



Research Article

Users' ICT Competence and Attitudes as Determinants of Undergraduates' Use of Electronic Reference Sources in Nigeria: A Case Study

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Abstract

Electronic reference sources (ERS) are vital learning resources for university students. This study examined students' ICT competence, attitudes, and how these factors influence their use of electronic reference sources. The study was guided by three research objectives and two hypotheses. A descriptive research design was adopted. Using Krejcie and Morgan's (1970) sample size table, 241 respondents were randomly selected from a population of 27,421 undergraduates. Data were collected using an adapted ICT competence questionnaire by Bichi, Embong, and Ab Rashid (2017) and the Computer Attitude Scale for Secondary Students (CASS), developed by Jones and Clarke (1994), and were analysed using the Statistical Package for the Social Sciences (SPSS, Version 24). Findings revealed that the use of ERS was generally high, with daily usage reported for e-dictionaries ($n = 115, 48.7\%$), e-magazines ($n = 94, 39.8\%$), and e-books ($n = 81, 34.3\%$). However, the use of the Online Public Access Catalogue (OPAC) was relatively low ($n = 102, 43.2\%$). Students demonstrated a high level of ICT competence and a positive attitude toward ICT. Results further showed a significant positive relationship between ICT competence and ERS use ($r = .352^{**}, df = 235, p < .01$), whereas the relationship between ICT attitude and ERS use was positive but not significant ($r = .004, df = 235, p < .01$). The study concludes that ICT competence and attitude are important predictors of ERS use among undergraduates. Therefore, university libraries should sustain students' ICT competence and positive attitudes by regularly organizing ICT literacy programmes.

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I. INTRODUCTION

In recent decades, advancements in science and technology have introduced new tools and resources virtually in every sphere of life, including the field of education. Notable among these resources are electronic reference sources, which have become prominent in higher education due to their features and functions. According to Nwafor *et al.*, (2018), electronic reference sources are digitally accessible information resources such as online encyclopaedias, dictionaries, indexes, bibliographic databases, full-text databases, and digital reference services designed to provide users with authoritative, organized, and easily retrievable reference information through electronic platforms.

According to Francis (2024), electronic reference sources are an inseparable part of today's educational system. This is because e-resources have increased in popularity and use, resulting from the numerous benefits of timeliness, ease of use, up-to-datedness, and remote access associated with their use. Students' use of electronic reference sources has been shown to positively influence their academic performance (Ogunbodede *et al.*, 2022). Other advantages of electronic reference sources are that they are more frequently updated than their print counterparts, they provide more search options, give access to a wider range of information, and offer faster and easier access to information.

Use of electronic reference sources is expected to be embraced by today's techno-savvy library users, including undergraduates in Nigeria, especially because of its advantages over print sources. However, its use can be influenced by undergraduate students' ICT competence and attitude toward technology.

ICT competence is a group of skills, knowledge, and attitudes that are applied to the use of information and communication technologies (Díaz-García *et al.*, 2023). In higher institutions of learning, ICT competence is a necessary skill for students, enabling them to recognize when information is needed and to locate, evaluate, and use it to improve their academic performance (Liang *et al.*, 2025; John *et al.*, 2015). According to the Commonwealth of Australia (2010), students develop competence in using ICT for tasks associated with information access and management, problem-solving, decision-making, communication, creative expression, and empirical reasoning. Alade *et al.*, (2024) noted that those with high ICT skills (or competence) are more likely to use electronic information resources. Alabi (2020) also conducted a study on ICT skills and the use of library electronic resources by university undergraduates in Southwest Nigeria and found that ICT skills correlated significantly with students' utilization of electronic information resources. Attitude is another factor that may influence undergraduates' use of electronic reference sources.

