

INFORMATION AND COMMUNICATION TECHNOLOGY SKILL AS A
DETERMINANT OF THE OF ONLINE PUBLIC ACCESS CATALOGUE BY
UNDERGRADUATES IN PRIVATE UNIVERSITIES IN OGUN STATE.

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Abstract

The study was conducted to investigate the influence of Information and Communication Technology skill on the use of Online Public Access Catalogue by undergraduates in private Universities in Ogun State. A total of four research questions were developed from the research objectives. The study adopted descriptive survey research design, the population of the study was two thousand, three hundred and thirteen (2,313), of which two hundred and thirty-two (232) undergraduate students in private universities in Ogun state were selected using simple random proportionate sampling technique. The instrument used for data collection is the questionnaire. Face and content validity of this study was carried out by three experts in Library and Information Science, TASUED. Thirty copies of the questionnaire were administered on undergraduates of Lead City University, Ibadan, Oyo State. The result shows Cronbach Alpha reliability coefficient for: Information and Communication Technology skills of undergraduate $r = 0.81$; Use of OPAC $r = 0.90$; Out of the 232 questionnaires administered 209 were returned, collated and found useful for the study. The findings of the study revealed that the level of Information and Communication Technology skills of undergraduates in private Universities in Ogun State is high. Majority of undergraduates in private Universities in Ogun State do not use Online Public Access Catalogue. Majority of undergraduates in private Universities in Ogun State do not have a purpose of using Online Public Access Catalogue. The challenges faced by undergraduates in private Universities in Ogun State, is unfamiliarity with the OPAC system. The study concluded that despite high ICT skills among undergraduates in Ogun State's private universities, the Online Public Access Catalogue (OPAC) is underutilized due to students' lack of understanding and promotion by academic libraries. It suggests a need for proactive education on OPAC usage. The study recommends that more awareness should be created by academic libraries for undergraduates to familiarize each other with Online Public Access Catalogue and how best to make use of it for their academic activities.

Keywords: Online Public Access Catalogue, Use of Online Public Access Catalogue, ICT skills, Undergraduates, Private University

Introduction

Throughout history, knowledge storage has evolved from using parchment, papyrus, and scrolls to more advanced methods, driven by the expansion of information. Initially, scrolls were kept in temples and palaces, but the invention of movable type and books transformed how information was stored and shared, especially in libraries. Libraries, defined as spaces where information is processed and stored for retrieval, serve to meet users' needs. Different types of libraries include national, public, media resource centers, special, and academic libraries. Academic libraries, which are tied to higher institutions, are pivotal in helping these institutions achieve their goals. They provide access to print and electronic resources. Print resources include materials like maps, dictionaries, and textbooks, while electronic resources, as identified by Oyewo and Bello (2014), encompass e-books, e-journals, e-theses, e-newspapers, CD-ROMs, and more. To efficiently manage these resources, academic libraries have adopted Library Management Software (LMS).

Library Management Software, a technological tool, revolutionizes library operations by automating tasks for the benefit of users. Adepoju (2021) describes LMS as automation programs designed to help librarians manage resources and provide access to users. Examples of popular LMS include KOHA, NewGenLib, and Millennium Innovative Software, all of which integrate various modules for library operations such as cataloging, circulation, registration, and the Online Public Access Catalogue (OPAC). Among these modules, OPAC stands out for offering unrestricted access to library resources. According to Adegun, Akinola, Oyewumi, and Adepoju (2021), OPAC facilitates access to university library information. It is an online, computerized catalog system that provides bibliographic records of books, journals, and other library materials. OPAC represents a technological leap from the traditional 3x5 card catalog system. Before, librarians would prepare cards for each resource by author, subject, or title and organize them in catalog cabinets. Library users had to manually search through these cards, a time-consuming process prone to errors, such as misplacement of cards. The online public access catalogue provides facilities for library users to carry out online catalogue searches and the availability of the item (David-West, 2020). The introduction of OPAC helps overcome these issues by offering a more efficient information retrieval system, aligning with S. R. Ranganathan's library science principle to "not waste the time of the library user."

OPAC interfaces, customized for individual academic libraries, often feature personalized graphical elements, search boxes, and login functionalities. Users can search for resources by

keyword, author, title, ISBN, or subject. Some systems also offer advanced search functions using Boolean operators like AND, OR, and NOT. OPAC also provides information such as the resource's call number and location, helping users save time. Despite the advantages of OPAC, studies reveal that undergraduate students, the primary library users, have not fully utilized its potential. The use of OPAC is crucial for providing timely and relevant information to students, and its adoption should be encouraged. Otuyalo and Babalola (2021) identified frequency, purpose, and challenges as the main indicators for measuring OPAC use among undergraduates. Studies by Adegun et al. (2021) show that undergraduates at Ladoke Akintola University use OPAC daily, while Eserada and Okolo (2019) found that students in South-South Nigeria only occasionally use it. This suggests moderate use of OPAC by undergraduates.

Regarding the purpose of OPAC use, studies have shown that undergraduates primarily use it to locate library materials. Katabalwa and Mnzava (2020) found that students use OPAC to check library collections and locate items using call numbers. Similarly, Ogbole and Morayo (2017) found that undergraduates in Ogun and Oyo States use OPAC to find books by author, title, or subject, save time and energy, check new library additions, and read institutional repository news. These findings suggest that students primarily use OPAC to locate physical resources on library shelves. However, students face several challenges when using OPAC. Eserada and Okolo (2019) identified poor power supply, lack of OPAC knowledge, system unfamiliarity, and inadequate computer terminals as major obstacles. Apagu, Temboge, and Hassan (2018) noted additional challenges such as the absence of hyperlinks to the library from OPAC, misplaced books, and insufficient user education programs. These challenges indicate that universities need to improve their OPAC infrastructure and support systems.

Information and Communication Technology as the term implies is an evolution brought about by science and it is unimaginable to discuss about science without making reference to Information and Communication Technology. Information and Communication Technology seems to have taken over every sphere of human endeavour at a frightening pace and permeated key sectors of National development especially library. As it relates to the library, Jimoh (2019) is of the opinion that Information and Communication Technology is a combination of technologies for collecting, storing, processing, and retrieving information. This includes the use of computer and telecommunication systems to help retrieve information resources that had been acquired, organised, stored by the library. In order to retrieve these information resources

there is need for them to possess the requisite Information and Communication Technology skills. Information and Communication Technology skills can be regarded as the ability to use Information and Communication Technology tools to meet their information needs.

