

2019

# USE OF TECHNOLOGY ACCEPTANCE MODEL (TAM) TO EVALUATE LIBRARY ELECTRONIC INFORMATION RESOURCES USE BY UNDERGRADUATE STUDENTS OF LEAD CITY UNIVERSITY, IBADAN, NIGERIA

Azeez Adebamgbola ADEOYE

*Associate Lecturer, Department of Library and Information Science, Faculty of Arts and Education, Lead City University, Ibadan, Nigeria, adeoyeazeez144076@gmail.com*

Adijat Oluwasola OLANREWAJU

*Graduate, Department of Library and Information Science, Faculty of Arts and Education, Lead City University, Ibadan, Nigeria*

Follow this and additional works at: <https://digitalcommons.unl.edu/libphilprac>

Part of the [Higher Education Commons](#), and the [Library and Information Science Commons](#)

---

ADEOYE, Azeez Adebamgbola and OLANREWAJU, Adijat Oluwasola, "USE OF TECHNOLOGY ACCEPTANCE MODEL (TAM) TO EVALUATE LIBRARY ELECTRONIC INFORMATION RESOURCES USE BY UNDERGRADUATE STUDENTS OF LEAD CITY UNIVERSITY, IBADAN, NIGERIA" (2019). *Library Philosophy and Practice (e-journal)*. 2471. <https://digitalcommons.unl.edu/libphilprac/2471>

**USE OF TECHNOLOGY ACCEPTANCE MODEL (TAM) TO EVALUATE LIBRARY  
ELECTRONIC INFORMATION RESOURCES USE BY UNDERGRADUATE  
STUDENTS OF LEAD CITY UNIVERSITY, IBADAN, NIGERIA**

Azeez Adebamgbola **ADEOYE**

*Associate Lecturer, Department of Library and Information Science, Faculty of Arts and Education, Lead  
City University, Ibadan, Nigeria.*  
[adeoyeazez144076@gmail.com](mailto:adeoyeazez144076@gmail.com)

Adijat Oluwasola **OLANREWaju**

*Graduate, Department of Library and Information Science, Faculty of Arts and Education, Lead City  
University, Ibadan, Nigeria*

**ABSTRACT**

*Many models and theories have been developed in a bid to properly conceptualize the way and manner in which users approach information systems. These theories have inspired many researches and facilitate the development of various solutions and frameworks designed to help both the information users and information service providers. One of such models is Technology Acceptance Model (TAM) which basic principles are applied in this study to examine the Use of Library Electronic Information Resources by Undergraduate Students of Lead City University, Ibadan. The research adopted a descriptive survey design. The population for the study was two thousand one-hundred and seventy-one (2,171) undergraduates from faculty of law, arts and education, social and management sciences and basic sciences. Probability sampling techniques were used to select 217 respondents. Questionnaire was used to elicit response. The data was analyzed using frequency counts and percentages of descriptive statistics. The study revealed availability of electronic information resources. Majority of the respondents (53%) Strongly Agree and (29%) Agree respectively to the usefulness of the Electronic Information Resources in their academic tasks, 36% of the respondents Agree while 38% strongly Agree respectively that overall, they found the Electronic Information Resources easy to use. Likewise, respondents reported a high level of satisfaction with using Library Electronic Information Resources. Respondents however view slow internet access as a major challenge. The researcher recommended that the university library should ensure better internet access, create awareness on library resources and provide uninterrupted power supply in the library and the university community.*

*Keyword: Lead City University, Electronic Information Resources, undergraduates, libraries, LIS models and theories.*

## **1. Introduction**

The focus of this study is use of technology acceptance model (TAM) to evaluate library electronic information resources use by undergraduate students of Lead City University, Ibadan. The issue of model and theories in research reveal seriousness of the task at hand. As noted by Chatman (1996) using and developing theory is hard work. Building of model and theories is a rigorous and hard task. Scientific research is incomplete without use, adoption, importation or adaption of theories or models.

Library and Information Science LIS discipline lacks adequate models and theories originating from within the discipline. However, the discipline use, adopt and adapt theories and models from other field of humanities, social sciences and sciences. Grover & Glazier (2002) summarised it as the general structure of library and information studies theory has increasingly been patterned after social science theories, in large part due to library and information studies' client-centered approach to public service.