According to Fishbein and Ajzen (1975), attitude is an individual's positive or negative feelings (evaluative affect) about performing a target behavior. In the context of this study, attitude refers to an undergraduate's positive or negative feelings about the use of ERS. Ngozi *et al.*, (2014) defined attitude as students' reactions to using electronic resources based on their beliefs, assumptions, and the opinions of others. From the perspective of the Technology Acceptance Model (TAM), attitude is a direct predictor of an individual's behavioral intention to use an information system. According to Davis *et al.*, (1989), it can be delineated to include perceived usefulness, perceived ease of use, and compatibility. The need to facilitate the ease with which undergraduate students utilize electronic resources in the library has received scholarly attention. ERS is one such library resource for which an increased level of use is required. Since the university is a place where stakeholders such as undergraduates are expected to acquire the social, mental, and intellectual skills needed to become self-reliant and resourceful members of society, the university library must provide services and resources that enhance the all-round development of its users. This study, therefore, investigates how students' ICT competence and attitude influence the use of ERS at Olabisi Onabanjo University (OOU), Ago-Iwoye, Ogun State, Nigeria.

II. OBJECTIVES OF THE STUDY

Determine the level of use of electronic reference sources by undergraduates in the selected university in Nigeria.

Investigate the level of ICT competence among undergraduates in the university. Ascertain the attitude of undergraduates toward the use of electronic reference sources in the university.

A. Hypotheses

The following null hypotheses were tested at the .05 level of significance:

H₁: There is no significant relationship between undergraduates' ICT competence and their use of electronic reference sources in the university.

H₂: There is no significant relationship between undergraduates' attitude and their use of electronic reference sources in the university.

III. LITERATURE REVIEW

A. Use of Electronic Reference Sources by Undergraduates

Before the advent of technology, reference sources were mainly found in print format, and their use was limited to the four walls of the library. The emergence of technology has removed these barriers, as reference sources are now available and accessible in electronic formats. Electronic references such as e-books, e-journals, e-newspapers, full-text databases, statistical reference sources, and indexing and abstracting databases, as well as other materials available electronically, have become ubiquitous, particularly in higher education.

Alkahtani (2016) conducted a study on the attitude of Princess Nora University students toward the use of the library's electronic reference sources, and the findings revealed that the library's ERS were still moderately utilized academically; however, utilization was sometimes lower. For instance, among the 12 options listed to measure the extent of students' ERS use, the highest percentage was for the statement "I use the library's ERS to source materials for research/writing projects," with 51% and 130 instances of frequent use. Other academic purposes, such as the e-journal service the library provides through subscriptions, recorded only 28 responses for frequent use, while 74 respondents did not use it at all, and 99 respondents stated they rarely used it.

Quadri *et al.*, (2014) examined the level and utilization of e-resources in selected private universities in Ogun State, and the results revealed that a majority of the undergraduates from Babcock University (130; 65%) and Redeemer's University (48; 87.5%) indicated a high level of Internet utilization, while 101 (50.5%) and 27 (49.1%) respondents from Babcock and Redeemer's, respectively, reported that their level of utilization of e-journals was average. Also, only 18 (9.0%) respondents from Babcock and 7 (12.7%) respondents from Redeemer's indicated that online database utilization was very low in the university libraries. A majority (84; 42%) of respondents from Babcock University used the

Internet on a daily basis, while only 15 (7.5%) used e-journals daily, and most (78; 39.0%) never used the CD-ROM. For Redeemer's University, less than half (22; 40%) used the Internet on a daily basis, while most (42; 76.4%) used online databases occasionally and only 2 (3.6%) used the OPAC once a week.

Electronic reference sources such as periodicals are widely sought and used by students, lecturers, and researchers due to their importance. Biradar *et al.*, (2001) determined the use pattern of periodicals by medical practitioners. They revealed that 76.67% and 75% of medical practitioners need current information on new procedures and medicine, respectively. Additionally, 56.67% obtain periodicals through medical associations, whereas a major fraction (86.67%) obtain current information through seminars, conferences, and workshops.

Furthermore, 57.67% and 53.33% of doctors use electronic mail and the Internet as major communication media. Wu and Yeh (2012) examined the effects of undergraduate students' computer competence on their usage of library electronic collections in Taiwan and found that electronic resource use was still low; only 30.69% reported frequent use of library electronic resources. Nwabueze and Urhiewhu (2015) investigated the use of digital information resources by undergraduates of universities in Delta and Edo States in South-South Nigeria, and the study indicated low use of digital resources by students. The study identified a lack of ICT skills and poor ICT infrastructure as constraints to the use of electronic resources. The result implies that ICT competence is important for facilitating the use of ERS. It is, therefore, logical to conclude that students with high ICT competence are more likely to use ERS than those with low ICT skills.

