

**ICT SKILLS, USE AND SATISFACTION WITH LIBRARY  
ELECTRONIC RESOURCES BY UNDERGRADUATE STUDENTS OF  
NATIONAL OPEN UNIVERSITY OF NIGERIA, LAGOS STUDY  
CENTRE.**

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*Abstract*

*This study was carried out to ascertain ICT skills, use and satisfaction with library electronic resources by undergraduates of National Open University of Nigeria, Lagos Study Centre. The objectives of the study included to determine the skills needed to use library electronic resources, to determine the level of use of the resources and to find out the level of users' satisfaction with them. The study adopted a survey design. Multistage sampling technique was used since the population was large. The study sample population comprised of 722 undergraduates of National Open University of Nigeria (NOUN), Lagos Study Centre. The instrument used for data collection was a structured questionnaire. The research questions were answered using SPSS to determine frequencies, percentages and cross tabulations. The hypothesis of this research was measured using linear regression analysis and multiple regression analysis. The hypothesis is Use of library e-resources has no significant influence on Users' Satisfaction in National Open University of Nigeria, Lagos Study Centre. The major findings of the study revealed: Inaccessibility to some electronic resources which was due to lack of ICT skills, incessant power supply, poor Internet access, inadequate computer facilities to access information. Based on these findings, the following recommendations were made: Library management should make sure students are given adequate ICT training for increased use of the library electronic resources, For users' to derive satisfaction from the Use of library e-resources, there is need for ease of use of the e-resources, timeliness, accuracy, currency and the format with which the e-resources are produced has to meet reasonable standard. For users' to be satisfied, there is also need for appreciable level of power supply, improved infrastructure, improved Internet facilities among others.*

**Keywords:** Academic Libraries, library e-resources, Use of Library, e-resources, ICT Skills, Users' Satisfaction, Information needs.

## **Introduction**

Electronic resources can be defined as the electronic representation of information which can be accessed via electronic system and computer network (Johnson, Evensen, Gelfand, Lammers, Sipe & Zilper, 2012). They further buttress that electronic resources can be seen as the most recent development in information technology and that they are available in various forms like e-books, digital libraries, online journals, magazines, e-learning tutors and online tests. Because of the effective presentation with multimedia tools, these e-resources have become the source of information. Electronic resources deliver the collection of information as full text (aggregated) databases, e-journals, image collections, multimedia in the form of CD, tape, Internet, web technology, etc. E-resources include e-journals, e-discussions, e-news, data archives, e-mails, online chatting, just to mention but a few. Electronic resource are a wide range of products going from electronic periodicals to CD-ROMs, from mailing lists to databases, all of them having a common feature of being used and sometimes modified by a computer (Thanuskodi, 2012). Electronic resources are becoming more and more important for the academic community (Egberongbe, 2011). Therefore, users' satisfaction with these information resources is of paramount importance to library development in the 21st century. Users satisfaction with library e-resources is based on the level of how the library meets their information needs, the relevant of the materials, availability of resources, accessibility of resources and how they can use such various library resources efficiently and effectively.

User satisfaction is the state that results after a library user has favorably or positively experienced a service or product. It can be quantified and basically represents the degree to which a library has met a user's needs and expectations. Satisfaction is based on the concept of disconfirmation, which represents the gap that exists between customer expectations and service performance. This gap, in turn, can develop from a user's perception of the relationship between expectations and performance. The concept of satisfaction is similar to an escalator. As user gets

better treatment which, in turn, leads to a higher level of satisfaction, they raise their level of expectations, demand better treatment, and motivate libraries to strive even harder. While this situation presents library staff with a challenge, it can also create a win/win situation in which libraries gain valuable support from their constituents. While satisfaction is a concept that is based upon past performance, it also involves a forward looking component. Libraries can use instruments that define what their users want or record user experiences and levels of satisfaction. In addition, libraries should also attempt to anticipate changes in their users' values and preferences by identifying those external forces that reshape users and their values (Freid & Freid, 1995). Perhaps the most significant caveat relating to satisfaction is the tendency to dwell on satisfaction as meeting, not exceeding, customers' expectations. Rather, libraries need to attempt to move beyond satisfaction by exceeding user expectations and by addressing customers' desires for innovation and creativity.