Furthermore, in order to measure the ICT skills of undergraduates, past studies examined by scholars in Information and Communication Technology identified some indicators. An earlier study by Haywood (2003) identified spreadsheet, word processors, database and presentation as indicators that measure the Information and Communication Technology skills of undergraduates. It was further revealed that these Information and Communication Technology skills are essential in our present world in order to enable one have access and utilize information. These Information and Communication Technology skills are required in these contemporary times to enable undergraduates' function effectively. Similarly, Oguguo, Okeke, Dave-Ugwu, Ocheni, Ugorji, Nwoji, and Ike (2020) revealed the indicators measuring the Information and Communication Technology skills knowledge of word processing/excel, power point, search engine, and internet. Also, United States Committee on Information Technology Literacy (1999) and the ECDL (2010) used computer maintenance, word processing skills, spreadsheet skills, database skills, presentation software skills, internet browsing skills, and electronic communication skills as indicators measuring Information and Communication Technology skills. This thus implies that undergraduate students can improve their learning through proper and quality usage of Information and Communication Technology using the identified indicators. These indicators help to measure the level of Information and Communication Technology skills of undergraduates.

In the same vein, there are studies that have carried out to investigate the level of Information and Communication Technology skills. In a study by Israel and Edesiri (2013) on the undergraduates of Library and Information Science departments in Delta and Edo States, it was revealed that the undergraduates possess a high level of Information and Communication Technology skills. It was further revealed that the undergraduates agree they can start up, log on, and shut down a computer system properly, and download files and images from a web page. Due the seemingly high level of Information and Communication Technology skills, it can be said that it influences the use of Online Public Access Catalogue.

Statement of the Problem

The Online Public Access Catalogue (OPAC) is a significant advancement in library systems, offering benefits such as seamless retrieval of information resources, easy access to

bibliographic records, and real-time material location. However, there is evidence that undergraduates do not consistently utilize OPAC to its full potential. Anecdotal reports suggest that the level of OPAC usage among undergraduates is only moderate at best, with challenges such as insufficient assistance from library staff and technological infrastructure deficits within university libraries. One potential factor affecting OPAC usage is the Information and Communication Technology (ICT) skills of undergraduates. Many undergraduates are highly proficient in using ICT tools for their academic and personal needs, which are essential for navigating digital platforms and tools available in modern libraries, including OPAC. However, their level of OPAC usage remains average, raising important questions about the reasons behind this discrepancy. While students may possess the technical ability to use OPAC, other factors, such as lack of awareness, inadequate training, or poor user experience, might be limiting their engagement with the system. This raises the possibility that even though undergraduates are digitally literate, they may not fully understand how OPAC can serve as a vital tool for their academic research or encounter other barriers that discourage its use. This study aims to bridge this gap by investigating the ICT skills of undergraduates in private universities and their use of OPAC. Understanding this dynamic will provide valuable insights into how universities can tailor their library services and training programs to maximize the effectiveness of OPAC and ensure that students are fully equipped to make the most of this important academic resource.

Research Objectives

The main objective of this study is to investigate the ICT skills and use of OPAC by undergraduates in selected private universities in Ogun State. The specific objectives were to:

- i. Examine the level of Information and Communication Technology skill of undergraduates in private Universities in Ogun State.
- ii. Determine the frequency of using Online Public Access Catalogue by undergraduates in private Universities in Ogun State.
- iii. Find out the purpose of using Online Public Access Catalogue by undergraduates in private Universities in Ogun State.
- iv. Determine the challenges of using Online Public Access Catalogue by undergraduates in private Universities in Ogun State.

Research Questions

The following research question was raised to guide this study:

1. What is the level of Information and Communication Technology skill of undergraduates in private Universities in Ogun State?
2. What is the frequency of using Online Public Access Catalogue by undergraduates in private Universities in Ogun State?
3. What is the purpose of using Online Public Access Catalogue by undergraduates in private Universities in Ogun State?
4. What are the challenges of using Online Public Access Catalogue by undergraduates in private Universities in Ogun State?

Literature Review

Information and communication technology skills; ICT is essential to mankind as it is necessary for improving businesses, the economy, and social life and meeting the information needs of modern society as well as the progress of the educational sector of any nation. This equally agrees with the view of Yushau and Nannim (2018) that ICT facilitates and enhances teaching and learning; as such, time and space are not obstacles to education. UNESCO (2017) reiterated that ICT leads to general access to education, equity in education, transfer of quality learning and teaching, teachers' professional growth, and efficient educative management, governance, and administration. This thus implies that undergraduate students can improve their learning through proper and quality usage of ICT. As a result, universities, government, and employers are expected to pay attention to undergraduates' ICT skills, because these are the people to restructure tomorrow (Oguguo et al., 2020).

Several scholars have defined 'ICT skills' and thus has been seen to be alternatively used with other terms, for example, 'ICT skills' (Claro et al., 2012; OECD, 2013), 'ICT literacy' (Lau and Yuen, 2015), 'ICT competency' (Cha et al., 2011), 'computer and information literacy [CIL]' (Fraillon et al., 2019), 'digital skills' (Jara et al., 2015). However, Claro et al. (2012) cited in Hossain and Sormunen (2019) defined ICT skills as the combination of computer literacy skills (technical abilities) and information and communication literacy skills (i.e., critical and creative use of information, e.g., searching and evaluating information, exchanging information or transforming ideas into digital content).

In the age of digital technology, students are engaging themselves successfully with computers and the internet in their daily lives. However, studies argue that in the sophisticated online

environment a substantial proportion of students are struggling with using the internet and other digital technologies for academic purposes (Gray, 2013). Many students adopt simple approaches to online inquiry; they employ only a few strategies to locate information, and rarely evaluate the reliability of the information (Dwyer, 2016). In both developed and developing countries, many students commence university with inadequate information-seeking skills (Lwehabura, 2018). The educational use of ICT increases substantially from secondary education to higher education. Therefore, it is pertinent to know the state of the ICT skills of students, particularly undergraduates.

Oguguo et al.'s (2020) study assessed ICT skills among 320 undergraduate students at the University of Nigeria. The study found that students possess adequate knowledge of MS Word/Excel, PowerPoint, search engine results, and the internet. These skills are crucial for effective learning and study, indicating that students possess the necessary knowledge for effective learning. Also, Nwosu et al.'s 2018 study assessed the ICT competence and literacy skills among undergraduates as a factor in academic achievement. The study involved 10,713 students from Tai Solarin University of Education and 10,000 from Babcock University. The results showed that 80% of the respondents had high ICT competency in computer/smartphone operations, word processing, spreadsheet, PowerPoint presentation, and internet operation. Additionally, 66.3% of the students could install antivirus, indicating a high level of ICT competency.

Fagbohun and Adetimirin (2016) study examined the impact of ICT skills on cloud computing usage among undergraduates in three private universities in South-West Nigeria. The study involved 13,969 students from Babcock, Bowen, and Covenant universities. The results showed that 85% of respondents from Covenant used online office tools for word processing, spreadsheet, and presentation, while only 55.6% from Babcock used Flickr for photo sharing. The study also found that most respondents from Covenant had higher ICT skills than those from Babcock.