B. Users' ICT Competence

ICT competence is essential to maximizing the effective use of ERS. Torres-Gastelu and Kiss (2016) categorized competencies into three: basic competencies (also called digital literacy), application competencies, and ethical competencies. Basic competencies or digital literacy involve a user's ability to use ICT in the classroom or learning situations as a tool for obtaining relevant information, as well as using materials obtained from various electronic sources. Application and ethical competencies, on the other hand, involve skills and knowledge related to creating and managing problems, legal considerations, and responsible use of ICT (Gastelu & Kiss, 2016).

Narasappa and Kumar (2016) identified areas where competence should be developed. According to the authors, competence should be developed in word processing, spreadsheet use, video conferencing, computer security, email management, scanning, database management, and website design. They further argued that competence should be developed in Internet skills such as search techniques, URL structure and formats, and the use of browsers and search

engines. Danner and Pessu (2013) examined students' perceived ICT competencies using the ICT competency subscale in Section C of their questionnaire. The subscale includes competencies related to a basic suite of ICT applications, which comprise file navigation, word processing, email, and Internet use. Participants rated their level of competency on a 5-point Likert scale, where 5 = excellent, 4 = good, 3 = fair, 2 = low capability, and 1 = no capability. Students perceived themselves to be competent (either excellent or good) in the use of word processing (64%) and file navigation (51%). A lower proportion perceived themselves as broadly good in Internet browsing (40%) and emailing (42%). About 31% had no capability at all in Internet browsing and emailing, and 70% had no capability in the use of presentation tools (e.g., PowerPoint). Only 2% considered themselves excellent in PowerPoint use.

C. Attitude of Library Users in University Libraries

Attitude has been discussed extensively in the literature on the adoption of information technology. Allport, as cited in Eguavoen (2011), states that an attitude "is a mental and natural state of readiness organized through experience, exerting a directive or dynamic influence upon an individual's response to all objects or situations with which it is associated." In other words, people's attitudes are formed through experiences that create mental readiness, influencing whether they react in support of or against something. Farheen and Tadasad (2013) studied the attitude of library users and found that users had low awareness of scientific periodicals, catalogues, and union catalogues, but high awareness of books, dictionaries, newspapers, general magazines, and encyclopaedias, which were also highly used. Catalogues/union catalogues and yearbooks/almanacs were the least used resources. Users rated the comprehensiveness and up-to-datedness of the collection between "tend to disagree" and "tend to agree." The adequacy of resources was rated as moderately inadequate to slightly adequate. Users were not completely satisfied with the collection; however, they had positive attitudes toward newspapers, general magazines, and books, but negative feelings toward other resources. Users also expressed poor satisfaction with catalogues, directories, and abstracting/indexing sources. In terms of adherence to rules and conduct while using the library, users were rated as fair.

Eruvwe, Akpojotor, and Okonoko (2015) studied the deviant attitudes of library users and concluded that deviant behavior is common among academic library users. Limited materials, selfish interest, and a lack of photocopy facilities contribute to stealing and the unlawful removal of parts of books and materials. Personal interest, author integrity, and scarcity of materials encourage users to hide library items. A lack of orientation, discipline, and awareness, as well as group discussions, often leads to the distortion of library resources. Overdue materials also occur due to factors such as strike actions, loss of library cards, and high registration fees. Users also reported eating in the library due to fatigue, a lack of discipline, or to stay awake during reading.

Omosekejimi, Ojeme, and Eghworo (2015) established that undergraduate students at the Federal University of Petroleum Resources, Effurun, are aware of and comply with the rules and regulations in their university libraries. Such compliance ensures order and supports effective utilization of library resources and services. The study also established a significant relationship between compliance with library rules and regulations and the level of library use. Appropriate sanctions and penalties were given to defaulters. Sivathaasan *et al.*, (2014) investigated students' attitudes toward the usage of electronic information resources in the medical library at the University of Jaffna, Sri Lanka, and found that the use of electronic resources was influenced by students' attitudes. Students had a positive attitude toward electronic resources because of the perceived benefits. However, a study conducted in Nigeria by Okeke *et al.*, (2013) found that students at Federal Polytechnic Oko and Madonna University, Okija, had negative attitudes toward library resources, as many did not understand the usefulness of the resources. Similarly, the study by Bashorun *et al.*, (2011) revealed negative attitudes of academic staff toward electronic resources. Electronic books, reference books, databases, and electronic journals were underutilized due to a lack of awareness and inadequate training in ICT and search techniques. Consequently, it can be inferred that awareness and ICT competencies have a significant impact on users' attitudes toward the library and its resources.