### **Statement of the Problem**

Before now, information resources were mainly in paper formats. At present, information is presented in electronic format and the need to make them readily available and accessible to all became an issue and in a bid to overcome this brought about the need for an alternative media for holding and propagating information resources. Several efforts were made until the emergence of Information and Communication Technology (ICT) in the early 1990s, which brought about the change to cope with the rising volume of information. With the Internet and other electronic resources media such as CD ROM, databases and OPAC, information can be stored in one place and be made simultaneously available to all for usage. It is worthy of note that, electronic resources are of great importance to the academic and research needs of undergraduates, since they are available in various formats in libraries. However, observations have shown that undergraduates especially those of National Open University of Nigeria, Lagos Study Centre seem not to be utilizing these e-resources that are available to them. Could it be that they lack the needed skills to use these electronic resources, and if

they don't lack the skills why is it that usage is hindered. If usage is not hindered then could it be that users are not satisfied with the e-resources in the library. Therefore, the crux of this study was to investigate the ICT skills, use and users satisfaction with library electronic resources by undergraduates of National Open University of Nigeria, Lagos Study Centre.

### **Objective of the Study**

The main objective of this study was to determine the influence of ICT skills on the use of library e-resources and the satisfaction derived from such use by undergraduate students of National Open University of Nigeria (NOUN), Lagos Study Centre. The specific objectives were to:

1. Determine the skills needed to use library electronic resources in NOUN;
2. Determine the level of use of library electronic resources in NOUN;
3. Find out the level of users' satisfaction with library electronic resources in NOUN;
4. Identify the challenges facing the use of library e-resources by undergraduates in NOUN.

### **Research Questions**

This research work answered the following questions:

1. What are the skills needed to use library e-resources in NOUN?
2. What is the level of use of library e-resources in NOUN?
3. What is the level of users satisfaction with library e-resources in NOUN?
4. What are the challenges faced by undergraduate students' in the use of library e-resources in NOUN?

### **Hypotheses**

Below was the null hypothesis that was tested in the study at 0.05 level of significance

H<sub>01</sub> Use of library e-resources has no significant influence on users' satisfaction in NOUN.

### **Scope of the Study**

This study focused on the ICT skills, use and users' satisfaction with library e-resources by undergraduates of National Open University of Nigeria (NOUN), Lagos Study Centre as a case study. This study was limited to library electronic resources and not printed information resources. Lagos Study Centre was sufficient enough for this study because of the size and location of the Centre. Unlike other Centres, Lagos Study Centre is located at the heart of Lagos State which makes it easier for students to access and use the electronic resources the Centre library provides.

### **Literature Review**

The study conducted by Alison, Kiyingi and Baziraake (2012) discovered a significant relationship between ICT skills and usage of library electronic resources. Lack of ICT skills affects the use of electronic resources among higher education students. In the work of Ozoemelem (2009) on the use of electronic resources by Postgraduates students of Library and Information Science, there was low level of ICT skills among students which resulted in low usage of library electronic resources. In the same vein, lack of search skills was found as a hindrance to students' use of electronic resources (Oyedapo and Ojo, 2013). Gakibayo, Ikoja-Odong, and Okello-Obura (2013) found out that students in Mbarara University, Uganda had inadequate computer skills which resulted in low usage of electronic resources in the University Library. According to Kurbanoglu (2003), today's individuals should have some basic skills for using electronic resources. Catts and Lau (2008) identified ICT skills as prerequisite skills for use of electronic resources.

