# DETERMINANTS OF THE USE OF INFORMATION AND COMMUNICATION TECHNOLOGY BY LIBRARY AND INFORMATION SCIENCE STUDENTS IN NIGERIAN UNIVERSITIES

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#### Abstract

The study explored the determinants of ICT use by library and information science students in universities in Southern, Nigeria. The study adopted a descriptive survey design. The population for this study was 6,249 regular undergraduates of Library and Information Science from the 12 universities in Southern Nigeria. 10% of the total population were selected via simple random sampling, which amount to the sample size 624 respondents used for the study. The instrument used for data collection was a structured questionnaire designed by the researcher. The data retrieved via the questionnaire were analysed using descriptive statistics. The standard used for judgment to determine the mean in the research questions was 2.50 (criterion mean) derived from the 4-pointscale. The findings revealed that the Library and Information Science students have high level of access to ICT facilities in universities in Southern Nigeria. The findings also show that the only ICT skills the students possessed is the use of computers. The Library and Information Science Students do not possess skills required for the use of database, electronic formats (PDF, JPEG), online acquisition procedures/sechniques, interactive platforms. The extent of skills possessed by undergraduates in library schools in the Southern Region was low. From the findings it is glaring that though the students could access ICT facilities in their universities, they lack the skills to use the available ICT tools for their various educational and information needs. The low usage could be attributed to lack of skills to use the ICT facilities and not poor accessibility to the facilities. It was suggested that the management of universities in Southern Nigerla should as a matter of urgency, create functional and sustainable computer and information literacy programmes so as to enable students to effectively harness and use the available ICT facilities to optimum extent and maker space should be created in universities where students can freely explore and use ICT to gain more knowledge and competence.

KEYWORDS: Determinants; Use of ICT; Library and Information Science; Undergraduates; Universities: Nigeria

# Introduction

The emergence of Information Communication Technologies (ICTs) has made research and information seeking easier for students and scholars in this 21<sup>st</sup> century. There has been a growing interest in the use of ICT especially in education which raises concern of how best ICT facilities can be integrated to support educational processes. According to Tikam (2013) ICT has a significant impact on every field under the sun, including education. It has an impact on all element of education, from teaching and learning to assessment and evaluation. ICT encompasses photocopiers, cellular phones (GSM), printers and plotters, duplicating machines, audio tapes and discs, computers, scanners, close circuit television (CCTV), satellite dish, television sets, video conferencing fractity, multimedia projectors and sildes, telecom fracilities among others. According to Bandele (2006), ICT is an advancement that encompasses the use of computers and other telecommunication technologies in various aspects of human endeavour. Students are currently using information communication technologies for meeting their varying information and academic needs and Library and Information Science (LIS) students in universities are not an exemption.

For undergraduate students to use information communication technologies, they should be able to gain access to the tools that meet their need. Blurton (2009) argues that as access to KT infrastructure continues to grow globally. ICT use in teaching and learning can be expected to expand drastically. Oriogu, Ogbuiyi and Ogbuiyi (2014) maintained that availability of KT facilities in tertiary institutions does not essentially suggest their accessibility since the source may be accessible nevertheless, access to them, is prevented for various reasons. Students are mainly digital natives who mostly love to explore with information communication technologies if they have the access point to the digital tools that could meet their needs.

Another factor that could influence undergraduates LIS students' use of ICT tools is the required ICT Skills. According to Indeed Editorial Team (2021) skill refers to the knowledge, competences, and abilities required to accomplish operational activities. The extent of knowledge, competences and abilities to deploy information communication technologies by undergraduate students will determine how successful their outcome will be in the usage of the tools for their educational and information needs. According to Abubakar (2010), some of the requirements for skill acquisitions include the fundamental areas of the knowledge of ICTs and their functions. It also entails the capability to carry out searches on the internet. Other skills considered very appropriate for graduates or students of Library and Information Science (LIS), according to Morgan (2008), including skills in web languages, communication, database creation and the basic knowledge of how to send mails.