LIS is an evolving body of knowledge that deploys theories and models from other disciplines like mass communication, marketing, psychology, computer science, economics, education etc. some of these theories include: Action assembly theory (John Greene, 1984), information seeking behaviour model (Wilson, T. D, 1981 and 1996), sense making theory (Dervin, 1983), behavioural model of information seeking strategies (Ellis, 1989 and 1993), model of the stages of information seeking behaviour (Kuhlthau, 1991). Social exchange theory (Emerson and Cook, 1980). Big six skills model (Eisenberg and Berkowitz, 1992).

Information and communication technology influences is apparent in all human endeavours, which encourage studies in the area of ICT adoption and acceptance. This has led to emergence of various models and theories to test and predict the rate and level of acceptance such theories include: Theory of reasoned action (TRA) (Ajzen and Fishbein 1975 and 1980), Social Cognitive Theory (SCT) (Bandura, Albert 1986), Model of PC Utilization (MPCU) (Thompson et al., 1991), Motivation Model (MM) (Davis et al., 1992), Combined TAM – TPB

(Taylor and Todd 1995), Innovation Diffusion Theory (IDT) (Rogers, 1995), Technology, Organization, and Environment Framework (Tornatzky and Fleischer, 1990), Theory of Planned Behavior (Ajzen and Fishbein 1991), Technology Acceptance Model (TAM) (Davis, Fred 1986 and 1989), Extension of TAM (TAM2) (Venkatesh & Davis, 2000), Unified Theory of Acceptance and Use of Technology (UTAUT) (Venkatesh et al, 2003), Technology Acceptance Model (TAM3) (Venkatesh & Bala 2008). Due to the interest of this study, the theory of technology acceptance model (TAM) is emphasized.

The TAM developed by Davis (1986) is used to explain user acceptance of an online service portal. He wanted to draw some implications for practitioners about how to adapt the design of system characteristics in order to improve user acceptance Venkatesh et al. (2003). His model was meant to give answers to two questions: Which factors determine the attitude of people towards using newly introduced information systems? How strong is the impact of system characteristics on user acceptance (Hartmann et al., 2013).

Aligned with the theory of reasoned action (TRA), which was proposed by Fishbein and Ajzen (1975), the TAM examines the causal relationship between external stimuli, cognitive response, affective response and behavioural response. It specifies perceived usefulness and perceived ease of use as the two most important determinants of system use whereas the first is found to be 50% more influential than the latter Venkatesh et al. (2003). As it is defined by Venkatesh et al. (2008), perceived usefulness is an indicator for the extent of job performance improvement perceived by a person who applies the new system. Instead, perceived ease of use measures the degree to which a person assumes that using the new information system will be free of effort (Al-Mamary, Shamsuddin and Hamid, 2015).

The most common technology acceptance model reviewed by previous researchers is TAM. According to Surendran (2012) Technology Acceptance Model is one of the most popular research models to predict use and acceptance of information systems and technology by individual users. According to Agrawal (2013) Technology Acceptance Model is one of the most influential models widely used in the studies of the determinant of LIS/IT acceptance.

Two important factors are of the model are perceived usefulness and perceived ease of use. Perceived usefulness was defined by Davis (1989) as "the degree to which a person believes that using a particular system would enhance his or her job performance". People tend to use or

not to use an application to the extent they believe that it will help them to perform their job better. Meanwhile, perceived ease of use explains the user's perception of the amount of effort required to utilize the system or the extent to which a user believes that using a particular technology will be effortless.

University objectives of teaching, learning and research are achieved through library. Library is a repository of information resources in print, non print and electronic formats, systematically organized and managed by professional librarians to meet the information needs of target audience. Specifically, academic library caters for the curriculum needs of the parent institutions.

The emergence of Information and Communication Technology (ICT) influences information resources acquired in libraries. Due to huge information available in electronic forms, library focuses its resources in acquiring equipment, devices and gadgets in electronic formats such as computer system, OPAC (Online Public Access Catalog), CD ROM, Internet Access, Subscribed Online Database (Questal, Pro Quest, Ebsco, Emerald etc), Online Open Source Databases (Google Scholar, AJOL,) Projector forms (Readers, Screen), E-Books E-Journals etc.

