquitous.

In other to create awareness for the availability and subsequent usage of the aforementioned resources, the library organise annual and periodic orientation programme for fresh staff and students in conjunction with the students affairs unit of the University. The activities of the orientation, include guided tour of the library and the Olusegun Obasanjo Presidential Library (OOPL, Abeokuta), Simeon Adebayo Library (State public library), Ogun State ICT Resource Center, Abeokuta and others. There is also a "library and You" package designed to guide students, staff and others users of the Library. This package employs pictorials and it is installed on all the library computer systems for easy access as follow up on the guided tour and orientation. The library also gives multimedia resources services through its multimedia resource centre, which has been established within the Library to support multimedia teaching and learning.

According to Aina (2004), the main purpose of a University library is to support the objectives of a University. In order to function and serve the information needs of users therefore, the management of the BUT have expended considerable proportion of its scarce resources to provide all the aforementioned ERs at the University library. Fresh 1 Students have always been exposed to annual orientation to tour the University library, to create awareness of available resources.

Are the students really taking advantage of the existence of these resources of the library, despite the orientation programmes and guided tours organised for them? Do students have express access and do they utilise the availability of these ER?. These are the question this study is set out to answer. Furthermore, there is paucity of literature on undergraduate access, usage and awareness of ERs in Nigerian Universities (private especially). Therefore, without an enquiry and a research of this nature, it become difficult to determine if the e-resources provided by the first private University of Technology in Nigeria, are meeting the needs of undergraduates effectively (i.e the teaching, learning, research and leisure needs). It is against this backdrop, that, this study is embarked upon to contribute to the scarce literature available on student access, usage and awareness of ERs in a private University of Technology in South- Western, Nigeria.

## STATEMENT OF PROBLEM

Generally, ERs have become established component of many academic libraries' collection, BUL inclusive. These resources are of various types and they often include hardware, software, databases, ICT facilities, CD-ROM, journal articles, e-books, reference sources, conference papers and reports among others. In BUT library, several ERs are available and can be accessed from anywhere, even outside of campus. The subscribed virtual library is not institution based, users can access at different and same time and from anywhere through customised access. The University therefore, expended huge sum on these resources to satisfy the teaching, learning and research needs of its faculty and students. As the universities spend substantial amount of money to subscribe to these resources, it is only appropriate and economical that these ERs are optimally utilized to contribute to the academic achievement of students and faculty (USARM Report, 2015)

In spite of the value of these ERs, the researchers' observation over the years have shown that, these resources are greatly underutilized. Some of the reasons as attested by literature, includes: lack of awareness, preference for other sources like general search engines such as Google, lack of search skills, lack of adequate ICT infrastructures, poor internet access, bad downloading time, and at times sheer attitude of library staff / users. The manifestation of these barriers, however, differs from institution to institution and from situation to situation. Thus, the BUL networks provide easy access to its educational ERs. This is done in order that students and staff could access and utilise such for their learning, teaching, leisure and research purposes. Hence, with ICT, the fundamental duties of BUL has expanded to creating learning opportunities and the provision of access to different formats of educational resources as an academic library. Awareness is believed to have been created conventionally with the hope that the educational process of undergraduates will be expedited and facilitated. Researchers and staff and students of BUT could be having their turn of difficult times in accessing these ERs for teaching, learning and research. Although, students learning styles have been greatly altered with ICT as generally observed, students fundamental thinking horizon is thus, not expected to remain the same. Students are however, expected to take advantage of the ERs at their disposal as technological tool and to broaden their knowledge and skills, they should maximize their express access to utilise the ERs (Towolawi, 2018)