Prior studies were centred on ICTs competence possessed by library professionals, while others were based on ICT use by librarians. Only a few studies have been undertaken on the determinant of the use of ICT by undergraduate LIS students in the Southern Region of Nigeria. This study is carried out to fill the lacuna in knowledge and serve as a reference to researchers undertaken similar nudies.

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#### Research Objectives

The primary purpose of this study was to investigate accessibility and skills as determinants of the use of ICT by LIS Students in Universities in Nigeria. However, the specific objectives are to:

- 1 Find out the level of accessibility of LIS Students to ICT facilities in library schools in Southern Nigeria.
  - 2. Identify the ICT skills possessed by LIS Students in Library Schools.
- Determine the extent to which LIS Students are skilled in the use of ICTs in the library schools.

#### **Research Questions**

The following questions were asked to guide this study:

- What is the level of accessibility of LIS Students to ICT facilities in library schools in Southern Nigeria?
- What are the ICT skills possessed by LIS Students in Library Schools?
- 3. To what extent are LIS Students skilled ICT usebrary Schools?

### literature Review

This chapter dealt extensively on the theoretical framework and review of literature that was related to this study.

### Theoretical Framework

Several models have been proposed for understanding and explaining individual attitudes, behaviour and other factors towards the acceptance and use of technology. Accessibility and skills are some of the main acknowledged determinants that play critical roles in shaping an individual's acceptance and usage of technology (Schaper & Pervan, 2007). This study is hinged on the UTAUT since it is a unified model that cuts across every information science model that applies to acceptance and use of innovation (Venkatesh, Morris, Davis, & Davis, 2003). More so, the UTAUT model was adapted for this research due to its empirical effectiveness; the comprehensive, rigour applied in its development and its high explanatory power. The UTAUT, developed by Venkateshet al., claims dire et factors of intention to use, such as accessibility, skill level, and perceived case of use.

# Level of Accessibility of LIS Students to ICT Facilities

Accessibility to ICT is the degree to which computer and other computer-related gadgets are used freely by as many people as possible to retrieve and satisfy their information needs. A survey that was carried out by Rotman and McQuivey (2009) indicated that some university libraries provide access to e-resources through e-book readers, such as the Amazon Kindle and the tablet computers. However, in a survey carried out by Oriogu, Ogbuiyi and Ogbuiyi (2014) on the availability and accessibility of KTs in the provision of information resources to undergraduates in Babcock

University revealed that majority of the respondents were of the opinion that the ICT facilities were highly accessible; ranging from computers (87.9%), internet (87.9%), photocopier machines (8(18%), e-mail (78.0%%), network(74.7%%), printer (69.9%) and UPS (593%). It was also reported in their study that CD-ROMs, scanners and projectors were not accessible by university students because of their unavailability. In another survey conducted by Wilson, Tette-Mensah and Boateng (2014) on the ability of tertiary students in a university in Ghana to use a wide range of ICT devices to support their learning revealed that students had access to a variety of technologies. The results showed that it was only mobile phones that more than half of the re-spondents indicated they could access. Thus, access to most of the technologie's was deficient among the students. The findings also showed that majority of the respondents (79.9%) had access to PC or laptop, 4.3% of them did not have any access to technologies in the University while 13.9% had access to digital cameras. Firthermore, Dorup (2014) found that most students have access to computers in their dormitorie's inside the campus as well as using the internet regularly, which is an essential requirement for supporting networking for students and lecturers, as well as for collaborative learning. Dorup inther concluded that students who did not have access to computers and the Internet technology sure likely to get also behind their peers who did, However, a survey by Afan-Krumah and Tanve (2009) on students' views of ICTs usage at the University of Cape Coast using questionnaires. reverded that out of the 100 respondents, 52 do not have a place to access the computer and 48 respondents had an area of accers, Out of the 48 who had an area of access 17 had access to computers in Cybercafe, one had computer access at the workplace, six at the University, eight had access to their roommakes' computers, five had computer access at the University'sICT centre, three had access to a computer either in cybercafe, or at workplace, and the University, and finally eight had access to computers at home.