Researches revealed positive attitude of undergraduate students towards use of electronic information resources (Kim, Yoo-Lee and Sin, 2011) and (Sahin, Balta and Ercan, 2010). There are many factors responsible for undergraduates' use of electronic information, some of them include, the flexible nature of electronic resources in terms of multiple access points, search ease and retrieving information from various mobile electronic devices as compared to print resources. Likewise, most of the undergraduate students are millennials that are conversant with use of ICT devices. Daramola (2016) revealed that the undergraduate students that visited the e-resources unit of the University were relatively young with a mean age of 22 years, in the study Perception and Utilization of Electronic Resources by Undergraduate Students: The Case of the Federal University of Technology Library, Akure. However, use of library electronic information resources requires some skills and perceives usefulness and ease of use.

## 2. Objectives of the study

The main objective of the study is to examine the Use of Library Electronic Information Resources by Undergraduate Students of Lead City University, Ibadan: the specific of objectives are

- i. Investigate the available Electronic Information Resources in Lead City Library.
- ii. Examine the perceived usefulness of Library Electronic Information Resources to undergraduate student of Lead City University Library.
- iii. Identify the perceived ease of use of Library Electronic Information Resources to undergraduate student of Lead City University Library.
- iv. Ascertain user satisfaction of Library Electronic Information Resources to undergraduate student of Lead City University Library
- v. Investigate challenges in use of Library Electronic Information Resources by undergraduate student of Lead City University Library

Lead City University is one of the foremost private universities in Nigeria. It was accredited by the Nigeria University Commission (NUC) in 2005 and since then, it has been growing in leaps and bounds. It offers courses in Basic Sciences, Applied Sciences, Humanities, Management, Educations, Social Sciences, Law and Public Health. It awards Bachelor, Master, and Doctorate degrees in various disciplines. The core value of the institution is offering all-round, practical education and equipping students with knowledge and skills for self reliance.

In line with the vision and mission of its parent organisation, Lead City University Library is also a center of innovative services built on a strong Information and communication technology backbone. Lead City University Library system consists of the Central Library and four faculty libraries; Faculty of Law Library, Faculty of Science Library, Faculty of Social and Management Science Library and the Faculty of Arts and Education Library. Each of the faculty libraries is managed by a Professional Librarian who reports directly to the University Librarian.

The central library has 800 sitting capacities. There are 10 professional librarians and four library assistants among other clerical officers who facilitate the day to day running of the libraries. The library has a strong collection of printed materials which cut across all disciplines

offered in the institution. There are designated electronic libraries with personal computer systems of over 70 available and accessible to library users. Internet access is available and accessible to all staff and students within the campus. However, in order to prevent abuse, all users are issued a username and password at the time of employment or admission into the university which grant them unlimited access to the network.

In a bid to keep up with the information needs and information seeking behaviour of its users, the library is continuously building and maintaining a wide collection of electronic resources made up of a combination of open electronic access and proprietary databases across all disciplines which the users can access via the university network. For effective electronic services, the library is provided with various alternate source of electricity such as dedicated power generators and inverters which ensure uninterrupted power supply during the library opening hours including weekends.

Major functions of the library are fully automated with the adoption of the KOHA integrated library software (ILS) to manage essential library services such as cataloguing, user registration, charging and discharging as well as the management of serial resources. Other functions of the ILS include overdue notice and fine calculations and other managerial functions such as the generation of various statistics critical to the effective running of the library (Oladokun & Kolawole, 2018). With ILS, users can remotely access the library collection through the KOHA interface Online Public Access Catalogue(OPAC) within the university network even when they are not physically present in the library.

### **3. Methodology**

The research design employed for this study is the descriptive survey design. The population for the study consists of undergraduates of Lead City University, Ibadan. According to the data collected from Academic Planning Unit of the institution, there are 4 (four) Faculties, offering undergraduate programmes in the university with a population of two thousand one-hundred and seventy-one (2,171) undergraduate students. The summary of the population size is presented in the table 1 below

**Table 1** the population of the study

LEAD CITY UNIVERSITY, IBADAN			
S/N0	FACULTY	No. of Dept.	NO. OF STUDENTS
1	Sciences	17	423
2	Law	1	437
3	Environment, Social and Management Sciences	16	494
4	Arts and Education	6	817
	<b>Total</b>	<b>40</b>	<b>2171</b>

Source: Registration Unit of the Universities, 2018

Probability sampling techniques was used to ensure all the students have equal chance of being selected. Due to the size of the population 10% sampling fraction of each faculty was used as the sample size. This is in line with Airasian, P. and Gay, L. R., (2003) in educational research: competencies for analysis and application averred that one rule of thumb for determining an adequate sample size for descriptive research is that it should consist of 10% to 20% of the population under study. In that regards, the sample size for this study is two hundred and seventeen (217). The summary of the population size is presented in the table 2 below.