To this end, a prime mandate of UNESCO is to examine the degree to which people acquire the skills necessary to use ICT through the formal and non-formal education systems as lack of skills can be one reason why resources that is available is not used (UNESCO, 2008). Knight and Wood (2005) posited that the use of ICT is proving to be a valuable adjunct to improving students' learning. Van Deursen and Van Dijk distinguished four types of digital skills: Operational skills that is being able to operate an Internet browser, Formal Skills which is ability to navigate

on the Internet by recognizing and using hyperlinks, information skills that is, ability to locate, select and process information and evaluate the information source and strategic skills that is, taking advantage of the Internet by goal oriented action and making decisions to gain personal benefits (Puffelen, 2009).

Omotobo, et al (2015) posited that ICT is a major component of distance learning in a study on ICT adoption and use among students of a Nigerian university for distance learning. The study revealed that majority of the students are highly skilled in the use of ICT and its applications such as the Internet and e-mail and recommended compulsory training and retraining session for newly admitted students in order to improve their ICT skills. Quadri (2012) asserted that ICT skills are a pre-requisite for networking of e-library services and resources sharing and they enable promotion of e-learning, usage of e-books, e-journals, and creation of electronic institution repositories. Jackson (2005) in her study on the impact of ICT skills found out that many students experience difficulties in locating, accessing, evaluating and using electronic resources effectively.

User's satisfaction of library e-resources is based on the level of how the library meets their information needs, the relevance of the materials, availability of resources, accessibility of resources and how they can use such various library resources. Users' dissatisfaction on the other hand is influenced by the means of accessing information of which accessibility will be difficult and its utilization reduced. Satisfaction is to have pleasure, contentment from the information one needs. Arif and Mahmood (2010) examined the satisfaction level of users with the central library collection and services at Allama Iqbal Open University (AIOU), Islamabad, Pakistan. A semi-structured questionnaire was used as a data collection tool from the subjects of the study. The result indicated that a majority (52%) of the respondents frequently visited the library, followed by 47% respondents who occasionally visited the library. The respondents expressed dissatisfaction with the library collection, online databases, virtual reference services, interlibrary loan, photocopy facilities, and journals related to subjects. Nevertheless, they were satisfied with the location and the physical setup of the library. The study found that the majority of the respondents used library resources for teaching and research. About 54% of the respondents suggested that the library should provide

## Research Methodology

The survey research design was adopted for the study. The population comprised 17,394 Undergraduates from National Open University of Nigeria, Lagos Study Centre. Multistage sampling technique was used to get the sample for this study. The first stage involved the selection of Schools. Three Schools were randomly selected (using the ballot system) out of the Seven available in Lagos Study Centre. At the second stage, the stratified random sampling was used to select 960 students across 100 to 400 levels from the selected Schools. The sample size was determined with the aid of a table of calculated sample size developed by Krejcie and Morgan (1970). An instrument titled "Information and Communication Technology Skills, Use of Library Electronic Resources and Users' Satisfaction" (ICT-SULERUS) was used for data collection. The instrument employed in this study was a self-structured questionnaire. The questionnaire was personally administered and retrieved with the aid of research assistants from Lagos Study Centre. The breakdown of the total sample from the three Schools is presented in the table below.

### Sample size for the Study

S/N	Schools	Population of Students	Sample size
1	Management Science	6282	361
2	Art and Social Science	4040	351
3	Education	744	248
	TOTAL		960

### Pilot Study

A pilot study was conducted among NOUN students in McCarthy study Centre, Lagos State. Fifty copies of the questionnaire were administered on a work day to undergraduates at the Centre Library. The respondents at the pilot stage were encouraged to provide feedback on the ambiguity (if any) and structure of the questions. Fifty copies of the questionnaire were returned.

All the questionnaire (100%) responses were processed and analyzed using Cronbach Alpha analysis. Cronbach reliability test conducted to determine the reliability of main constructs in the questionnaire “ICT skills to use of library e-resources”, “Use of library e-resources” and “Users' satisfaction” gave the results 0.88, 0.92 and 0.74 respectively representing their reliability.

#### Presentation and Analysis of Data

**Table 1. Respondents by Gender.**

Gender	Frequency	Percentage (%)
Male	358	49.6
Female	364	50.4
Total	722	100

From the gender composition of respondents as can be seen from Table 1, indicates that the majority 364(50.4%) of undergraduates were females, while the male constituted the minority 358 (49.6%). This indicates that there were more female participants than male participants in this study. This could mean that women did not have equal opportunities of undertaking full-time studies like their male counterparts presumably because of their role of childbearing as well as attending to other household chores.