In this study therefore, "access" connotes access to ERs of Bells University Library. For undergraduate to have access to the ERs, the resources must be made available and located where they are accessible to library users. It is however, expected that availability should

influence level of usage. Thus, it could be implied that access has a close relationship with usage. Looking at this in depth, the BUT library believed it has provided ubiquitous customized access to its ERs through ebrary, an academic complete virtual library, EbookCentral and Proquest etc hence, students and staff are expected to utilise these resources to meet their learning, teaching, leisure and research needs. The researchers having worked as librarians for about fifteen years at the BUL, assumed that enough awareness has been created for users. Besides, the library operating hour is from 8am till 9pm on daily basis and from 10am to 4pm on weekends, what could then be the challenges faced by students in relation to their accessibility, usage and awareness of these ERs? Could it be that, customized access is limited or are they just being grossly underutilized? These are the concern of the study. Are students avoiding the use of the ERs as a result of the incur data costs? For instance,, if the ERs are accessible on students smart phones, personal laptops and on computer terminals in the library, but there is limited internet access to use, then, the total benefit of ERs availability and accessibility initiatives may be defeated. With this identified challenge, it can be hypothesized that, there could be a relationship between access to ERs and its use by undergraduates. Moreover, undergraduates need information to be academically successful. However, as observed by this researchers, equipping the BUL with appropriate resources and facilities with myriads of ERs seem to have no justification, for the huge resources expended on their provision if a1nd when they are grossly underutilized. Perhaps, are students having some challenges of utilisation, or are they lacking some skills?; and or do they having other means of sourcing using ERs outside the library to satisfy their information needs?. These are some of the gaps identified by the study.

It is in the light of the aforementioned that, this study examines the pattern of access, use and awareness of ERs by undergraduates in Bells University of Technology, Ota. South West. Nigeria.

## OBJECTIVES OF THE STUDY

This study is designed with the following objectives in mind to:

1. find out the extent to which undergraduate students are using ERs
2. find out the level of awareness of the students about the ERs.
3. determine students points of access to ERs.
4. find out what constitute barriers to undergraduate use of ERs
5. find out how the students acquire information retrieval skills.

6. determine why students avoid using ERs.
7. examine how im1portant ERs are to the academic attainment11s of students.

## RIESEARCH QUESTIONS

In order to achieve the objective of this study, attempt wa1s made to answer the following questions.

1. What is the extent to which undergraduates students use ERs?
2. What level of awareness do the undergraduate students have about ERs?
3. What are the students point of access to ERs?
4. What constitute barriers to students use of ERs?
5. How do the students acquire information retrieval skills?
6. Why do student avoid using the ERs?
7. What are the importance of ERs to the academic attainment of undergraduates?

## SCOPE OF THE STUDY

This study concentrated on investigating access, usage and awareness of ERs among undergraduate, using the first private University of Technology in Nigeria as a case study. The scope of the study was limited to Bells University of Technology undergraduate students alone, as it will be easier for the researchers to reach their subjects. Ideally, it would have been appropriate to include other Universities of Technology in Nigeria in the study in order to be able to compare access, usage and awareness of ERs in various institutions. However, the cost involved in such endeavor and the time available for the research did not make this feasible.

## SIGNIFICANCE OF THE STUDY

The study is significant on the following basis.

1. The findings of the study will increase the scare literature available on access, usage and awareness level of ERs in Bells University of Technology in South-West Nigeria, which the management of the library and that of the Universities can use for future plans.
2. The data generated can be used as a basis to agitate for constant and frequent use of the library as point of access to ERs and other educational materials of the University.
3. The findings of this research will also provide evaluative information which the library management can use to improve its services and

such could also be used to justify the importance of ERs to learning, teaching and research.

4. Through the findings of this study, it will be easier to justify BUT management investment in the acquisition of ERs and this will form the basis of agitation to equip the library with modern ICT equipments, software and continuous subscription to databases and other ERs
5. This study is expected to also shed light on the relevancy, adequacy and acceptability of the ERs collection and services of the BUT library.

## LITERATURE REVIEW

According to Charles (2016), ICT refer to all electronic devices prefixed 'e' for both wired and wireless devices which have been classified and categorised into mobile (anywhere anytime access) prefixed 'm'; Internet (transaction via the Net) prefixed 'i', television (transaction via digital television set) prefix 't' and pervasive (anywhere anytime transaction through mobile/wireless devices) and prefixed 'p' or 'u'. Thus, the advent of ICT has been attested by literature to be a dominant revolution which has created super platforms for interconnectivity. The swift growth of ICT has also set in motion, a new trend in the provision of ICT facility, resources and services for library professionals and their users in unison with the traditional roles and fundamental services of Libraries. Accordingly, libraries are using ICT (internet) to support their fundamental functions and services: acquisition, circulation, reference, classification, cataloguing to provide access to its resources and services (Butt, Quitab and Mahmood, 2014). ICT has served and will continue to serve as medium of acquisition and transmission of information for a long time to come. For any academic library to thrive in this information age, the library irrespective of the size of its collection must embrace Information Communication Technology (ICT).