**Table 2** sample Size of the Study

LEAD CITY UNIVERSITY, IBADAN				
S/N0	FACULTY	No. of Dept.	NO. OF STUDENTS	Sample Fraction 10%
1	Basic Medical Sciences	17	423	42.3
2	Law	1	437	43.7
3	Environment, Social and Management Sciences	16	494	49.4
4	Arts and Education	6	817	81.7
	<b>Total</b>	<b>40</b>	<b>2171</b>	<b>217.1</b>

Source: Registration Unit of the Universities, 2018



Questionnaire was used to elicit response from undergraduate students of the Lead City Universities, Ibadan. The questionnaire was adapted from Technology Acceptance Model (TEM). The instrument is divided into six sections. Section A for Demographic data, section B on available Library Electronic Information Resources, section C on the perceived usefulness of Library Electronic Information Resources to undergraduate student, Section D is on the perceived ease of use of Library Electronic Information Resources while section E is on user satisfaction and lastly, Section F is on challenges in use of Library Electronic Information Resources by undergraduate students of Lead City University Library. Each question has a corresponding response format.

The researchers personally administered the questionnaire to ensure accuracy and transparency in distribution and that the target population actually filled the questionnaire. Statistical Package for the Social Sciences (SPSS) was used to analyze the data using the descriptive statistics of frequency count and percentage. The analyzed data was presented in tables.

#### 4. Results and Discussion

The data were analyzed using frequency counts and percentages of descriptive statistics. A total of two hundred and seventeen (217) copies of questionnaire were printed and distributed to the targeted audience but two hundred and eight (208) useable copies were retrieved making 95.9% response rate.

#### Demographic information of Undergraduate student respondents

Table 3 shows the frequencies and percentages of respondent's demographic variables by faculty, 61(29.3%) were from law, 60 (28.8%) Arts and education, 27(16%) social and management sciences and 60(28.8%) Sciences, Gender: the female student has the higher number across all faculties except social and management science 15(53.6%) male and 12(42.9%) female, Age: the highest age bracket across all faculties is (20-24 years old) and levels from 100 to 500 levels.

**Table 3 Distribution of the respondent's by faculties, gender, age and levels**

S/No	Faculty	Law	Arts and	Social and	Sciences	Total
------	---------	-----	----------	------------	----------	-------

		Education				Management Science					
	ITEM	F	%	F	%	F	%	F	%	F	%
1	<b>GENDER</b>										
	Male	13	21.3	28	44.4	15	53.6	28	44.4	84	40
	Female	48	78.7	32	50.8	12	42.9	32	50.8	124	60
2	<b>AGE</b>	F	%	F	%	F	%	F	%	F	%
	(15-19)	20	32.8	8	12.7	5	17.9	21	35.0	54	26
	(20-24)	28	45.9	32	50.8	15	53.6	33	55.0	108	51
	(25-29)	6	9.8	13	20.6	5	17.9	3	5.0	27	13
	Others	7	11.5	10	15.9	2	7.1	0	5.0	19	9
3	<b>LEVEL</b>	F	%	F	%	F	%	F	%	F	%
	100	12	19.7	9	14.3	0	0	21	35.0	42	20
	200	21	34.4	22	34.9	11	39.3	19	31.7	73	35
	300	14	23.0	8	12.7	8	12.7	8	12.7	38	18
	400	7	11.5	24	38.1	5	17.9	12	20.0	48	23
	500	7	11.5	0	0	0	0	0	0	7	3

Source: field work, 2018

**Research question one:** What are the available Electronic Information Resources in Lead City University Library?

Table 4 below shows the various available electronic information resources in Lead City University Libraries. According to the table there are 10 electronic information resources stated. 76% of the users agree that OPAC is available in the library, 78% agree that CD ROM is available in the library, 68% are aware of Micro form availability in the library, 90% of the respondents are aware of internet access in the library, 75% of the respondents are aware of Open Source Online Databases (Google Scholar, AJOL,) in the library, 72% of the respondents agree that Subscribed Online Database (Questal, Pro Quest, Emerald etc) is available in the library, 73% of respondents agree that Projector forms (Readers, Screen), 80% of respondents agree that E-Book is available in the library, likewise, 82% of the respondents agree that E-journals is available in the library and lastly, 72% of the respondents agree that personal computer system is available in Lead City University Libraries.