# IGSkills Possessed by LIS Students in Library Schools

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The education sector generally recognised a critical reed for graduates to possess ICT skills. ICT skills is a required attribute of future information professionals in library schools. Regarding the ICT skills pessessed by students, Keengwe (2007) found that despite the prevalent availability of computers on university campuses, students lack many computer skills acceded to sustain and improve their learning skill. Obasuyi and Otabor (2012) examine d internet literacy capabilities among University of Beinin, Nigerian physical science undergraduates. The majority of the students have most of the needed internet abilities, indicating that they are computer, internet, and ICT literate, according to the research conducted among Australian university students by Oliceir and Tavers (2000), the level of ICT clapabilities in the university sector appears to be relatively high. Despite having grown up with the internet and other forms of technology, Katz and Macklin (2007) found that many college students lack ICT literacy abilities required to use the vast amounts of information available today. Hoseain and Sormutein (2019) investigated the ICT abilities of Bangladeshi Library and Information Science (LIS) students. According to the findings, LIS audents rate their general computer and internet abilities as good. The results plummeted to average

in the sophisti cated computer and online activities, as well as the appraisal of internet resources. In a R survey of a LIS school in Nigeria, Abubakar (2010) discovered appropriate ICT infrastructure and The enough courses with ICT components. However, the students' (n = 80) replies suggested that they did did not believe they have sufficient knowledge and abilities in computer programs, search engines, remedia resources, and the use and cataloguing of e-resources.

Extent of Library and Information Science Students skilled in ICT used in Library Schools Skill is thought of as a quality of performances which does not depend solely upon a person's fundamental, innate capacities but must be developed through training, practice and experience, although skill depends primarily on learning (Amoda& Odunaike, 2014). Ugwaunyi and Ejikeme (2011) over that some students entering tertiary institutions still lack necessary ICT skills and displays computer phobias to a varying degree. ICT skills important for efficient learning were examined by undergraduate students at the University of Nigeria by Oguguo, Okeke, Dave-Ugwu, Ocheni, Ugorji, Nwoji, and Ike (2020). The findings demonstrated that undergraduate students possessed a high level of relevant ICT abilities that would benefit their learning, and that male and female student' ICT skills were similar. Olatoye, Nekhwevha, and Muchaonyerwa (2021) investigated undergraduate students' ICT literacy skills and experience with electronic resources at Eastern Cape universities in South Africa. Due to their poor degree of ICT skill and expertise, the undergraduate respondents underutifize electronic resources, according to the findings. Lee (2007) found that a significant number of students in teacher preparation programmes were not equipped with necessary computer operational skills. Obuh (2010) study discovered that there is a low level of skilfulness in the use of ICT among Nigerian students. Similarly, Amoda and Odunaike (2014) reported that students in Nigerian tertiary institutions are not competent in basic computer operations and the use of generic software. If students are expected to assimilate ICT into their school activities, they must have ICT skills for their use, in supplementing their fecture notes, for research activities; the need to enable the direct use of ICT in students' learning activities and the need for students to develop in themselves a critical consciousness of ICT applications and the social consequences (Abubakar, 2010). Furthermore, according to the findings of a study conducted by Wilson, et al. Tete-Mensah, and Boateng (2014) on tertiary students' ability to use ICT facilities in their learning and research activities, the students have basic knowledge and skills in the use of a variety of technologies and software. They further concluded that undergraduates' ICT skills is one crucial determinant of ICT use in higher institutions of learning in Africa.

### **Research Methodology**

For this investigation, a descriptive survey design was used. The participants were 6,249 regular LIS undergraduates from 12 Southern-Nigerian universities. Simple random selection was utilised to choose 10% of the entire population, resulting in a sample size of 624 respondents for the study. A structured questionnaire created by the researcher served as the data gathering instrument. There are research questions in this study. The mean statistics were utilised to answer the research questions. The standard used for judgment to determine the mean in the research questions was 2.50 (criterion mean) derived from the 4-point-scale.

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# RESEARCH FINDINGS

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e c t This section presents the results and discussion of findings in line with the research questions. It was discussed under five sections, which include: questionnaire response rate, analysis of the respondents' bio-data, and answering of the research questions.