Consequently, Mubashrah, Riaz-ul-Haq and Jamil (2013) cited Adeoye and Popoola (2011) to highlighted the effectiveness, availability, accessibility and use of library and information resources in their study on library resources utilisation by students and teachers. The results of the study revealed that libraries are usually underutilized by as a result of lack of human and material resources. The trio explained that, for effective learning, undergraduates are expected to have access to necessary information materials and resources. These resources, they noted could be in tangible (i.e., printed resources) and intangible (i.e., electronic resources) format. They also reiterated that librarians are responsible for providing information resources materials at the right time and concluded by identifying possible types of inaccessibility problems faced by students,

namely: conceptual, linguistic, critical, bibliographic, and physical. Moreover, the quality of library resources both print and ER determines the quality of graduates produced, as such libraries are agents of educational, social and economic development (Aina, 2014).

ERs are generally regarded as the mines of information. They include electronic hardware, software assets and processes which are utilised for generating and transmitting information Literature attested that they are preserved through modern ICT devices, refined and redesigned and stored in the cloud/cyber space in concrete, digital, electronic and compact formats. They are ubiquitous in nature and are accessible anytime, anywhere and through any devices by different categories of patron. Thus, the phrase "ERs", has broadly been used for resources in digital/electronic formats which are made available to library users through a computer based information retrieval system. Accordingly, Omosekejimi, Eghworo and Ogo (2015) defined ERs as materials consisting of data and/or computer program(s) encoded for reading and manipulation by a computer, such as a CD-ROM drive or remotely via network such as the internet. Peripheral device are used to directly connect them to computer systems. The trio cited the University of Chicago Library to list some of the ERs that should be available in every academic library's disposal to include:

- CD ROM: pre-pressed optical compact disc containing data. The name is an acronym for Compact Disc Read-Only Memory. Computers can read CD-ROMs and they can also write on the CD-ROM's. There writeable or rewriteable CD-ROMS. Some CDs, called enhanced CDs, hold both computer data and audio with the latter capable of being played on a CD player, while data (such as software or digital video) is only usable on a computer (such as ISO 9660 format PC CD-ROMs).
- Electronic Books: Libraries provides access to a variety of electronic books, as well as the other printed works (such as essays, poems, or historical documents). Some of these electronic books and texts are part of large, searchable databases.
- Electronic Journals: Most academic libraries have an offline e-Journals Database to help students find journal materials that are useful to students and online versions of e-journals which the library is subscribed.
- Online Database: These are web based filing system designed to store information. They are databases accessible from networked connections from the Internet. Most academic libraries now subscribe to online. databases of books and journals that are relevant to the

University curriculum which will help to facilitate teaching and learning in the University environment, Repositories and Egranary are example of such databases

➤ **Electronic Sources:** These are materials that are available online in electronic formats. They include online newspaper, magazine or television website such as NBC or CNN. Peer-reviewed journals, WebPages, forums, wikis, websites and blogs. The name online sources is used synonymously as 'electronic' sources, 'web' sources and 'internet' sources databases and or electronic resources. These are very useful information sources which many libraries make available to satisfy knowledge and information needs of their users. Virtual Libraries namely the NUC virtual Library, Ebrary etc are other types of available e-resources. In the context of this study ERs include: Scielo, ebrary/Bra-virtual e-content, e-book Central, JSTOR/Agora, Kortex Digital books, Standalone college customised ebooks and MIT Courseware.