**Table 3 Distribution of Electronic Information Resources Available in Lead City University Libraries:**

Key: Frequency (F), Percentages (%), Not Available (NA) & Available (A).

S/N0	Faculty		Law	Arts and Education	Social and Management Science	Sciences	Total

	Item		F	%	F	%	F	%	F	%	F	%
1	OPAC (Online Public Access Catalog)	NA	19	31.1	13	20.6	7	21.4	11	18.3	50	24
		AV	42	68.9	47	74.6	20	71.4	49	81.7	158	76
2	CD ROM	NA	6	9.8	12	19.0	7	25.0	20	33.3	45	22
		AV	55	90.2	49	77.8	19	67.9	40	66.7	163	78
3	Micro Forms	NV	20	32.8	13	20.6	6	25.0	28	46.7	67	32
		AV	41	67.2	48	76.2	20	71.4	32	53.3	141	68
4	Internet Access	NV	7	11.5	4	6.3	3	10.7	9	5.0	23	10
		AV	54	88.5	57	90.5	24	85.7	52	86.7	187	90
5	Open Source Online Databases (Google Scholar, AJOL,)	NV	26	42.6	5	7.9	6	14.3	15	25.0	52	25
		AV	35	57.4	57	90.5	22	78.6	42	70.0	156	75
6	Subscribed Online Database(Questal, Pro Quest, Ebsco, Emerald etc)	NA	26	42.6	9	14.3	9	32.1	15	25.0	58	28
		AV	35	57.4	53	84.1	17	60.7	45	75.0	150	72
7	Projector forms (Readers, Screen)	NV	27	44.3	12	19.0	5	25.0	13	18.3	57	27
		AV	34	55.7	50	79.4	20	71.4	47	78.3	151	73
8	E-Books	NA	20	32.8	2	4.8	4	14.3	16	21.7	43	20
		VA	41	67.2	58	92.1	23	82.1	44	70.0	166	80
9	E-Journals	NA	13	21.3	6	11.1	5	17.9	13	16.7	37	18
		AV	48	78.7	54	85.7	22	78.6	47	75.0	171	82
10	Personal Computer System	NV	12	19.7	15	23.8	5	25.0	26	38.3	58	28
		AV	49	80.3	46	73.0	20	71.4	35	53.3	150	72

Source: field work, 2018

Research question two: What is the perceived usefulness of Library Electronic Information Resources to undergraduate student of Lead City University Library?

Table 4 below shows the distribution of perceived usefulness of Library Electronic Information Resources. According to the table, fourteen items were listed with likert scale of four responses. From the response scale, strongly disagree and disagree represent negative affirmation while strongly agree and agree represent positive affirmation. Majority (74%) of the respondents positively affirm that their job would be difficult to perform without Library electronic Information Resource. 89% positively affirm that Using Library Electronic Information Resources gives me greater control over my course work. 85% positively affirm that Using Library Electronic Information Resources improve my work performance, 87% of the students positively affirm that The Library Electronic Information Resources address my course-related needs, 80% of the respondents positively assert that Using Library Electronic Information Resources save me time, 78% of respondent positively assert that Library Electronic Information Resources enable me to accomplish tasks more quickly, 79% of the students positively affirm that Library Electronic Information Resources support critical aspects of my academic work, 85% of the respondents positively affirm that Using Library Electronic Information Resources allow me to accomplish more work than would otherwise be possible, 86% positively affirm that Using Library Electronic Information Resources reduce the time I spend on

unproductive activities, 84% positively affirm that Using Library Electronic Information Resources enhance my effectiveness on my academic work, 85% positively affirm that Using Library Electronic Information Resources improve the quality of the academic work I do, 77% positively affirm that Using Library Electronic Information Resources increase my productivity, 81% of the respondents positively affirm that Using Library Electronic Information Resources make it easier to do my academic work, and on the last item majority (82%) of the respondents positively affirm that Overall, I find the Library Electronic Information Resources useful in my academic tasks.