Israel and Edesiri (2014) surveyed undergraduate students ($n = 238$) at two LIS schools in Nigeria. One of the objectives of the study was to know the self-reported ICT skills of undergraduate students through a (self-developed) questionnaire. Eight affirmative statements were used to measure the perceived skills of the students. There were only three alternative answers to report- "agree", "disagree", and "undecided". All eight items were for measuring basic computer and internet skills. For example, item 2 is a typical one: "I can use a mouse,

pointing device, and keyboard”. Nonetheless, the authors concluded that the LIS students possessed ICT skills. Fati and Adetimirin (2017) investigated Computer Literacy Skills on OPAC Use by Undergraduates in two Universities in Nigeria. One of the objectives was to know the computer literacy skills level of the undergraduates. The findings revealed that the majority of the respondents in both OAU and UNILAG had high computer literacy skills except for website creation skills for which their level of literacy was very low (OAU - 29.1 percent, UNILAG - 25.0 percent). However, the level of computer literacy skills was higher among respondents in OAU than those in UNILAG.

Nwosu et al.'s 2018 study assessed the impact of information and communication technology (ICT) competence and literacy skills on undergraduates' academic achievement. The study involved 10,713 students from Tai Solarin University of Education and 10,000 students from Babcock University. The results showed that 80% of the respondents had ICT competency in computer/smartphone operations, word processing, spreadsheet, PowerPoint presentation, and internet operation. Additionally, 66.3% of the students could install antivirus on their devices, while 33.7% couldn't. The study concluded that most students had high ICT competency.

Fagbohun and Adetimirin's 2016 study examined the impact of ICT skills on cloud computing usage among undergraduates in three private universities in South-West Nigeria. The study involved 13,969 students from Babcock, Bowen, and Covenant universities. The results showed that 85% of respondents from Covenant used online office tools for word processing, spreadsheet, and presentation, while only 55.6% from Babcock used Flickr for photo sharing. The study also found that most respondents from Covenant had higher ICT skills than those from Babcock. Also, Israel and Edesiri's 2014 study surveyed 238 undergraduate students at two Nigerian Language and Literature Studies (LIS) schools to understand their self-reported ICT skills. The study used a self-developed questionnaire with eight affirmative statements measuring basic computer and internet skills. Despite three alternative answers, the authors concluded that the students possessed ICT skills.

Use of online public access catalogue: Various authors have provided countless definitions of OPAC and a few of these definitions shall be considered in this study. According to Kumar and Singh (2017), OPAC is an information retrieval system characterized by short bibliographic records of information materials such as books, journals, and audio-visual materials available in a particular library. Nahfees and Azwer (2018) define OPAC as an online bibliography of library collections such as AV materials, books, electronic materials, and

journals that are available and accessible to the public in the world. Mugheri, Khan, and Asif (2022) noted that OPAC is a type of library catalogue which is the second generation of automated catalogues, which allows users to search dynamically (with terms individually such as title, author, subject heading, etc.), with Boolean search options, multiple displays, error and mishap recovery and also provide help from that automated catalogue. Igbudu and Ver (2020) conducted a study on undergraduates' awareness, use, and satisfaction with the online public access catalogue (OPAC) at Benue State University Library in Makurdi, Nigeria. The study used a descriptive survey research design and a questionnaire to collect data. The results showed that most undergraduate students were not aware of OPAC services, with a low usage rate.

Aju and Tofi (2020) also investigated undergraduate awareness, utilization, and satisfaction with OPAC in selected university libraries in Nasarawa State, Nigeria. The study involved 7,233 registered library users in two public universities in Nasarawa State. The questionnaire was used to collect data on four objectives: ascertaining undergraduates' level of awareness, determining the extent of utilization, determining the extent of satisfaction derived from OPAC usage, and determining factors affecting OPAC usage.

Adegun, Akinola, Oyewumi, and Adepoju (2021) investigated the use of OPAC among library users at Olusegun Oke library in Lautech, Ogbomoso, Oyo state, Nigeria. The study adopted a descriptive survey method and a structured questionnaire to collect data. The results showed that 33.0% of respondents chose OPAC for finding journals and other reading materials, while 23.1% used it to find book availability, renew borrowed items, and know the location of required documents. Frequency of usage varied, with 50.5% using OPAC daily, 26.9% once in two days, and 12.2% once in two weeks. Satisfaction with OPAC usage was moderate, with 29.2% satisfied, 23.0% satisfied, and 37.0% very satisfied. However, a significant percentage of respondents were dissatisfied with OPAC usage.

Also, for studies on the purpose of using on Online Public Access Catalogue, Swaminathan (2019) conducted a study on Online Public Access Catalogue (OPAC) users in academic libraries, focusing on their categories, reasons for using OPAC, search information types, and overall satisfaction levels. The study was conducted through a questionnaire-based survey among staff and students at Madurai Kamaraj University, Madurai. The majority of OPAC users visited the library daily, with 43.18% visiting daily. The main reason for using OPAC was to locate books in the library, with 43 (32.58%) searching for availability, 19.9% for new

arrivals, and 9.85% for time-consuming tasks.

Katabalwa and Mnzava (2020) investigated OPAC usage by undergraduate students at Sokoine University of Agriculture. The study used a cross-sectional approach and self-administered questionnaires. The findings showed that 93% of respondents were aware of OPAC, while 7.7% were not. Most respondents accessed OPAC in the library, hostels, or at Kimbweta. They also received training on how to access OPAC during orientation sessions, information literacy training, and one-to-one training assisted by a librarian. The study found that 77.6% of respondents used OPAC to know library materials available in the collection for a short time, 27.1% to locate books on shelves using call numbers, and 21.2% to check book status. The frequency of OPAC usage varied, with 44.7% using it weekly, 28.2% monthly, 21.2% daily, and 5.9% yearly. Overall, the study indicates high awareness and use of OPAC among undergraduates.

Extant studies on the challenges of using OPAC abound. Eserada and Okolo (2019) found that major problems encountered while using OPAC include poor power supply, lack of OPAC knowledge, unfamiliarity with the system, inadequate computer terminals, navigational frustrations, inability to use appropriate search terms, and difficulty retrieving large records. In the same vein, Katabalwa and Mnzava (2020) reported that library users faced challenges such as lack of skills, power outages, fear of using OPAC, and network problems. It was also reported by Adegun et al. (2021) that 27.0% of respondents reported OPAC not functioning properly, searching was time-consuming, and the failure rate was high. Kumar and Singh (2017) reported difficulties in locating documents, network/server problems, lack of proper guidelines, and unstable power supply as problems faced by respondents.