Similarly, Nwangwu, Obi, & Ogwu (2014) in a study on the Integration of Information Communication Technology (ICT) into the Curriculum of Federal Unity Schools (FUS) in Nigeria affirmed that the integration of ICT enhance learning, knowledge as well as providing solid foundation for operational excellence in a globalised world. Adomi and Kpangban (2010) in another study on the application of ICT to secondary education corroborated the aforementioned by stating that ICT are electronic technologies used for information storage and retrieval and affirmed that its adoption and use in schools have positive impact on teaching, learning, and research to sum all the definitions of ICT up, Chikaire (2015), also opined, that ICT offer the potential to increase efficiency, productivity, competitiveness and growth in increasing access and exchanging of information. Literature has established that, the first key factor in access, use and awareness of ICT among students is availability of ICT resources.

Accordingly in a study on the use of ICT in rural school libraries, Adila, Nor'izah and Habee (2013), explained the term access to means the ability and means to communicate or make use of any information resource in an automated information system. The trio opined that individual library users lack of access to ICT resources usually prevent them from obtaining knowledge and opportunity to alter information, material, resources. Aramide, Ladipo and Adebayo (2015) in a study on demographic variables and ICT access as predictors of ICT usage among science teachers in Federal Unity Schools in Nigeria, also describe access as the extent to which a particular user is able to easily locate particular resources for use as well as the degree of accessibility to such resources. They posited that insufficient access is the main obstacles for ICT usage in educational

programs and argued that even when the resources are available in the library, it does not mean that the students will get constant access to them. The trio reiterated that, access is usually influenced by the cost of the facilities per use, (such as the electricity costs, software, maintenance, etcetera) library opening hours and hours of library use by students. Thus, access is a factor that influence the usage of ICT resources. However, the study also discovered that accessibility and the location of resources were found to be the leading predictor of use in Nigeria. The duo concluded, that, access is an indispensable requirement and a predictor of utilization. Thus, the ease of location determines usage of resources either print or electronic.

Awareness in general is common knowledge and understanding of the availability of ERs as learning resources that contain information which form integral component of academic Libraries resources. They could be access and utilise for research, teaching and learning purposes. Reinhardt, Mletzko, Sloep and Drachsler (2014) in their attempt to understanding the meaning of awareness in Research Networks, believed that awareness is an understanding of the activities of others, which provides a context for your own activity. Thus, students understanding of the activities of the library as it relates to the provision of various types of ERs, which provide context for students academic activities is here referred to in this study as awareness. In this research, awareness is mainly to know undergraduate students knowledge and perceptions about ERs, their values, physical location and contextual access to needed information.

Additionally, the academic success of students have been traced to and associated with several variables. As observed by Adetoro (2014), undergraduates in Nigeria seldom visit libraries and information centers to use relevant information as a result of lack of requisite skills in information search. In a study on social competence and information utilization of library and information science 1undergraduates in Tai Solarin University of Education, Adetoro, discovered that the use of the libraries for self-actualization is lacking and concluded that the consequence of inadequate information utilization activities among undergraduates usually result in low social competence.

## **MATERIALS AND METHODS**

The population of this study comprises of 575 (300level) undergraduate students of Bells University of Technology Ota. Ogun-State., Nigeria admitted during the 2015/16 academic session. They are in their penultimate year and were drawn from four different colleges of the university, namely: Colleges of Natural and Applied Sciences (COLNAS= 96), Management Sciences

(COLMANS=135), Engineering Sciences (COLENGS=186) and Environmental Sciences (COLENS=158). The Undergraduate Students Access, Usage and Awareness Questionnaire (USAUAER) was the instrument used for data collection. The questionnaire was well structured to clearly identify the important variables to be measured. These variables included: the ERs use by students, the barriers to the use of the resources, benefits derivable from the usage of the resources, and the undergraduate's methods used to acquire information and their retrieval skills. Using total enumeration technique, 575 questionnaires were distributed to the respondents in lecture rooms, laboratories and within the library by the researchers, with the assistance of library Assistants and lecturers of Bells University. A total of 460 questionnaires were returned, however, only 450 were found valid and usable this constitutes 78.3%. The administration was completed in eight (8) weeks at the middle of the 1st semester 2017/2018 academic sessions.

## RESULTS AND DISCUSSION

Data generated from the study are presented and discussed below.

RQ1: What is the extent to which undergraduates students use electronic resources?