**Table 4      Distribution of perceived usefulness of Library Electronic Information Resources**

*Key: Frequency (F), Percentages (%), Strongly Disagree (SD), Disagree (D), Agree (A), and Strongly Agree (SA).*

S/N0	ITEM	SD	DA	AG	SA	TOTAL
1	My job would be difficult to perform without Library electronic Information Resource	5(3%)	46(24%)	60(31%)	84(43%)	195
2	Using Library Electronic Information Resources gives me greater control over my course work.	10(5%)	11(6%)	68(36%)	102(53%)	191
3	Using Library Electronic Information Resources improve my work performance.	10(5%)	20(10%)	79(37%)	102(48%)	211
4	The Library Electronic Information Resources address my course-related needs.	4(2%)	24(11%)	96(46%)	87(41%)	211
5	Using Library Electronic Information Resources save me time.	8(3%)	35(17%)	78(37%)	90(43%)	211
6	Library Electronic Information Resources enable me to accomplish tasks more quickly.	11(5%)	35(17%)	70(33%)	95(45%)	211
7	Library Electronic Information Resources support critical aspects of my academic work	11(5%)	33(16%)	82(39%)	85(40%)	211
8	Using Library Electronic Information Resources allow me to accomplish more work than would otherwise be possible	4(2%)	28(13%)	85(40%)	94(45%)	211
9	Using Library Electronic Information Resources reduce the time I spend on unproductive activities	8(4%)	22(10%)	95(46%)	85(40%)	210

10	Using Library Electronic Information Resources enhance my effectiveness on my academic work	9(5%)	26(12%)	82(39%)	94(45%)	211
11	Using Library Electronic Information Resources improve the quality of the academic work I do	7(4%)	26(12%)	77(37%)	101(48%)	211
12	Using Library Electronic Information Resources increase my productivity	11(5%)	36(17%)	66(31%)	98(46%)	211
13	Using Library Electronic Information Resources make it easier to do my academic work	7(4%)	31(13%)	65(30%)	108(51%)	211
14	Overall, I find the Library Electronic Information Resources useful in my academic tasks	13(6%)	25(12%)	61(29%)	112(53%)	211
	TOTAL					2917(%)
		118(4%)	398(14%)	1064(36%)	1337(46%)	

Source: field work, 2018

Research question three: What is the perceived ease of use of Library Electronic Information Resources to undergraduate student of Lead City University Library?

Table 5 below reveals distribution on perceived ease of use of Library Electronic Information Resources to undergraduate student of Lead City University Library.

According to the table 5 below, there are fourteen items with likart scale of four responses. 36% of the respondents disagree and 27% strongly disagree respectively that, I often become confused when I use the Library Electronic Information Resources system. 35% of the respondents agree that I make errors frequently when using Library Electronic Information, while 54% of the respondents agreed that Interacting with the electronic mail system requires a lot of my mental effort. 42% of the respondents agreed that they find it cumbersome to use the Library Electronic Information Resources. Also, 44% of the respondents agreed that The Library Electronic Information Resources provide helpful guidance in performing tasks, and lastly, 36% of the respondents agreed while 38% strongly agreed respectively that Overall, they find the Library Electronic Information Resources easy to use.

**Table 5      Distribution on Perceived Ease of Use of Library Electronic Information Resources to Undergraduate Student of Lead City University Library**

*Key: Frequency (F), Percentages (%), Strongly Disagree (SD), Disagree (D), Agree (A), and Strongly Agree (SA).*