Methodology

The research design that was used in this study is descriptive survey research design. The population of the study comprise of all undergraduates in selected private universities in Ogun State with a total of two thousand, three hundred and thirteen (2,313). A simple random proportionate sampling technique was employed to select undergraduate students from five private universities in Ogun state, Nigeria, resulting in 231 participants. 10% of the population was selected from each school. A structured questionnaire was developed as instrument for data collection, and it was labelled as “ICT skills and Use of OPAC Scale.” Face and content validity of this study was carried out by three experts in Library and Information Science, TASUED. Thirty copies of the questionnaire were administered on undergraduates of Lead

City University, Ibadan, Oyo State. Thereafter, the Cronbach Alpha method was used to determine the reliability coefficients of the sub-scales in the questionnaire. The result shows Cronbach Alpha reliability coefficient for: Information and Communication Technology skills of undergraduate $r = 0.81$; Use of OPAC $r = 0.90$; A total of 231 copies of questionnaire were administered by the researcher with the help of research assistants to the respondents. The data was collated and analysed using descriptive statistics such as frequency counts, percentages, mean and standard deviation for research question 1-4.

Similarly, a total number of 232 copies of the questionnaire were administered to undergraduates in selected private universities in Ogun State, Nigeria. 209 were returned and found useful for analysis giving a response rate of 90.09%.

Results of Findings

Table 1: Demographic characteristics of undergraduates in private Universities in Ogun State

Name of Institution	Frequency	Percentage (%)
Chrisland University, Abeokuta	42	20.09%
Christopher University, Mowe	12	5.74%
Hallmark University, Ijebu-Itele	12	5.74%
Mountain Top University, Ibafo.	105	50.23%
South-Western University, Okun-Owa	38	18.18%
Gender		
Male	95	45.5%
Female	114	54.5%
Age		
16-20 years	159	76.1%
21-30 years	50	23.9%
Level		
100	60	28.7%
200	59	28.2%
300	65	31.1%
400	25	12%
Total	209	100%

Table 1 revealed the demographic characteristics of undergraduates in private Universities in Ogun State. For the institutions of undergraduates in private Universities in Ogun State. It was revealed that 105(50.23%) are from Mountain Top University, Ibafo; 42(20.09%) are from Chrisland University, Abeokuta; 38(18.18%) are from South-western University, Okun-Owa; 12(5.74%) are from Christopher University, Mowe; while 12(5.74%) are from Hallmark University, Ijebu-Itele. This implies that majority of the respondents are from Mountain Top University. The table revealed the gender of undergraduates in private Universities in Ogun

State. It was revealed that 114(54.5%) are females; while 95(45.5%) are males. This implies that majority of the respondents are females.

In addition, table 1 revealed the age of undergraduates in private Universities in Ogun State. It was revealed that 159(76.1%) are between 16-20 years; while 50(23.9%) are between 21-30 years. This implies that majority of the undergraduates are 16-20 years. Similarly, the results on the level of undergraduates in private Universities in Ogun State was presented. The results showed that 65(31.1%) are 300 level students; 60(28.7%) are 100 level students; 59(28.2%) are 200 level students; and 25(12%) are 400 level students. This implies that majority of the undergraduates are 300 level students.

Research question 1: What is the level of Information and Communication Technology skills of undergraduates in private Universities in Ogun State?

Table 2: Information and Communication Technology skills of undergraduates in private Universities in Ogun State

S/N	Items	SA	A	D	SD	x	St. D
1	I have appropriate skills in using Ms-Word	79 (37.8%)	111 (53.1%)	12 (5.7%)	7 (3.3%)	3.25	.71
2	I have adequate skills to type my assignments using MS-Word	105 (50.2%)	92 (44%)	7 (3.3%)	5 (2.4%)	3.42	.68
3	I have the skills to present and organize my assignments using MS-Word	93 (44.5%)	90 (43.1%)	17 (8.1%)	9 (4.3%)	3.27	.79
4	I have the appropriate skills to correct my errors, spellings and grammatical structures in Ms-Word	103 (49.3%)	82 (39.2%)	18 (8.6%)	6 (2.9%)	3.34	.76
5	I have adequate skills to input information into Excel accurately	50 (23.9%)	104 (49.8%)	40 (19.1%)	15 (7.2%)	2.90	.84
6	I have the skills to perform some basic operations using Excel	44 (21.1%)	117 (56%)	37 (17.7%)	11 (5.3%)	2.92	.77
7	I have the skills to carryout calculations using Excel	37 (17.7%)	95 (45.5%)	58 (27.8%)	19 (9.1%)	2.71	.86
8	I possess adequate skills to analyze data set using Excel	38 (18.2%)	86 (41.1%)	73 (34.9%)	12 (5.7%)	2.71	.83

9	I have the required skills to use the PowerPoint	76 (36.4%)	100 (47.8%)	21 (10%)	12 (5.7%)	3.14	.82
10	I possess the skills to make my presentations easier using MS-PowerPoint	74 (35.4%)	94 (45%)	33 (15.8%)	8 (3.8%)	3.11	.81
11	When my lecturers use PowerPoint, it makes the lecture so interesting	87 (41.6%)	103 (49.3%)	12 (5.7%)	7 (3.3%)	3.29	.72
12	PowerPoint simplifies learning as it concretizes abstract concepts	68 (32.5%)	122 (58.4%)	10 (4.8%)	9 (4.3%)	3.19	.72
13	Using the PowerPoint increases my skills to summaries as I learn to present only key points	75 (35.9%)	103 (49.3%)	23 (11%)	8 (3.8%)	3.17	.77
14	I know a lot of search engine (e.g Google, Ask.com, Bing etc.)	83 (39.7%)	102 (48.8%)	15 (7.2%)	9 (4.3%)	3.23	.77
15	I possess adequate skills on several search engines in gathering information for learning on the internet	76 (36.4%)	104 (49.8%)	22 (10.5%)	7 (3.3%)	3.19	.75
16	Using Google and other search engines make my search on the internet easy	110 (52.6%)	84 (40.2%)	8 (3.8%)	7 (3.3%)	3.42	.72
17	I have the skills to search for keyword when I need information	97 (46.4%)	97 (46.4%)	8 (3.8%)	7 (3.3%)	3.35	.71
18	I can bookmark pages for later use on many search engines.	84 (40.2%)	90 (43.1%)	30 (14.4%)	5 (2.4%)	3.21	.77
19	I possess the skills to manage several tabs at a time while searching for information	94 (45%)	92 (44%)	15 (7.2%)	8 (3.8%)	3.30	.77
20	I possess adequate skills to find study materials online	99 (47.4%)	93 (44.5%)	8 (3.8%)	9 (4.3%)	3.34	.75
21	I have the skills to make use of YouTube when studying at home	111 (53.1%)	85 (40.7%)	4 (1.9%)	9 (4.3%)	3.42	.74

22	I have the skills to search for solutions to my assignments on the internet	117 (56%)	78 (37.3%)	9 (4.3%)	5 (2.4%)	3.46	.69
23	I learn new things using social media platforms	112 (53.6%)	86 (41.1%)	6 (2.9%)	5 (2.4%)	3.45	.67
24	have adequate skills in using online classrooms to study ahead of my lecturers	62 (29.7%)	118 (56.5%)	23 (11%)	6 (2.9%)	3.12	.71
25	I can download PDF (Portable Document Format) files from the internet for studying	115 (55%)	79 (37.8%)	14 (6.7%)	4 (1.9%)	3.45	.69
26	I know how to email my assignments to my lecturers	123 (58.9%)	63 (30.1%)	14 (6.7%)	9 (4.3%)	3.43	.80
	Total					3.22	

Key: SD = Strongly Disagree; D= Disagree; A= Agree; Strongly Agree.