# Table 1: Questionnaire Response Rate

	irned
Total 624 620 99%	

The copies of the questionnaire administered was 624 and a total number of six hundred and twenty (620) copies were completed and returned which constituted 99% as the questionnaire response rate. The high response rate was due to the fact that the copies of the questionnaire were administered with the assistance of experienced research assistants. This high rate of response was considered adequate for the study.

# Table 2: Gender of the Students

Gender	Frequency	Percentage (%)		
Male	319	51.5		
Female	301	48.5		
Total	620	100.0		

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From Table 2, there were more male students 319(51.5%),) than the female students 301(48.5%). This suggests that male LIS students in Southern Nigerian universities took part in the study ata higher rate than their female colleagues.

# Answering of the Research Questions

This section is on the analysis of data to answer the research questions raised in the study.

# **Research Question One:**

What is the level of accessibility of LIS Students to JCT facilities in library schools in Southern' Nigeria?

Table 3 shows the level of accessibility to ICT facilities by LIS students in the universities.

ICTFacilities	M	SD
Electronic photocopiers	3.00	1,095
Collutar phones (GSM)	3,49	.676
Printers and plotters	29%	10-14
Duplicating machines	3.16	1.15
Audio tapes and Dises	2,66	1.078
Computers	2.97	1.151
Scamers	2.6	1.150
Close circuit television (CCTV)	2.34	1.114
Satellite dish	2.It	1.117
Television sets	3.08	.836
Video conferencing facility	2.17	1.100
Multimedia projectors and sides	3.07	1.036
Idecom facility	2.03	.853
Digital cameras	2.87	1038
fax (fausimile ) machines	1.95	.847
Dverhead projectors and transparencies	2.74	1, 107
nternet facilities	2.64	1.211
gregate Mean = 2.69	Key	

Tuble 3: Level of Accessibility of LIS Students to ICT Facilities in Library Schools

Aggregate Mean = 2.69 Criterion Mean = 2.50

M = Mean, SD = Standard Deviation

Table 3 shows that with an aggregate mean of 2.69, which is higher than the criterion mean of 2.50, it may be stated that LIS undergraduates in Southern Nigeria have a lot of access to ICT fracilities.

# **Research Question Two:**

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What are the ICT skills possessed by LIS students in universities?

The Table 4 shows the responses of the respondents on ICT skills possessed by LIS students.

ICT Skills Possessed		Agree		Disagree	
	Freq.	%	Freq -	%	
Proficient in the use of computer	457	73.7	163	26.3	
Knowledge of database types	73	11.8	547	88.2	
Knowledge of electronic formats e.g. PDF, JPEG.	303	48,9	317	51.1	
Working in an interactive platforms e.g. video conferencing, BBS. LISTSERV, Chat room etc	168	27.1	452	72.9	
Online acquisition procedures/techniques	79	12.7	541	87.3	
Online navigation techniques	10	1.6	610	98.4	
Use of electronic library tools e.g. CD-ROM, OPAC, Subject gateway etc	123	19.8	497	80.2	
Working in a network environment	115	18.5	505	81.5	
Use of internet telephone	17	2.7	603	97.3	
Installation of computer system/ application software eg. Microsoft windows XP Linux, Microsoft office, (orelDraw etc.	132	21.3	488	78.7	

Table 4: ICT Skills Possessed by LIS Students in Universities

Information on the ICT skills possessed by LIS students in the Universities under this study is shown in Table 4. As shown in the table, majority of the respondents agreed that the only ICT skills they possessed very high proficiency is in the use of computer 457(73,7%).

# **Research Question Three:**

To what extent are LIS Students skilled in ICT use in Library Schools?