S/N0	ITEM	SD	DA	AG	SA	TOTAL
1	I often become confused when I use the Library Electronic Information Resources system	56(27%)	75(36%)	60(28%)	20(10%)	211
2	I often become confused when I use the Library Electronic Information Resources system	46(22%)	77(37%)	62(29%)	26(12%)	211
3	I make errors frequently when using Library Electronic Information Resources	47(23%)	63(30%)	73(35%)	28(13%)	211
4	Interacting with the Library Electronic Information Resources is often frustrating	50(24%)	66(31%)	69(33%)	26(12%)	211
5	I need to consult the user manual often when using Library Electronic Information Resources	47(22%)	58(28%)	78(37%)	28(37%)	211
6	Interacting with the electronic mail system requires a lot of my mental effort	25(12%)	31(15%)	114(54%)	41(19%)	211
7	The Library Electronic Information Resources are rigid and inflexible to interact with.	17(8%)	61(29%)	80(38%)	53(25%)	211
8	I find it easy to get the Library Electronic Information Resources to do what I want them to do.	28(13%)	52(25%)	71(34%)	60(28%)	211
9	The Library Electronic Information Resources often behave in unexpected ways	27(13%)	54(26%)	83(39%)	47(22%)	211
10	I find it cumbersome to use the Library Electronic Information Resources	28(13%)	89(42%)	65(31%)	29(14%)	211
11	My interaction with the Library Electronic Information Resources is easy for me to understand	24(11%)	49(23%)	76(36%)	62(29%)	211
12	It is easy for me to remember how to perform tasks using the Library Electronic Information Resources	19(9%)	47(22%)	75(36%)	70(36%)	211
13	The Library Electronic Information Resources provide helpful guidance in performing tasks	18(9%)	26(12%)	92(44%)	75(36%)	211
14	Overall, I find the Library Electronic Information Resources easy to use	20(10%)	34(16%)	79(36%)	78(38%)	211
	TOTAL	452(15%)	782(27%)	1077(36%)	643(22%)	2954

Source: field work, 2018

Research question four: What is user satisfaction of Library Electronic Information Resources of undergraduate students of Lead City University Library?

Table 6 below reveals the user satisfaction of Library Electronic Information Resources of undergraduate students of Lead City University Library. According to the table, five items with four response scale. Majority of the respondents 44% strongly agree and 36% agree respectively that they often become pleased when I use the Library Electronic Information Resources. Likewise, 43% agree and 31% strongly agree respectively that interacting with the Library Electronic Information Resources create a lot of mental fulfillment.

Table 6: Distribution of user satisfaction of Library Electronic Information Resources

Key: Frequency (F), Percentages (%), Strongly Disagree (SD), Disagree (D), Agree (A), and Strongly Agree (SA).

S/N0	ITEM	SD	DA	AG	SA	TOTAL
1	I often become pleased when I use the Library Electronic Information Resources	18(9%)	24(11%)	76(36%)	93(44%)	211
2	I am frequently happy when using Library Electronic Information Resources	19(8%)	36(15%)	104(44%)	79(33%)	238
3	Interacting with the Library Electronic Information Resources is often satisfactory	19(8%)	36(15%)	89(37%)	66(28%)	210
4	It is acceptable to me consulting the user manual often when using Library Electronic Information Resources	21(10%)	54(26%)	86(41%)	50(34%)	211
5	Interacting with the Library Electronic Information Resources create a lot of mental fulfillment	17(8%)	36(17%)	91(43%)	66(31%)	210
	<b>TOTAL</b>	94(9%)	186(17%)	446(41%)	354(33%)	1080

Source: field work, 2018

Research question five: What are the challenges in use of Library Electronic Information Resources by undergraduate students of Lead City University Library?

The table 7 below reveals the 6 items on challenges in use of Lead City University Electronic Information Resources. 37% strongly disagree but 27% agree that they have inadequate digital literacy skills to use the Library Electronic Information Resources. 33% respondents disagree while 27% strongly disagree that the Library personnel do not render assistance on how to use the Library Electronic Information Resources. 39% strongly agree while 28% disagree respectively that they are discouraged to use the Library Electronic Information Resources due to slow internet access. 38% strongly disagree while 31% disagree that they are not aware of the availability of these Library Electronic Information Resources.

37% strongly disagree while 29% disagree that Epileptic power supply in library discourages them to use Library Electronic Information Resources.