**Table 2. Skills Needed to Use of library e-resources in NOUN**

Skills	OPAC Skills	Queries Skills	E-Format Skills	Navigation Skills	Database Skills	E-library Skills	Internet Skills	Computer Skills
High	336(56.2%)	398(59.6%)	466(68.7%)	284(42.7%)	526(79.2%)	566(82.2%)	672(95.8%)	658(94.3%)
Low	262(43.8%)	270(40.5%)	210(31.3%)	304(45.9%)	138(20.8%)	122(17.7%)	30(4.3%)	40(5.7%)
Percentage (%)	100	100	100	88.6	100	100	100	100
Total	598	668	676	588	664	688	702	698



Table 2 shows that on the whole, 488(72.3%) of the respondents possessed the high level of skills needed of the eight (8) skills listed while on the average 169(26.2%) of the respondents either possessed low level or did not possess the skills needed of the eight (8) skills listed. This shows that majority of the undergraduates of NOUN, Lagos Study Centre possessed high level of skills needed to use library e-resources most especially computer and Internet skills but low level of OPAC Skills, Navigation Skills and E-format Skills. This finding corroborates that of Omotosho, et al (2015) who posited that majority of the students were highly skilled in the use of ICT and its applications such as the Internet and e-mail and recommended compulsory training and retraining session for newly admitted students in order to improve their ICT skills. The present findings however, disagrees with Gakibayo, Ikoja-Odong, and Okello-Obura (2013) who found out that students in Mbarara University, Uganda had inadequate computer skills which resulted in low usage of electronic resources in the University Library.

**Table 3. Level of Use of Library e-Resources in NOUN**

E-Resources	E-Thesis	Online D/bases	CD-ROM	(online) catalog	E-Journals	E-Past Questions Papers	e-Ref Materials	E-Books	Search Engines	E-Course ware
Utilized	330 (51.3%)	340 (52.2%)	358 (55.6%)	534 (78.1%)	404 (58.2%)	514 (78.6%)	488 (73.1%)	508 (72.8%)	426 (63.9%)	408 (61.6%)
Not Utilized	314 (48.8%)	312 (47.9%)	286 (44.4%)	150 (21.9%)	290 (41.8%)	140 (21.4%)	180 (26.9%)	190 (27.2%)	242 (36.2%)	254 (38.4%)
Percentage (%)	100	100	100	100	100	100	100	100	100	100
Total	644	652	644	684	694	654	668	698	668	662

Table 3 shows that on the average 431(64.5%) of the respondents utilized the ten (10) library electronic resources while on the average 236(35.5%) of the respondents did not utilize the library e-resources. This shows that majority of the undergraduates of NOUN, Lagos Study Centre utilized the library e-resources but seldom utilized electronic theses/dissertations and online databases.

This finding corroborates the survey conducted by Ani and Ahiauzu (2008) where it was found that the Internet has been a major source of developing electronic resources in twenty (20) Nigerian public University libraries. In this survey, 17(89.5%) of the 20 Universities investigated for usage of electronic resources had Internet connectivity. The study further found out that 13(68.4%) subscribe to online databases, 11(57.9%) used CD-ROMs, 10(52.6%) used e-journals while digitization of the library material constituted 3(15.8%).