Decision Rule: 1-1.74 = VL (Very Low), 1.75-2.50 = L (Low), 2.51-3.26 = H (High), while 3.27 - 4 = VH (Very High)

Table 2 revealed the Information and Communication Technology skills of undergraduates in private Universities in Ogun State. The results showed that they have the skills to search for solutions to their assignments on the internet (\bar{x} =3.46; std dev. =.69); they learn new things using social media platforms (\bar{x} =3.45; std dev. =.67); they can download PDF (Portable Document Format) files from the internet for studying (\bar{x} =3.45; std dev. =.69); they have appropriate skills in using Ms-Word (\bar{x} =3.25; std dev. =.71); while they know a lot of search engine (e.g Google, Ask.com, Bing etc.) (\bar{x} =3.23; std dev. =.77). This implies that majority of them agree that undergraduates have the skills to search for solutions to their assignments on the internet which by extension is OPAC. The average mean of 3.22 indicates that undergraduates rated themselves high on the ICT skills they possess although a bit low on the skills to analyze data set.

Research question 2: What is the frequency of using Online Public Access Catalogue by undergraduates in private Universities in Ogun State?

Table 3: Frequency of using Online Public Access Catalogue by undergraduates in

private Universities in Ogun State

S/N	Items	No	Yes
1	I use OPAC always	197 (94.3%)	12 (5.7%)
2	I use OPAC most of the time	184 (88%)	25 (12%)
3	I use OPAC sometimes	165 (88%)	44 (21.1%)
4	I rarely use OPAC	154 (73.7%)	55 (26.3%)
5	I do not use OPAC at all	101 (48.3%)	108 (51.7%)

Table 3 revealed the frequency of using Online Public Access Catalogue by undergraduates in private Universities in Ogun State. It was revealed that 108(51.7%) do not use OPAC at all; 55(26.3%) rarely use OPAC; 44(21.1%) use OPAC sometimes; 25(12%) use OPAC most of the time; and 12(5.7%) use OPAC always. This imply that majority of the undergraduates do not make use of Online Public Access Catalogue.

Research question 3: What is the purpose of using Online Public Access Catalogue by undergraduates in private Universities in Ogun State?

Table 4: Purpose of using Online Public Access Catalogue by undergraduates in private Universities in Ogun State

Items	SA	A	D	SD	x	St. D
I use OPAC to find journals and other reading materials	25 (12%)	63 (30.1%)	63 (30.1%)	58 (27.8%)	2.26	1.00
I use OPAC to know the availability of books in the library	17 (8.1%)	72 (34.4%)	97 (46.4%)	23 (11%)	2.39	.79
I use OPAC to know the new arrival list in the library	16 (7.7%)	56 (26.8%)	99 (47.4%)	38 (18.2%)	2.23	.84
I use OPAC for the renewal of items borrowed in the library	12 (5.7%)	49 (23.4%)	83 (39.7%)	65 (31.1%)	2.03	.88
I use OPAC to know the availability of other documents in the library	20 (9.6%)	53 (25.4%)	101 (48.3%)	35 (16.7%)	2.27	.85
I use OPAC to know the location of materials required	11 (5.3%)	63 (30.1%)	73 (34.9%)	62 (29.7%)	2.11	.89

I use the OPAC to access information needed for my assignment, coursework, project, thesis, dissertation, examination, career development or for personal interest.	24 (11.5%)	61 (29.2%)	85 (40.7%)	39 (18.7%)	2.33	.91
I use the OPAC to find the location of books and other materials on the shelf.	25 (12%)	64 (30.6%)	73 (34.9%)	47 (22.5%)	2.32	.95
I use the OPAC to retrieve information for my academic work.	17 (8.1%)	80 (38.3%)	71 (34%)	41 (19.6%)	2.34	.89
I use the OPAC to check the number of copies of materials available in the library.	28 (13.4%)	51 (24.4%)	74 (35.4%)	56 (26.8%)	2.24	1.00
I use the OPAC to know the status of library stock.	13 (6.2%)	67 (32.1%)	72 (34.4%)	57 (27.3%)	2.17	.90
I use the OPAC to search for information based on personal interest.	38 (18.2%)	53 (25.4%)	63 (30.1%)	55 (26.3%)	2.35	1.06
I use OPAC to make online reservations of needed books and other materials.	18 (8.6%)	60 (28.7%)	92 (44%)	39 (18.7%)	2.27	.86
I use the OPAC to find the bibliographic details of materials needed.	16 (7.7%)	67 (32.1%)	85 (40.7%)	41 (19.6%)	2.27	.87
I use OPAC to improve my OPAC searching skills	19 (9.1%)	56 (26.8%)	74 (35.4%)	60 (28.7%)	2.16	.95

Key: SD = Strongly Disagree; D= Disagree; A= Agree; Strongly Agree.

Criterion mean = 2.50

Table 4 revealed the purpose of using Online Public Access Catalogue by undergraduates in private Universities in Ogun State. It was revealed that majority of the undergraduates did not agree with all the purposes of using OPAC highlighted in the table as none of the items was up to the criterion mean of 2.50 which is the minimum score for adjudging each item to be significant. However, majority of them disagreed that OPAC is used for the renewal of items borrowed in the library (\bar{x} =2.03; std dev. =.88); and OPAC is used to know the location of materials required (\bar{x} =2.11; std dev. =.89). This implies that majority of the undergraduates do not have an understanding of the purpose of using Online Public Access Catalogue.

Research question 4: What are the challenges of using OPAC in private Universities in Ogun State?