To ascertain the extent to which undergraduates utilise the e-resources put in place for them, the respondents were asked to rate the degree of use of each of the e-resources. Table 1 present the extent to which undergraduates students use e-resources.

Table 1 is a reflection of the level of the usage of ERs by respondents. Nearly all the ERs are used, but at different degrees. Internet is the mostly used ERs as indicated by 338 (75%) of respondents. This is followed by e-books and ebrary/Bra virtual to which 320 (71%) and 302 (67%) responded respectively. CD-ROM and Web Med/email is next to e-Journals in the order of patronage as shown by 261 and 248 (58% and 55%) and 243 (54%) of the respondents. MIT Courseware, scientific library online (Scielo), JSTOR/Agora, Kortext Digital books, standalone college customised ebooks and e-book Central are less frequently used as shown in the table. The findings revealed that the level of usage for about 60% of e-resources is high, except for MIT Courseware, scientific library online (Scielo), JSTOR/Agora, Kortext Digital books, standalone college customised ebooks and e-book Central where less than half of the sample population has shown low interest. This is in contrast with the findings of Adeniran (2013), in a similar study on the use of ERs by Redeemers' University undergraduates,

where it was reported that the usage of electronic resources is low.

RQ 2: What level of awareness do the undergraduate students have about ERs?

Table 2 revealed that, majority 446(99%), 432(96%), 338(75%), 306(68%) and 302(67%) of the respondents were aware of the availability of DVD/CD-ROM, internet, eBooks, web med/email and eJournal technology respectively, while only 4(1%), 8(2%), 112(25%), 144(32%) and 148 (33) were not aware. Additionally, 189(42), 182(41), 135 (30), 131(29%), 103(23%), 98(22%) and 96(21%) of the respondents were aware of the availability of Scielo, ebrary/Bra-virtual e-content, e-book Central, JSTOR/Agora, Kortext Digital Books (KDB), Standalone college customised ebooks and MIT Courseware resources respectively while 261(58%), 268 (60%), 315(70%), 319(71%) , 347(77%), 352(78%) and 354(79%) respectively were not aware. The analysis of collected data clearly indicate that the level of awareness of the students on the availability of some generally known electronic resources such as DVD/CDROM, Internet, email, ebooks and eJournal is high, but low for academic and institutional based resources such as, ebrary/Bra-virtual e-content, e-book Central, JSTOR/Agora, KDBs and standalone college customised ebooks. The generally known resources are free, they provide general information and can be used both inside and outside of the library. This may be the reason why they are more popular than the other resources. The academically complete virtual and institution customised based resources are however, more relevant for academic, scientific and research purpose.

RQ3: What is the students point of access to ERs?

To ascertain the respondents point of access to ERs, respondents were asked to indicate where they normally go in order to ascertain their point of access to e-resources.

Table 3 present the students point of access to ERs.11 Analysis as shown in table 3 revealed that 207(46%) of respondents use their personal laptops to access ERs and to search for information on the internet. While only 109 (24%) of the respondents go to the library to use the internet facilities and to do CD-ROM searching for literature Other points of access for ERs according to respondents are home/hostel, to which 90 (20%) affirmed A total number of 23 (5%) respondent that they use the classrooms, while only 3 (1%) did not respond to this question. This may imply that majority of BUT undergraduates utilise ERs. It is interesting to note that students use their laptops and the library to get electronic information. We are in the knowledge cum ICT era and

**Table 1:** The extent of use of ERs (N=450)

SN	ERs	FREQUENCY	PERCENT %
1	Internet	338	75
2	E-Books	320	71
3	Ebrary-Virtual	302	67
4	DVD/ CD-ROM	261	58
5	E-Journals	243	54
6	Web med/ email	248	55
7	MIT Courseware	207	46
8	Scientific library On-line (SciELO)	131	29
9	E-book Central	113	25
10	JSTOR/Agora	113	25
11	Kortex Digital Books	99	22
12	Standalone college customised ebooks	95	21