The Table 5 shows the responses of the respondents on the extent to which LIS students are skilled on the use of ICT

Students ICT Skills	M	SD	100
Proficient in computer use	302	1,017	
Knowledge of database structures	1.79	.632	ing for
Knowledge of electronic formats e.g. PDF, JPEG	2.55	1.128	edge of
Working in an interactive platforms eg. video conferencing, BBS, LISTSERV, chat rooms etc	1.99	.817	in sand
Online acquisition procedures/techniques	1.77	.69	
Online navigation techniques	ñ2."	1537	in upper
Use of electronic library tools eg. CD-ROM, OPAC, subject gateway etc	1.85	.867	
Working in a network environment	1.83	.717	1
Use of internet telephone	1.49	.644	1013
Installation of computer systems/application software e.g. Microsoft windows XP, Linux, Microsoft Office, CorelDraw etc	1.85	.878	

Table 5: Extent to which LIS Students are Skilled on the Use of ICT Facilities

Aggregate Mean = 196K eys

Criterion Mean = 250M = Mean, SD = Standard Deviation

Table 5 shows that with an aggregate mean of 1.96 which is less than the criterion mean of 250, i can be concluded that the extent to which Library and Information Science students in Southern universities are skilled on ICT use is low.

#### **Discussion of Findings**

The findings of the research are discussed below.

# Level of Accessibility of LIS Students to ICT facilities in library schools

The findings revealed that library and information science students in universities in Southern Nigeria have a high level of access to ICT facilities. This finding aligns with the study of Oriogu, Ogbuiyi and Ogbuiyi (2014) which revealed that the respondents were of the opinion that the ICT facilities were highly accessible ranging from computers, internet, photocopier machines, e-mail, network, printer, and UPS.

# The ICT Skills possessed by LIS Students in Library Schools

According to the data, the majority of respondents agreed that computer use was their only ICT competence. Databases, electronic formats (PDF, JPEG), online acquisition procedures/techniques, interactive platforms (video conferencing, BBS, LISTSERV, Chat room, etc)are all abilities that LIS students lack. This finding is consistent with Katz and Macklin's (2007) study, which found that many college students lack the information and communication technology literacy skills needed to use today's large volumes of data. This contradicts the findings of Obasuyi and Otabor (2012), who found that the majority of students possess the majority of required online skills, showing that they are computer, internet, and ICT literate. This research suggests that LIS students lack the necessary ICT abilities for the twenty-first century.

# Extent to which LIS Students are Skilled on the Use of ICT Facilities

According to the data, LIS students in Southern universities are not well-versed in the use of ICTs. This finding aligns with the study of Olatoye, Nekhwevha, and Muchaonyerwa (2021) which revealed that due to poor extent of ICT skills and expertise, the undergraduate respondents underutilize electronic resources available in their university library. This finding is also in agreement with the study of Obuh (2010); Amoda and Odunaike (2014) which revealed that there is a low level of skilfulness in the use of ICT among Nigerian students. This research suggests that undergraduate LIS students have limited knowledge on how to use ICT facilities at their institutions.

### Conclusion and Recommendations

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The purpose of this study was to look at accessibility and skills as factors of LIS students' ICT use in Nigerian universities. The study was directed by three research questions/objectives. The study was based on Verkate sh et al(2003) UTAUT, which proposes direct drivers of intention to use tuchnology such as accessibility, skill level, and perceived case of use, among others. In accordance with the study's aims, the literature reviews included works that were conceptual and empirical in nature. There is little doubt that LIS students in Nigeria's Southern Region have easy access to ICT facilities that can suit their educational and informational demands. The library school

undergraduates who participated in the study lacked adequate ICT skills, as they were only family with computers and lacked knowledge of databases, electronic formats (PDF, JPEG), only acquisition procedures/techniques, and interactive platforms (video conferencing, Bł LISTSERV, Charroom, and so on). For their different educational and information demands, students' understudy also has a relatively low level of ICT abilities. When properly accessib information communication technologies are critical for university students' success. For t comprehensive and successful ICT use that fulfil the needs of students in library schoo accessibility and competence are essential. Based on the outcomes of this study, the re-search suggests that:

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- Universities in Southern Nigeria should build stable and sustainable computer as information literacy programmes as soon as possible so that students may successfully harne and use the available ICT facilities to their full potential.
- 2. More emphasis should be focused on the importance of creating an environment that allow both male and female students to access and K°T use in their academic endeavours.
- In universitie's, makerspacies should be established where students can fellly explore and its ICF to improve their knowledge and skills.

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