IV. METHODOLOGY

This study employed a descriptive survey research design. The population comprised 27,421 undergraduate students from Olabisi Onabanjo University (OOU), Ogun State. Using simple random sampling and guided by Krejcie and Morgan's (1970) sample size determination table, a sample of 379 was deemed appropriate for a population of 27,000. The sample was proportionately allocated across 10 faculties/colleges, yielding a total of 241 respondents (see Appendix 1). Data

were collected using a structured questionnaire divided into sections on demographic information, ICT competence, attitude, and use of electronic reference sources (ERS).

The ICT competence scale was adapted from Abdu Bichi, Embong, and Ab Rashid (2017). The original 21-item instrument, designed to measure postgraduate students perceived ICT competence, reported a reliability coefficient of .86. For this study, all 21 items were retained but adapted to a four-point Likert scale: Strongly Agree (SA), Agree (A), Disagree (D), and Strongly Disagree (SD). Attitude was measured using a modified version of the Computer Attitude Scale for Secondary Students (CASS) developed by Jones and Clarke (1994). The original instrument contained 40 items across three components-affect (15 items), cognition (15 items), and behavior (10 items)-with Cronbach's alphas of .95, .88, .71, and .95, respectively, for the overall scale. For this study, 24 items (eight from each component) were selected and rated on a four-point Likert scale (SA, A, D, SD). The ERS section of the questionnaire captured students' use of electronic reference sources across three dimensions: level of use, purposes of utilization, and challenges encountered. Items were rated on a four-point Likert scale ranging from Strongly Agree (4) to Strongly Disagree (1). The data administration and collection were carefully carried out across the departments constituting each faculty to eliminate possible bias toward any particular department(s). Descriptive statistics-including frequency counts, simple percentages, and arithmetic means-were employed for data analysis with the aid of the Statistical Package for the Social Sciences (SPSS).

V. RESULTS

A total of 241 copies of the questionnaire were administered to the undergraduates of Olabisi Onabanjo University (OOU). However, 236 copies were returned and found useful for analysis, yielding a response rate of 98% (see Table I).

TABLE I QUESTIONNAIRE ADMINISTRATION AND RETURNS RATE

Olabisi Onabanjo University (OOU)		
Faculty	Distribution	Return
Agricultural Sciences	14	14
Arts	21	20
Basic Medical Sciences	27	26
Clinical Sciences	3	3
Education	27	27
Engineering and Environmental Studies	20	20
Law	9	9
Pharmacy	4	4
Science	43	41
Social and Management Sciences	73	72
Total	241	236

A. Demographic Characteristics of the Respondents

Table I presents the results on the demographic characteristics of the undergraduates. Findings show that there were more female participants, 128 (54.2%), in OOU.

Most of the respondents, 119 (50.4%), were between 15 and 20 years of age, while the least, 2 (0.8%), were below 15 years of age. The majority of the undergraduates, 89 (37.7%), were in 100 level, and the smallest number, 10 (4.2%), were in 500 level.