Table 5: Challenges of using Online Public Access Catalogue by undergraduates in private Universities in Ogun State

S/N	Items	SA	A	D	SD	x	St. D
1	OPAC not functioning properly	10 (4.8%)	36 (17.2%)	105 (50.2%)	58 (27.8%)	1.99	.80
2	Searching is time consuming	12 (5.7%)	55 (26.5%)	64 (30.6%)	78 (37.3%)	2.00	.93
3	Failure rate is more	10 (4.8%)	30 (14.4%)	130 (62.2%)	39 (18.7%)	2.05	.72
4	Lack of instruction to use OPAC	19 (9.1%)	51 (24.4%)	72 (34.4%)	67 (32.1%)	2.10	.96
5	Lack of proper guidance from library staff	15 (7.2%)	61 (29.2%)	73 (34.9%)	60 (28.7%)	2.14	.92
6	Inability to use appropriate search terms	27 (12.9%)	47 (22.5%)	57 (27.3%)	78 (37.3%)	2.11	1.05
7	Inadequate computer materials	8 (3.8%)	53 (25.4%)	96 (45.9%)	52 (24.9%)	2.08	.81
8	Poor/irregular power supply.	17 (8.1%)	29 (13.9%)	81 (38.8%)	82 (39.2%)	1.90	.92
9	Unfamiliarity with the OPAC system	32 (15.3%)	85 (40.7%)	58 (27.8%)	34 (16.3%)	2.55	.94
10	OPAC is not user friendly enough	27 (12.9%)	50 (23.9%)	88 (42.1%)	44 (21.1%)	2.28	.94
11	Failed search or no records retrieved	7 (3.3%)	55 (26.3%)	101 (48.3%)	46 (22%)	2.11	.78
12	Retrieve unimaginably large number of records	7 (3.3%)	43 (20.6%)	106 (50.7%)	53 (25.4%)	2.01	.77
13	Navigational frustrations	10 (4.8%)	57 (27.3%)	94 (45%)	48 (23%)	2.13	.82
14	Inadequate/lack of cross reference	9 (4.3%)	42 (20.1%)	87 (41.6%)	71 (34%)	1.94	.84
15	Failure to match the system's subject vocabulary	11 (5.3%)	53 (25.4%)	74 (35.4%)	71 (34%)	2.01	.90
16	No Boolean queries formulated	22 (10.5%)	35 (16.7%)	94 (45%)	58 (27.8%)	2.10	.93

17	Lack of perseverance	12 (5.7%)	36 (17.2%)	88 (42.1%)	73 (34.9%)	1.93	.87
18	I make a variety of errors when entering a search request	13 (6.2%)	49 (23.4%)	99 (47.4%)	48 (23%)	2.12	.84

Key: SD = Strongly Disagree; D= Disagree; A= Agree; Strongly Agree.

Criterion mean = 2.50

Table 5 revealed the challenges of using Online Public Access Catalogue by undergraduates in private Universities in Ogun State. It was revealed that the only challenge agreed to by undergraduates on the use of OPAC is their unfamiliarity with the OPAC system (\bar{x} =2.55; std dev. =.94). It was further revealed that majority of the undergraduates disagreed that other challenges were cause for concern and this is connected with their non usage of Online Public Access Catalogue.

Discussion of Findings

The study's findings reveal a high level of ICT proficiency among undergraduates in private universities in Ogun State, Nigeria. This aligns with previous research in the field, reinforcing the notion that university students today, especially in private institutions, tend to possess a strong foundation in digital and technological skills. Specifically, the study showed that the majority of respondents demonstrated competence in essential ICT areas, including the operation of computers and smartphones, word processing, spreadsheet management, PowerPoint presentations, and internet navigation. A notable number of students also displayed the ability to install antivirus software on their devices, indicating a practical and applied knowledge of ICT maintenance and security. These findings resonate with earlier research conducted by Nwosu et al. (2018), who reported similarly high levels of ICT proficiency among their respondents. Their study emphasized that the ICT skill level of the respondents was very high, suggesting that the majority of students in these environments are not only familiar with technology but are adept at using it for both academic and personal purposes. The alignment between the current study and Nwosu et al.'s research supports the growing consensus that ICT competence is becoming increasingly ubiquitous among undergraduates in Nigerian universities.

Moreover, the findings of this study are further corroborated by the work of Fagbohun and Adetimirin (2016), who also documented a high level of ICT skills among undergraduates at

Covenant University and Babcock University, two prominent private institutions in Nigeria. Their research highlighted that undergraduate in these universities possessed advanced ICT skills, which they attributed to the emphasis on digital literacy and technology integration within the curriculum. The consistency between these studies suggests a broader trend across private universities, where ICT skills are not only encouraged but ingrained into the academic culture, preparing students for the digital demands of the modern workforce. Additionally, the conclusions drawn by Israel and Edesiri (2014) offer further support for the present study's findings. In their investigation, they found that students enrolled in Library and Information Science (LIS) programs demonstrated significant ICT competencies. Their study highlighted that students in these programs were not only proficient in basic ICT tasks but also adept in more specialized applications relevant to their field, such as database management and digital archiving.

This further underscore the notion that today's undergraduates, particularly those in specialized fields, possess a well-rounded set of ICT skills that extend beyond the general competencies observed in other areas of study. These findings collectively suggest that undergraduates in today's academic environment are digital natives who have grown up in an era of pervasive technology and have, as a result, developed strong ICT and digital skills from a young age. This digital nativity manifests in their ability to seamlessly navigate various technological platforms and tools, whether for academic, professional, or personal use. Moreover, the high level of ICT skills observed among these students reflects a broader educational trend, particularly in private institutions, where there is a strong emphasis on integrating technology into the learning process. This not only enhances the students' academic experience but also prepares them for the demands of a rapidly evolving digital economy. The findings of this study, alongside the corroborating evidence from prior research, indicate that undergraduates in private universities in Nigeria are highly proficient in ICT. The consistency of these findings across multiple studies suggests a strong, positive correlation between the educational environments of private universities and the development of digital skills among their students. This trend highlights the critical role that institutions play in fostering digital literacy, ensuring that graduates are well-prepared to meet the challenges of an increasingly digital world.

The findings of this study revealed that the majority of undergraduates in private universities in Ogun State, Nigeria do not make significant use of the Online Public Access Catalogue (OPAC). This pattern is consistent with earlier research that points to low OPAC usage among

undergraduate students. For instance, Igbudu and Ver (2020) similarly found that OPAC utilization was notably low among students. Their study highlighted that undergraduate, to a great extent, did not rely on OPAC for searching and retrieving information resources in university libraries, which was attributed to a lack of awareness about the system. This reflects the findings of the current study, indicating that students either do not recognize the utility of OPAC or are not sufficiently trained in its use, leading to limited engagement with the system.

Furthermore, the study by Aju and Tofi (2020) reinforces this conclusion, showing that respondents in their research used OPAC minimally. Their work suggests that even though OPAC is available as a resource, undergraduates seldom rely on it as a primary tool for accessing library materials. The lack of frequent use could stem from several factors, including unfamiliarity with the technology, inadequate training, or a preference for alternative methods of information retrieval, such as direct browsing or the use of more familiar search engines. This low utilization reflects a gap in the information literacy of undergraduates, suggesting a potential area for intervention by university libraries.

Similarly, Ekeh and Atanda (2021) also found that the majority of their respondents rarely used OPAC. Their research points to the fact that undergraduates may not fully appreciate or understand the importance of OPAC in effectively navigating the vast resources available in academic libraries. Inadequate promotion of OPAC by library staff, insufficient training sessions, or students' reliance on more direct access points to information could all contribute to the underuse of OPAC. These findings highlight a consistent trend across different studies, suggesting that while OPAC is a valuable tool for accessing academic resources, it remains underutilized among undergraduate students.