**Table 2:** level of Awareness of ERs (N=450)

S/N	ERS/DATABASE	FREQUENCY	PERCENT %
1	DVD/ CD-ROM	446	99
2	Internet	432	96
3	E-Books	338	75
4	Web med/ email	306	68
5	E-Journals	302	67
6	Scientific library On-line (SciELO)	189	42
7	Ebrary/ Bra- Virtual e-content	182	41
8	E-book Central	135	30
9	JSTOR/Agora	131	29
10	Kortex Digital Books	103	23
11	Standalone college customised ebooks	98	22
12	MIT Courseware	96	21

**Table 3:** Point of access to ERs (N= 450)

S/N	POINT OF ACCESS	FREQUENCY	PERCENT %
1	Cybercafé	18	4
2	Library	109	24
3	Classrooms	23	5
4	Personal laptops	207	46
5	Home/Hostel	90	20
6	No Response	3	1
	Total	450	100%

information is now ubiquitous. This implies that BUT undergraduate are information conscious, they are utilising the resources available on the internet and those of the subscribed virtual library. No wonder information resources are located on their personal laptops, the library, homes/hostel and classrooms for students to make the most of.

It is also obvious from the table that majority of the respondents 207 (46%) use their laptops when searching for ERs. It implies that internet services on their personal

laptops is better off than that of the library. Besides, it implies student also prefer more comfortable location where they can access the ERs any time of the day even in the night with minimal obstruction like power failure and lack of internet access. They possibly subscribe to data on pay as you go basis to minimize cost and visit the library only for assistance. Most of these factors are not feasible in the library situation which has specific time to operate with limited internet access and number of computer terminals to access information.



#### RQ 4: What constitute barriers to the use of ERs?

To ascertain what constitute barriers to the use of ERs, respondents were asked to indicate problems faced in the course of utilising ERs.

Table 4 revealed factors that constitute barriers to the use of ERs as ascertained by respondents. The major problems respondents faced in using ERs as identified from analysis from Table 4 is mainly, that of the cost of subscription for data to use the internet 248 (55.1%) of the respondents affirmed this. On the basis of the above analysis and observations, it implies that limited access to computer terminal and internet access at the library were the major reasons that would encourage users to subscribe to data for students to use the electronic resources in the Bells University library. This connotes that a large number of undergraduate were using the electronic resources for learning and study and for keeping abreast with new developments in their areas of interest. However, most of the students had become acquainted with using their personal laptops to access the electronic resources from the internet. Limited access to computer terminals and internet access in the university library both have 144(32%) and 19(4.2%) respectively. This finding is corroborated by Toyo's (2017) study where slow internet access and lack of awareness of ERs were some of the identified obstacles confronting undergraduate students on the use of ERs. Thus, in order to utilise the available ERs, unlimited internet access, unlimited computer terminals and awareness training should be provided to exploit these useful resources.

#### RQ 5: How do the students acquire Information Retrieval Skills (IRS)?

To ascertain how students acquire IRS, respondents were asked to indicate how they learn to utilising ERs.

Table 5 presents how students acquires IRS to utilising ERs. It was discovered that respondents learn to use ERs mainly through their ICT lecturers as attested to by 193 (43%) of the respondent. This is followed by their personal efforts and guardians from library staff, 90 (20%) and 72 (16%) respectively. From the above, students do not request for assistance from library staff when it comes to the use of ERs as only 72 (16%) claimed to learn from library staff. From the analysis above, it can be deduced that majority of the respondents acquire the skills needed to access and retrieve information from ERs one way or the other as revealed. This connotes that, respondents derive various benefits from the use of these ERs. Some of the possible benefits includes relative ease of use, provision of access to a wide range of information, access and retrieval of

information to improve general communication and overall academic performance. Thus, the eagerness to acquire the skills of its usage.

#### RQ 6: Why do student avoid using ERs?

To ascertain why students avoid the use of ERs, respondents opinion were sought on reason why they think students run away from using ERs.

Table 6 reveal the reasons why respondent avoid the use of ERs. The result revealed, that the major reason why undergraduates avoid the utilisation of ERs was the incurred cost involved in buying data in order to access the information contained in the ERs and lack of Internet service. Cost involved and limited access to internet as indicated by 238 (53%) and 112 (25%) of the respondents respectively affirmed the finding.