TABLE II DEMOGRAPHIC INFORMATION OF THE RESPONDENTS

Variables		OOU	
		Freq	%
Gender	Male	108	45.8
	Female	128	54.2
Age	Below 15 Years	2	0.8
	15 - 20	119	50.4
	21 – 25	102	43.2
	26 – 30	7	3.0
	31 and above	6	2.5
Level	100	89	37.7
	200	66	28.0
	300	28	11.9
	400	43	18.2
	500	10	4.2

N=236

B. Objective One: Level of Use of Electronic Reference Sources by the Undergraduates

TABLE III LEVEL OF USE OF ELECTRONIC REFERENCE SOURCES

Electronic Information Resources	OOU								X	SD
	Daily		Weekly		Monthly		Never			
	F	%	F	%	F	%	F	%		
Electronic journals	44	18.6	70	29.7	54	22.9	68	28.8	2.38	1.09
Electronic books	81	34.3	75	31.8	39	16.5	41	17.4	2.83	1.09
Electronic databases	52	22.0	78	33.1	55	23.3	51	21.6	2.56	1.06
Electronic newspaper	73	30.9	69	29.2	54	22.9	40	16.9	2.74	1.07
Electronic theses	77	32.6	57	24.2	47	19.9	55	23.3	2.66	1.16
Electronic magazine	94	39.8	52	22.0	48	20.3	42	17.8	2.84	1.14
Electronic dictionary	115	48.7	66	28.0	25	10.6	30	12.7	3.13	1.04
OPAC	32	13.6	56	23.7	46	19.5	102	43.2	2.08	1.10
E-encyclopedia	81	34.3	61	25.8	48	20.3	46	19.5	2.75	1.13
E-maps	44	18.6	65	27.5	72	30.5	55	23.3	2.42	1.04

Key: Daily (D) Weekly (W) Monthly (M) Never (N)

Table III shows the results on the frequency of use of ERS among the undergraduates. The results revealed that nearly half of the undergraduates, 115 (48.7%), reported that they used electronic dictionaries on a daily basis. Other electronic reference sources used daily by the respondents were electronic magazines, 94 (39.8%), and electronic books, 81 (34.3%). In addition, some of the undergraduates, 78 (33.1%), indicated that they used electronic databases on a weekly basis. Slightly more than two-fifths, 102 (43.2%), of

the respondents also affirmed that they never used OPAC. Thus, it can be concluded that most of the undergraduates used electronic dictionaries daily, while electronic databases were used weekly, and OPAC was never used.

C. Objective Two: Level of undergraduates' ICT competence

The test of norm was used to measure the level of ICT competence of the undergraduates.

TABLE IV LEVEL OF UNDERGRADUATES' ICT COMPETENCE

Items	OOU								Mean	SD
	SA		A		D		SD			
	F	%	F	%	F	%	F	%		
I can locate and run an application program e.g. Word	133	56.4	82	34.7	14	5.9	7	3.0	3.4	40.74
I can search for files on computer system	159	67.4	69	29.2	8	3.4	-	-	3.6	40.55
I can connect the computer and its peripherals	126	53.4	77	32.6	27	11.4	6	2.5	3.3	70.79
I can access information on CD/DVD	129	54.7	86	36.4	13	5.5	8	3.4	3.4	20.75
I can organise electronic files into folders	111	47.0	87	36.9	32	13.6	6	2.5	3.2	80.79
I am aware of computer security, copyright and the law	116	49.2	79	33.5	34	14.4	7	3.0	3.2	90.82
I am aware of health and safety issues relating to the computing environment	113	47.9	81	34.3	38	16.1	4	1.7	3.2	80.79
I can use simple editing e.g. bold, italics, centering, font size etc	115	48.7	82	34.7	37	15.7	2	0.8	3.3	10.76
I can use spread sheet package very well	60	25.4	92	39.0	78	33.1	6	2.5	2.8	70.82
I can sort and filter data	67	28.4	99	41.9	65	27.5	5	2.1	2.9	70.80
I can create a basic presentation package	66	28.0	90	38.1	64	27.1	16	6.8	2.8	70.90
I can set up a database	56	23.7	94	39.8	67	28.4	19	8.1	2.7	90.90
I can access an internet site via its website address	140	59.3	68	28.8	19	8.1	9	3.8	3.4	40.80
I can download files from the internet	156	66.1	65	27.5	13	5.5	2	0.8	3.5	90.64
I can send and receive e-mail messages	156	66.1	66	28.0	6	2.5	8	3.4	3.5	70.71
I can save a document in various file formats including HTML	99	41.9	96	40.7	35	14.8	6	2.5	3.2	20.79
I can use web search engines (Google, Alltheweb, Alta Vista, etc) very well	145	61.4	62	26.3	25	10.6	4	1.7	3.4	70.75
I can do deep web searching using appropriate meta search engines (Surf Wax, Vivissimo, HotBotetc) very well	67	28.4	88	37.3	67	28.4	14	5.9	2.8	80.89
I can use a digital camera to capture images	109	46.2	66	28.0	55	23.3	6	2.5	3.1	80.88
I can set up and use Liquid Crystal Display (LCD) or Multimedia Projector	54	22.9	75	31.8	83	35.2	24	10.2	2.6	70.94
I can use scanner to copy images	80	33.9	80	33.9	61	25.8	15	6.4	2.9	50.92
Overall mean	67.5									