However, in contrast to these findings, a study conducted by Adegun, Akinola, Oyewumi, and Adepoju (2021) presented differing results. Their research revealed that the majority of undergraduates used OPAC on a daily basis, with only a minority using it once a month. This discrepancy might be explained by differences in the educational environments, access to training, or perhaps a stronger emphasis on information literacy in the institutions involved in their study. It is also possible that factors such as the type of academic programs, the quality of the library system, or the digital competencies of the students in these institutions contributed to the higher frequency of OPAC use observed. Despite this finding, it is important to note that their study represents an exception rather than the norm when viewed alongside the broader body of literature.

Overall, the cumulative findings from this study, alongside the corroborative research from other scholars, indicate that OPAC remains underutilized by undergraduates in Nigerian private universities. While it appears that research scholars and postgraduate students may be more inclined to use OPAC due to their more rigorous academic demands, undergraduates often do not take full advantage of this resource. This underutilization could be attributed to various factors such as a lack of awareness, insufficient training, or competing technological tools that students may find easier to use. As such, it becomes imperative for university libraries to address this issue by implementing awareness campaigns, conducting OPAC training workshops, and integrating information literacy programs into the undergraduate curriculum to ensure students are better equipped to utilize OPAC for their academic needs.

The finding of the study revealed that majority of undergraduates in private Universities in Ogun State, Nigeria do not have a major purpose for using Online Public Access Catalogue. However, in contrast with the findings of this study, Swaminathan (2019) revealed that majority of undergraduates consulted OPAC for the location of books in the library, and for knowing the availability of books in the library. Adegun, Akinola, Oyewumi, and Adepoju (2021) revealed based on the purpose of using OPAC, that majority of undergraduates chose OPAC to find journals and other reading materials, find out the availability of books in the library, know the new arrival list in the library, for renewal of items borrowed in the library. Also, in contrast Katabalwa and Mnzava (2020) revealed that undergraduate students at Sokoine University of Agriculture used OPAC to know library materials available in the collection for a short time. This is to show that undergraduates are yet to fully understand the intricacies of OPAC and how they can be beneficial to undergraduates in searching for information resources in the library.

The study reveals that most undergraduates in private universities in Ogun State, Nigeria, report unfamiliarity with the Online Public Access Catalogue (OPAC) system as a key issue. This lack of familiarity hinders their ability to effectively utilize OPAC, which is consistent with previous research by Eserada and Okolo (2019). Insufficient awareness and inadequate training are common constraints across institutions, leading to underutilization of OPAC in Nigerian universities. Katabalwa and Mnzava (2020) highlight additional obstacles, such as a lack of technical skills, frequent power outages, and students' reluctance or fear to use OPAC. Power outages represent a significant infrastructural challenge that affects not only OPAC usage but also broader access to digital resources. Fear or reluctance may be tied to a lack of confidence

in digital literacy, further complicating efforts to encourage its use among students.

Adegun et al. (2021) also highlight similar challenges faced by undergraduates regarding OPAC usage, with many reporting that OPAC was not functioning properly and searches were time-consuming. These operational issues likely contribute to the low uptake of OPAC as a tool for academic research. Aju and Tofi (2020) reported various factors affecting OPAC usage among undergraduates, including the absence of a library guide, unstable power supply, unfriendly library staff, network/server problems, a lack of computer systems, and limited basic ICT skills among students. Additionally, some libraries had password-protected OPAC access, further restricting ease of use, and the OPAC interface was not user-friendly. The recurrence of these issues across different studies underscores the systemic nature of the problems affecting OPAC usage in academic settings. A combination of technical, infrastructural, and usability issues also plays a crucial role in limiting OPAC's effectiveness. Universities must focus on raising awareness, providing training, and investing in improving the reliability and user-friendliness of OPAC systems to empower students to make fuller use of this valuable resource for their academic work.

Conclusion

The study concluded that the ICT skills of undergraduates in private universities in Ogun State are pivotal to their ability to effectively utilise the Online Public Access Catalogue (OPAC). Despite having high ICT proficiency, the study revealed that OPAC remains underutilized, largely because students do not fully understand its purpose or the benefits associated with its use. Furthermore, the findings indicated that unfamiliarity with the OPAC system suggests that academic libraries are doing little to promote or encourage its use among undergraduates. In essence, while undergraduates possess strong ICT skills, there is a need for academic libraries to take proactive steps in educating and guiding students on how to harness these skills to fully leverage OPAC for their academic research.

Recommendations

The following recommendations were made imperative:

1. More awareness should be created by academic libraries in Ogun State for undergraduates to familiarize each other with Online Public Access Catalogue and how best to make use of it for their academic activities.

2. User education should be carried out by libraries to ensure that undergraduates are trained on how to make use of OPAC. Due to their high level of ICT skills, libraries can harness these to ensure that they are on the same page.
3. Library staff should be on hand at the OPAC service point to guide the library users whenever they are to make use of OPAC.
4. Power supply and stable internet connectivity should be made available on a regular basis as OPAC been an ICT tool requires power supply and strong internet bandwidth to function effectively.

References

- Adegun, I. A., Akinola, J. O., Oyewumi, O. O., & Olusegun, A. S. (2021). Online Public Access Catalogue (OPAC) Among Library Users: A Case Study of Olusegun Oke Library, Lautech, Ogbomoso, Oyo State, Nigeria. *International Journal of Library and Information Science Studies*, 7(5), 11-18.
- Aju, D. T., & Foti, S. T. (2020). Undergraduates' awareness, utilization and satisfaction with online public access catalogue (OPAC) in public university libraries in Nasarawa State, Nigeria. *Library and Information Perspectives and Research*, 2(1), 18-29.
- Apagu, L., Temboge, A. & Hassan, M. (2018). Satisfaction and challenges facing Undergraduates with the use of Online Public Access Catalogue in University Libraries in Gombe State, Nigeria. *International Journal of Applied Technology in Library and Information Science*, 4(2), 57-68.
- Cha, S. E., Jun, S. J., Kwon, D. Y., Kim, H. S., Kim, S. B., Kim, J. M., & Lee, W. G. (2011). Measuring achievement of ICT competency for students in Korea. *Computers & Education*, 56(4), 990-1002.
- Claro, M., Preiss, D. D., San Martín, E., Jara, I., Hinostroza, J. E., Valenzuela, S., & Nussbaum, M. (2012). Assessment of 21st century ICT skills in Chile: Test design and results from high school level students. *Computers & Education*, 59(3), 1042-1053.
- Committee on Information Technology Literacy, National Research Council (1999). *Being Fluent with Information Technology*. Washington DC: National Academy Press.