**Table 4. Level of Users Satisfaction with library e-resources in NOUN**

E-Resources	Currency	Timeline	Approach	Format	Access of Lib e-res	Avail of Lib e-res	Quality/Relevance	Accuracy	Ease of Use
Satisfied	506 (77.9%)	538 (81%)	518 (79%)	534 (81.4%)	508 (78.7%)	512 (78.8%)	562 (81.7%)	566 (84.7%)	540 (80.1%)
Not Satisfied	144 (22.2%)	126 (19.0%)	138 (21.0%)	122 (18.6%)	98 (15.0%)	138 (21.4%)	126 (18.3%)	102 (15.3%)	134 (19.9%)
Percentage (%)	100	100	100	100	100	100	100	100	100
Total	644	652	644	684	694	654	688	698	668

Table 4 shows that on the average 532(80.4%) of the respondents were satisfied with the nine (9) electronic resources while average of 125(19.6%) of the respondents were not satisfied with the library electronic resources. This also implies that undergraduates of NOUN, Lagos Study Centre were satisfied with library electronic resources. This finding disagrees with that of Arif and Mahmood (2010) who examined the satisfaction level of users with the central library collection and services at Allama Iqbal Open University (AIOU), Islamabad, Pakistan. The respondents expressed dissatisfaction with the present library collection, online databases, virtual reference services, interlibrary loan, photocopy facilities, and journals related to subjects. Nevertheless, they were satisfied with the location and the physical setup of the library.

**Table 5. Challenges in the Use of Library e-resources in NOUN**

Challenges	Agree	Disagree	Percent	Total
Incomplete and inaccurate information	288 (43.1%)	380 (56.9%)	100	668
Lack of assistance from library personnel	326 (48.4%)	348 (51.6%)	100	674
Lack/Inadequate skills in search for needed information	352 (51.7%)	330 (48.4%)	100	682
Information Overload	360 (53.6%)	312 (46.4%)	100	672
Difficulties in locating relevant e-resources	362 (54.3%)	304 (45.6%)	100	666
Poor infrastructure	382 (57.3%)	290 (43.2%)	100	672
Inaccessibility to some electronic resources	376 (55.7%)	300 (44.4%)	100	676
Incessant power supply	372 (55.6%)	294 (44.1%)	100	666
Lack of awareness	388 (56.6%)	298 (43.4%)	100	686
Poor Internet access	384 (57.4%)	284 (42.5%)	100	668
Inadequate computer facilities to access information	444 (64.3%)	246 (35.7%)	100	690

Table 5 shows that on the average 367(54.4%) of the respondents agree with the eleven (11) challenges in the library while 308(45.65%) of the respondents disagree with the challenges. This implies that a lot needed to be done to improve the quality of services in the library. These findings corroborates that of Bankole and Babalola (2012) which revealed that the problems students encountered in their use of internet which include slowness of the server, limited institutional internet facilities, frequent power outage and high cost of usage.

## **Conclusion**

The findings revealed that substantial percentages of the undergraduates need ICT skills to the use of library electronic resources, they made use of these e-resources as well as derived satisfaction with using those e-resources especially with regards to ease of use, accuracy, quality/relevance, availability and accessibility of library e-resources to mention but few. With this trend, one could conclude that generally, ICT skills and use of library electronic resources had significantly influenced undergraduate users' satisfaction in the Library of National Open University of Nigeria (NOUN), Lagos Study Centre. This is not without challenges as the level of ICT skills to use of some of the library e-resources was low such as OPAC Skills, Navigation Skills and E-format Skills. This has affected the level of use of those e-resources as well as the level of users' satisfaction. There is therefore need for National Open University of Nigeria Undergraduate students to be trained on the application of some of these skills needed for the use of library e-resources as without it could lead to inadequate exploration and use of these e-resources which could in turn lead to users being dissatisfied. For users' to be satisfied, there is need for appreciable level of power supply, improved infrastructure, improved Internet facilities among others. Management of Academic libraries should provide clear library policies/framework that would bring about increased in ICT skills, use and users' satisfaction with library e-resources.

## **Recommendations**

Arising from the research findings, the following recommendations were therefore presented:

For users' to derive satisfaction from the Use of library e-resources, there is need for ease of use of the e-resources, timeliness, accuracy, currency and the format with which the e-resources are produced has to meet reasonable standard.

For users' to be satisfied, there is also need for appreciable level of power supply, improved infrastructure, improved Internet facilities among others.

Management of Academic libraries should provide clear library policies/framework that would bring about increased in ICT skills, use and users' satisfaction with library e-resources.

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