Test of norm for ICT competence of undergraduates

Score	-	Level
0-28	-	Low
28.1-56.1	-	Moderate
56.2-84	-	High

There were twenty-one statements in the scale used to measure ICT competence and four response options (Strongly Agree, Agree, Disagree, and Strongly Disagree). The twenty-one statements were multiplied by the four response options, yielding a score of 84. Dividing 84 by 3 gives 28. Thus, a score between 0–28 indicates a low level of ICT competence, a score between 28.1–56.1 indicates a moderate level, and a score between 56.2–84 signifies a high level of ICT competence. The overall mean for the respondents was 67.5, which falls within the 56.2–84 range, indicating that the undergraduates' ICT competence is high. This high level of competence is reflected in the responses, as the majority (mean = 3.64) reported that they can search for files on a computer system. In addition, a notable number

of the undergraduates (mean = 3.59, mean = 3.57, and mean = 3.47) indicated that they have the knowledge and skills to download files from the Internet, send and receive email messages, and use web search engines such as Google, AlltheWeb, and PubMed.

D. Objective Three: Attitude of Undergraduates to Use of Electronic Reference Sources

The results of the attitude of the undergraduates towards the use of ICTs were presented in table 4.5. Table V shows that most of the respondents (mean = 3.33) affirmed that they will take trainings that teach how ICTs can be utilized. In addition, the undergraduates (mean = 3.28) noted that they would like to learn more about ICTs, and they also indicated (mean = 3.27) that if they need ICT skills for any aspect of their career, they will develop them. Furthermore, it is important to note that a smaller number of respondents (mean = 1.76 and mean = 1.87) felt that learning about ICTs is a waste of time and that they are frustrated when using ICTs.

TABLE V ATTITUDE OF UNDERGRADUATES TO USE OF ELECTRONIC REFERENCE SOURCES

Items	OOU								Mean	SD
	SA		A		D		SD			
	F	%	F	%	F	%	F	%		
Working with ICTs makes me feel tense and uncomfortable.	31	13.1	39	16.5	87	36.9	79	33.5	2.09	1.01
I feel helpless when asked to perform a task using ICTs.	24	10.2	43	18.2	109	46.2	60	25.4	2.13	0.97
ICTs bore me.	25	10.6	31	13.1	95	40.3	85	36.0	1.98	0.96
Working with ICTs makes me feel isolated from other people.	23	9.7	45	19.1	95	0.3	73	30.9	2.08	0.94
I do not feel I have control over what I do when I use ICTs	27	11.4	33	14.0	101	42.8	75	31.8	2.05	0.96
I'm no good with ICTs.	27	11.4	35	14.8	91	8.6	83	35.2	2.03	0.98
ICTs frustrate me.	22	9.3	27	11.4	85	6.0	102	43.2	1.87	0.95
ICTs sometimes scares me.	21	8.9	51	21.6	70	9.7	94	39.8	2.00	0.99
ICTs are difficult to understand.	24	10.2	31	13.1	93	39.4	88	37.3	1.96	0.96
Learning about ICTs is a waste of time.	22	9.3	27	11.4	60	25.4	127	53.8	1.76	0.99
Anything ICTs can be used for, I can do just as well in another way.	37	15.7	75	31.8	80	33.9	44	18.6	2.44	0.97
People that work with ICTs sit in front of the technology all day.	38	16.1	62	26.3	100	42.4	36	15.3	2.43	0.94
To use ICTs you have to be highly qualified.	51	21.6	65	27.5	85	36.0	35	14.8	2.56	0.99
Using ICTs prevents me from being creative.	26	11.0	25	10.6	87	36.9	98	41.5	1.91	0.98
ICTs are confusing.	23	9.7	41	17.4	91	38.6	81	34.3	2.03	0.95
Not many people can use ICTs.	61	25.8	87	36.9	58	24.6	30	12.7	2.76	0.98
When I have problem with ICTs, I will usually solve it on my own.	32	13.6	62	26.3	97	41.1	45	19.1	2.34	0.94
Using ICT has increased my interaction with other librarians.	59	25.0	83	35.2	68	28.8	26	11.0	2.74	0.96
I develop shortcuts and more efficient ways to use ICTs.	61	25.8	98	41.5	58	24.6	19	8.1	2.85	0.90
I would like to spend more time using ICTs.	98	41.5	93	39.4	36	15.3	9	3.8	3.19	0.83
I would like to learn more about ICTs.	115	48.7	84	35.6	24	10.2	13	5.5	3.28	0.86
If I need ICTs skills on any aspect of my career, I will develop them.	115	48.7	81	34.3	28	11.9	12	5.1	3.27	0.86
If I can, I will take trainings that will teach me to use ICTs.	129	54.7	69	29.2	24	10.2	14	5.9	3.33	0.89
I learn new ICTs tasks by trial and error.	89	37.7	88	37.3	43	18.2	16	6.8	3.06	0.91