#### RQ 7: What are the importance of ERs to the academic attainment of undergraduates students?

To ascertain the importance of ERs to the academic attainments of students, respondents were asked to indicate whether their academic attainments would be reduced without the use of ERs..

Table 7 revealed the importance of ERs to the academic attainment of respondents. Infact, from the analysis from Table 7, according to respondents all the ERs are important and all will reduce the academic attainments of the students, but at different degrees. The analysis of result revealed that internet is the most important ER and the first that will clearly reduce students academic attainment as indicated by 338 (75%) of respondents. This is closely followed by Hinary 312 (71%), e-Journals 302 (67%), E-book Central 261(58%), MIT Courseware 261(58%) and e-books 243 (54%) respectively. Ebrary/Bra virtual 207 (46%) and Web Med/email 207 (46%) is next to JSTOR and Kortext Digital books in the order of patronage as shown by 189 (42%) respectively as indicated by the respondents. Scientific library online (SciELO) and standalone college customised ebooks are of less importance as shown in the table. The findings revealed that more than 50% of the ERs are considered by respondents to be utmost importance to their academic attainment. This is in tandem with the finding of Omosekejimi, Eghworo and Ogo (2015) and Adeniran (2013) that the use of electronic resources has tremendous impact on the academic performances of the undergraduate students of the Federal University of Petroleum Resources Effurun, Warri, Nigeria and undergraduates of Redeemers University, Mowe respectively. According to Omosekejimi et.al, (2013) Internet, Hinary, E-Journals, E-book Central, MIT Courseware and E-books are the ERs that has the

**Table 4:** Barriers to use of ERs (N=450)

S/N	BARRIERS TO USE OF ERS	FREQUENCY	PERCENT %
1	Cost of data subscription	248	55.1
2	Limited access to Computer Terminals	144	32.0
3	Lack of Internet	111119	4.2
4	Lack of Information	13	2.9
5	Lack of Skills	13	2.9
6	Time Consuming	9	2.0
7	Too much distraction from studies	4	0.9
	Total	450	100%

**Table 5:** How students learn to utilising ERs (N=450)

S/N	HOW STUDENTS LEARN TO UTILISE ERS	FREQUENCY	PERCENT%
1	ICT lecturer	193	43
2	Personal effort//Self Taught	90	20
3	Guardian from Library Staff	72	16
4	Online Training	41	9
5	Parent Efforts	27	6
6	Friends/Classmate	14	3
7	Guardians from GES 107 Lecturers	9	2
8	Trial & Error	4	1
	Total	450	100%

**Table 6:** Reasons for avoidance of use of ERs (N=450)

S/N	WHY STUDENTS AVOID USING ERS	FREQUENCY	PERCENT %
1	Cost involved	238	53
2	Lack of internet	111	25
3	Time Constraints	50	11
4	Information retrieved usually Scanty	23	5
5	Satisfaction with printed Sources	09	2
6	Lack of Computers for searching	09	2
7	Lack of Skills of using	5	1
8	Lack of information	5	1
	Total	450	100%

**Table 7:** Importance of ERs to academic attainments of students (N=450)

S/N	ERs	FREQUENCY	PERCENT %
1	Internet	338	75
2	Hinary	312	71
3	E-Journals	302	67
4	E-book Central	261	58
5	MIT Courseware	261	58
6	E-Books	243	54
7	DVD/ CD-ROM	207	46
8	Web med/ email	207	46
9	Ebrary/ Bra- Virtual e-content	207	46
10	JSTOR/Agora	189	42
11	Kortext Digital Books	189	42
12	Scielo	171	38
13	Standalone college customised ebooks	149	33

highest impact/effect on the academic attainment of undergraduates. This implies that undergraduate

students of Bells University just like their counterpart at the Federal University of Petroleum Resources, Effurum,

Warri use these ERs very regularly hence, they were able to rate them in order of their important. The impact were clearly to the respondents to the extent that they were able to identify their effects on their academic attainment. This finding is further corroborated by the findings of Fyneman, Idiedo & Ebhomeya (2014) which revealed that students in Niger Delta University and Rivers State University of Science and Technology (RSUST) use these ERs very regularly. The finding of the study also supported the findings of Fyneman et.al, (2014) that students use the NUC virtual library, HINARI, E-Journals, CD-ROMs, AGORA, and Ebscohost.