- David-West, B.T. (2020). Information retrieval tools as predictors for information resources utilization in academic libraries. *International Journal of Knowledge Content Development & Technology*, 10. (3), 21-31
- ECDL (2010) ECDL syllabus 5.0. ECDL Nederland NV, Utrecht.
- Emiri, O. T. (2018). Information and Communication Technology skills and use of online public access catalogue among undergraduates in University Libraries in South west, Nigeria. *Information Technologist (The)*, 15(1).
- Eserada, R. E., & Okolo, S. E. (2019). Use of Online Public Access Catalogue (OPAC) in Selected University Libraries in South-South Nigeria. *Library Philosophy and Practice (e-Journal)*, May.
- Fabunmi, O. M. & Asubiojo, B. O, (2013). Awareness and Use of Online Public Access Catalogue by Students of Obafemi Awolowo University, Ile-Ife, Nigeria. *Library Philosophy and Practice (ejournal)*. 922.
<https://digitalcommons.unl.edu/libphilprac/922>
- Fagbohun, M. O., & Adetimirin, A. E. (2016). Influence of ICT skills on use of cloud computing among undergraduates in private universities, south-west, Nigeria. *International Journal of Online Pedagogy and Course Design (IJOPCD)*, 6(3), 1-13.
- Fraillon, J., Ainley, J., Schulz, W., Duckworth, D., & Friedman, T. (2019). Computer and information literacy framework. In IEA International Computer and Information Literacy Study 2018 Assessment Framework (pp. 13-23). Springer, Cham.
- Gray, M. (2013). When digital native meets analogue reality: a case study of ICT skills in first year university students. In 2013 Proceedings of PICMET'13: Technology Management in the IT-Driven Services (PICMET) (pp. 2479-2487). IEEE.
- Haywood, D. (2003). Confidence, experience and attitudes of undergraduate students towards ICT. Survey of European Universities Skills in ICT of Students and Staff (SEUSISS). URL:http://www.elearningeuropa.info/index.php?page=doc&doc_id=4097&doclng=1 (OECD, 2013)

- Hossain, M. A., & Sormunen, E. (2019). ICT skills of Library and Information Science (LIS) students in Bangladesh. *International Information & Library Review*, 51(4), 285-299.
- Igbudu, M. T., & Ver, A. (2020). Undergraduates' awareness, use and satisfaction with online public access catalogue (OPAC) of Benue State University Library, Makurdi, Nigeria. *Journal of Library Services and Technologies*, 2(1), 58-68.
- Israel O. & Edesiri E. (2013). ICT skills and internet usage among library and information science students in Delta and Edo States, Nigeria. *International Journal of Library and Information Science*.
- Jara, I., Claro, M., Hinostroza, J. E., San Martín, E., Rodríguez, P., Cabello, T., & Labbé, C. (2015). Understanding factors related to Chilean students' digital skills: A mixed methods analysis. *Computers & Education*, 88, 387-398.
- Jimoh, A. (2019). ICT Skills as an aid to teaching and learning in Nigeria challenges and prospects. *Saudi Journal of Business and Management Studies*, Abdulganiyu Jimoh; *Saudi Journal of Business Management Studies*, 4(7), 629-633. https://saudijournals.com/media/articles/SJBMS_47_629-633_swjbX3S.pdf
- Katabalwa, A. S., & Mnzava, E. E. (2020). Usage of Online Public Access Catalogue (OPAC) by undergraduate students at the Sokoine University of Agriculture. *University of Dar es Salaam Library Journal*, 15(2), 84-99.
- Kumar, R., & Singh, J. (2017). Comparative study on OPAC, use in libraries of Maharishi Dayanand and Kurukshetra University. *Academic Discourse*, 6(1), 44-52.
- Lau, W. W., & Yuen, A. H. (2015). Factorial invariance across gender of a perceived ICT literacy scale. *Learning and Individual Differences*, 41, 79-85.
- Lwehabura, M. J. (2018). An assessment of information literacy skills among first-year postgraduate students at Sokoine University of Agriculture Tanzania. *Journal of Librarianship and Information Science*, 50(4), 427-434.
- Mugheri, S., Khan, M. Y., & Asif, M. (2022). Web OPAC Services and Users' Expectations with Web OPACs of Public and Private Sector University Libraries in Pakistan.

- Nahfees, A. M., & Azwer, M. C. M. (2018). Usage study of online public access catalogue (OPAC) at South Eastern University of Sri Lanka.
- Nwosu, J. C., John, H. C., Izang, A. A., & Akorede, O. J. (2018). Assessment of information and communication technology (ICT) competence and literacy skills among undergraduates as a determinant factor of academic achievement. *Educational Research and Reviews*, 13(15), 582-589.
- Ogbole, J. O., & Morayo, A. (2017). Factors affecting Online Public Access Catalogue provision and sustainable use by undergraduates in two selected university libraries in Ogun and Oyo States, Nigeria. *IOSR Journal of Research & Method in Education (IOSR-JRME)*, 7(4), 14-25.
- Oguguo, B. C., Okeke, A. O., Dave-Ugwu, P. O., Ocheni, C. A., Ugorji, C. O., Nwoji, I. H. N., & Ike, I. C. (2020). Assessment of ICT Skills Relevant for Effective Learning Possessed by Undergraduate Students at University of Nigeria. *International Journal of Higher Education*, 9(4), 206-215.
- Oguguo, B. C., Okeke, A. O., Dave-Ugwu, P. O., Ocheni, C. A., Ugorji, C. O., Nwoji, I. H. N., & Ike, I. C. (2020). Assessment of ICT Skills Relevant for Effective Learning Possessed by Undergraduate Students at University of Nigeria. *International Journal of Higher Education*, 9(4), 206-215.
- Otuyalo, M. A., & Babalola, Y. T. (2021). Usability and Use of KOHA OPAC by Students in Three Polytechnic Libraries in South-West, Nigeria. *Inter. J. Acad. Res. Educ. Rev.*, 9(4): 213-223. <https://doi.org/10.14662/IJARER2021.175>
- Oyewo, R.O. & Bello, G.R. (2014). Students' accessibility and utilization of electronic information resources in the library: A case study of selected mono-technics in Oyo State". *The Information Technologist*, 11, 227- 232.
- Swaminathan, K. S. M. (2019). Online Public Access Catalogue (OPAC) users in academic libraries: A case study. *Indian Journal of Library and Information Science*, 13(2), 169-172.

- UNESCO, (2017). ICT in Education. United Nation Educational Scientific and cultural Organization: Paris UNN Statistic Unit (2020). University of Nigeria Statistics. University of Nigeria Nsukka (UNN).
- Yushau, B., & Nannim, F. A. (2018). ICT facilities and their utilization for educational purposes in Nigerian universities: A review of literatures from 2004 to 2018. *ATBU Journal of Science, Technology and Education*, 6(1), 237-263.