E. Test of Hypotheses

Hypothesis one: There is no significant relationship between undergraduate’s users’ ICT competence and use of electronic reference sources. Table VI shows that there is a significant positive relationship between ICT competence and the use of electronic reference sources ($r = .352^{**}$, $df = 235$, $p < .01$). Thus, the higher the level of undergraduates’ ICT

competence, the more they are expected to use electronic reference sources. Therefore, the null hypothesis is rejected, and the alternative hypothesis-which states that there is a significant relationship between ICT competence and the use of electronic reference sources by undergraduates in two universities in Ogun State, Nigeria-is accepted.

TABLE VI ICT COMPETENCE AND USE OF ELECTRONIC REFERENCE SOURCES BY UNDERGRADUATES IN OOU

Variables	Mean	Std. Deviation	N	r	df	Sig (p)	Remark
ICT competence	67.53	8.994	236	.352**	235	.000	Sig.
Use of electronic reference sources	26.38	6.432	236	-	-	-	-

Hypothesis two: There is no significant relationship between attitude towards ICT and use of electronic reference sources in the two university libraries in Ogun State, Nigeria. Table VII revealed that in both universities, there is a positive but

not significant relationship between attitude toward ICT and the use of electronic reference sources ($r = .004$, $df = 235$, $p < .01$).

TABLE VII ATTITUDE TOWARDS ICT AND USE OF ELECTRONIC REFERENCE SOURCES BY UNDERGRADUATES IN OOU

Variables	Mean	Std. Deviation	N	r	df	Sig (p)	Remark
Attitude towards ICT	58.13	10.717	236	.004	235	.000	Sig.
Use of electronic reference sources	26.38	6.432	236	-	-	-	-

This implies that the type of attitude (positive or negative) displayed toward the use of ICT by the undergraduates will not necessarily translate into an increase in the use of electronic reference sources. Thus, the null hypothesis is accepted.

VI. DISCUSSION

Most of the undergraduates in the two universities used electronic dictionaries on a daily basis, while electronic databases were used weekly and OPAC was never used. This result indicates the importance of electronic dictionaries to the undergraduates. It is likely that the undergraduates encounter new words regularly and therefore seek to know their meanings. The fact that OPAC was never used by the majority of the respondents could be a result of lack of awareness, user education, and information literacy skills. This result is supported by Mwirigi (2012), who studied the use of e-resources (including electronic reference materials) in the Kenya School of Law and found that patrons did not adequately use the resources because awareness regarding their availability was insufficient. Results showed that most of the undergraduates in the two universities had a high level of ICT competence.