### IMPLICATION OF THE STUDY

This study has revealed some fundamental details about undergraduate access, use and awareness of ERs by students of Bells University of Technology, Ota Ogun State. South West, Nigeria. The study revealed that even though awareness is high among students on the availability of ERs and their importance to students academic attainment as clearly identified, the level of usage remain low. Limited internet access, inadequate computer terminals and incurred cost for data subscription are the identified barriers that prevent students from using the ERs. Similar reasons prevent them from using the library as point of access. The implication of this is that although access is provided, but undergraduate students are not able to use the ERs which were subscribed and paid for by the University. Students therefore do not have access to current information. As a result, subscriptions are just being made but the content of these resources are not utilising. This justified the negative impact that the non-usage of these ERs has on their academic attainment.

Another fundamental discovery of the study is that undergraduates only make use of the freely and generally available ERs even when they incur cost to buy data. This imply that the customised and subscribed ERs are underutilized. The academic complete virtual library and the institution customised based resources are however, more relevant to their academic, scientific and research needs/purposes. It was also discovered that students also lack searching and information retrieval skills. This implies that students need trainings on information retrieval and ERs searching. This lack of skill could hinder them from tapping into the potential benefits inherent in the use of the institutional based ERs. This is a direct consequence of avoiding the use of the ERs as a result of incurred cost for data due to limited access to the internet and computer terminals.

### CONCLUSION

The findings of this study suggest that more than half of the sampled population of undergraduate students have access to and utilise ERs. However, despite the importance of these ERs to their academic attainment as clearly identified, the level of their usage remains low. Limited internet access, inadequate computer terminals and incurred cost for data subscription are the identified hindrances and avoidance barriers that prevent students from using the ERs and prevented the use of the University library as point of access to the ERs. The implication of this is that undergraduate students will not have access to the ERs which was subscribed to and paid for by the University. Neither will they also have access to current information. As a result, subscriptions to the ERs are made but the ERs are underutilized. This has negatively impacted academic attainment.

Another fundamental finding of the study is that undergraduates only make use of the freely and generally available ERs, while they underutilize the customised and subscribed ERs. The academic complete virtual and institution customised based resources are however, more relevant to the students' academic, scientific and research needs. Students also lack searching and information retrieval skills. This implies that students lack information retrieval and ERs searching skills, this will hinder their ability to benefit from the potentials inherent in the ERs. This is a direct consequence of avoiding the use of the ERs as a result of incurred cost for data due to limited access to the internet and computer terminals. In addition, for the surveyed population of undergraduate to locate and use ERs at different points of access, the library should be used as a point of access to satisfy their knowledge, learning, information and research needs. Therefore, there is need to encourage them in using the University library as the major point of access. Once this is done, it will improve patronage of the ERs of the library. This will in turn justify the huge amount invested by the University in the provision of the ERs; therefore the following recommendations are suggested.

### RECOMMENDATIONS

1. The paper recommends the provision of unlimited internet access and computer terminals at the electronic part of the University library. This will improve ERs usage, library patronage and create unlimited access to its ERs.
2. Lecturers to emphasise usage of ERs and other library resources (both print and electronic) through assignments to locate information in the library. This underscores the cooperation between lecturers and the library.
3. Lecturers are also to be kept abreast of recent

accession of ERs and other resources of the library through the intranet and use of social media platforms.

4. Organisation of periodic training on the use of ERs and practical training workshops on Information retrieval and search skills as inculcated in the Use of Library and Study Skills programme is recommended
5. Training modules on effective search strategies, designing of appropriate metadata and subject headings to enable easy information retrieval among others is also garmane.
6. Provision of more flexible platforms of access for subscribed institutional based ERs is recommended as the main source of learning and research information for academic staff and undergraduates.
7. Periodic user statistics and mined data from the publishers and or providers of subscribed ERs to be kept by the User Services Department of the University library. These statistics establish usage pattern on undergraduate learning patterns and process .These statistical reports should however, follow recognised standards.

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