A significant number of undergraduates in this era are described as Millennials, which suggests that they possess the ICT knowledge and skills required in today's environment. It is noteworthy that some of these undergraduates may not have undergone formal ICT training; rather, they might have acquired ICT skills through self-directed efforts. ICT competence requires a diverse range of knowledge and skills. This aligns with the position of Narasappa and Kumar (2016), who identified areas where competence should be built. According to them, competence should be developed in word processing, spreadsheets, video conferencing, computer security, e-mail management, scanning, database management, and website design.

They further argued that competence should be developed in internet skills such as searching techniques, URL formats, and the use of browsers and search engines. Most of the undergraduates had a positive attitude toward the use of ICTs. This means that a significant number of respondents are fully aware of the benefits associated with ICT, especially for academic activities. This aligns with the findings of Duckic *et al.*, (2015), who investigated Croatian university students' use and perception of electronic resources. Four attitudinal factors—tendency to use, advantages of using, incentives, and reasons for use—were found to be prerequisites for using electronic resources. The authors observed that this positive attitude stemmed from the perceived usefulness and ease of use offered by electronic reference sources. Findings revealed

that among the independent variables, ICT competence significantly predicts the use of electronic reference sources by undergraduates in the two universities. It may be very difficult to use electronic reference sources without ICT knowledge and skills. ICT competence enables users to retrieve information from different electronic reference sources. John, Izang, and Akorede (2015) were also of the opinion that ICT competence is a necessary skill for students, enabling them to recognize when information is needed and to locate, evaluate, and use information to improve their academic activities. Results also showed a significant positive relationship between ICT competence and the use of electronic reference sources by undergraduates in both universities. It is expected that if an undergraduate can operate a computer effectively, such a student will not find it difficult to access electronic reference sources either on a smart device or a computer. This supports the assertion of Quadri (2012) that undergraduates with high ICT skills are more likely to use electronic information resources, including electronic reference sources. There was a positive but not significant relationship between attitude toward ICT and the use of electronic reference sources in both universities. This indicates that regardless of the type of attitude displayed toward ICT use, when it becomes necessary to use ICT for academic activities, attitude does not always determine the level of use. This result differs from that reported by Sivathaasan *et al.*, (2014), who investigated students' attitudes toward the use of electronic information resources in the medical library of the University of Jaffna, Sri Lanka. They reported that the use of electronic resources was influenced by students' attitudes and concluded that students had a positive attitude toward the resources because of their perceived benefits.

VII. CONCLUSION

The study examined information and communication technology competence, attitude toward, and use of electronic reference sources by undergraduates in Olabisi Onabanjo University (OOU), Ogun State, Nigeria, and concludes that undergraduates' ICT competence and attitude are important predictors of the use of electronic reference sources. This implies that there is a significant and positive relationship between ICT competence and attitude toward the use of electronic reference sources by undergraduates. Undergraduates will develop a positive attitude toward electronic reference sources when they are ICT competent, and this will invariably facilitate higher use of electronic reference sources. Therefore, university libraries in the two universities should ensure that ICT competence and attitude are considered in their efforts to provide relevant electronic reference sources to undergraduates.

VIII. RECOMMENDATIONS

To ensure that the high level of ICT competence and the positive attitude of undergraduates toward ICT are sustained, it is imperative for university library management to regularly organize ICT literacy programmes. These programmes will expose undergraduates to different ways of using ICTs and improve their disposition toward ICT use. Such programmes can be held once every academic session, with undergraduates from different faculties participating in turns. To address the issue of insufficient time available to undergraduates to access electronic reference sources, reference librarians should intensify user education programmes aimed at highlighting the benefits of electronic reference sources. When undergraduates understand the advantages, they may be more motivated to create time to consult them for academic activities such as assignments, term papers, and research. The findings revealed that electronic reference sources were insufficient. Therefore, university and library management should allocate funds for the acquisition or subscription to various electronic reference sources aligned with the disciplines offered in the universities. Adequate availability of these sources may motivate undergraduates to use them. To address the problem of poor technical support in the use of electronic reference sources, university library management should ensure routine maintenance of computers and related devices. Additionally, since electronic reference sources cannot be accessed without electricity, alternative power sources such as solar/battery-powered inverters and generators should be provided. For electronic reference sources accessed via the Internet, libraries should invest in fast and reliable internet connectivity.

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