Table 7: Distribution on challenges in use of Library Electronic Information Resources  
*Key: Frequency (F), Percentages (%), Strongly Disagree (SD), Disagree (D), Agree (A), and Strongly Agree (SA).*

S/N0	ITEM	SD	DA	AG	SA	TOTAL
1	I have inadequate digital literacy skills to use the Library Electronic Information Resources	78(37%)	47(22%)	57(27%)	29(14%)	211
2	The Library personnel do not render assistance on how to use the Library Electronic Information Resources	57(27%)	69(33%)	46(22%)	39(19%)	211
3	I am discouraged to use the Library Electronic Information Resources due to slow internet access	33(16%)	38(18%)	58(28%)	82(39%)	211
4	I personally experience Inferiority complex in using the Library Electronic Information Resources	48(23%)	79(37%)	47(22%)	37(18%)	211
5	I am not aware of the availability of these Library Electronic Information Resources	80(38%)	66(31%)	41(19%)	24(11%)	211
6	The Epileptic power supply in library discourages me to use Library Electronic Information Resources	78(37%)	62(29%)	34(16%)	37(18%)	211
	TOTAL	374(30%)	361(29%)	283(22%)	248(20%)	1266(100%)

Source: field work, 2018

## 5. Discussion of Findings

The finding of the study: Use of Library Electronic Information Resources by Undergraduate Students of Lead City University, Ibadan. The study reveals that lead city university library acquire electronic information resources such as OPAC, CD-ROM, Micro-Forms, Internet Access, Open Sources Online Databases, Subscribed Online Databases, Projectors, E-Books, E-Journals, and Computer System, in other to meet the preference of undergraduate student for information communication technology (ICT). This is corroborated with Adeoye and Adeoye (2017): university libraries have been responding to the undergraduate students' preference for electronic databases by increasing their electronic database collections in order to make electronic sources of information accessible. And the respondents are aware of the resources this is supported by Kumar and Kumar (2010) who found that the students and faculty,



who participated in the survey, were aware of the availability of e-resources as well as the internet.

On the perceived usefulness, the study reveals positive attitudes to perceived usefulness of the information resources. As overall, the respondents find the Library Electronic Information Resources useful in my academic tasks. This might be as a result of what Salaam (2008) observes about electronic resources flexibility in searching than their paper-based counterpart, and that they can be accessed remotely at any time.

On the perceived ease of use, the study on the overall, students find the Library Electronic Information Resources easy to use. That is, the students find it easy to get the Library Electronic Information Resources to do what I want them to do. As supported by Salaam (2008) observes about its flexibility in searching than their paper-based counterpart, and that they can be accessed remotely at any time.

On user satisfaction, the study reveals that students are pleased, happy, satisfied and mentally fulfilled using the Library Electronic Information Resources. The study does not support previous studies on users' Library Electronic Information Resource as revealed by Tella et al. (2009) that students were satisfied with the library collections and services but not with electronic resources due to lack of internet services. The successful library services depend primarily on satisfaction level of its users with the relevant library collections, user centric library services and library staffs' supportive attitude (Bhatti and Hanif, 2013).

On challenges in use of Library Electronic Information Resources, the study reveals that students have adequate digital literacy skills to use the Library Electronic Information Resources. This support the finding of Adeoye and Adeoye (2017) Nigeria undergraduates have confident on their level of digital literacy skills. On awareness, students are aware of the availability of these Library Electronic Information Resources, supported Thanuskodi (2010) studied on the use of the Internet and electronic resources for agricultural science information, at Coimbatore University. India, He asserted that while the majority of students were aware of the e-resources. Nwezeh (2010) found that, that the awareness of the existence of Internet services at the university library was universal to both staff and students. Respondents, in the study, universally agreed that they made use of the internet. But contrary to the finding of Angello (2010) revealed that the rate of awareness of electronic resources among researchers in Tanzania was very low.

Positive results recorded on availability of constant power supply in this study is a sharp contrast to what is adopted in literature of developing country, as observed by researchers, one obstacle to the use of library-based online resources in particular and its electronic resources is of erratic power supply (Adeoye and Adeoye, 2017, Ohwofasa, 2015 and Abdullahi and Haruna, 2009).

## **6. Summary**

The findings of the study are summarized below:

1. A total of three hundred (217) copies of questionnaire were printed and distributed to the targeted audience but two hundred and eight (208) useable copies were retrieved making 95.9% response rate.
2. The undergraduates respondents were delineated according to faculty; law 61(29.3%), Arts and education 60(28.8%), social and management sciences 27(13.1%) and Basic Sciences 60(28.8%), Gender: male 84(40.4%) and female 124(59.6 %) and the cut-cross 100 levels to 500 levels.
3. The study revealed the availability of electronic information resources such as OPAC, CD-ROM, Micro-Forms, Internet Access, Open Sources Online Databases, Subscribed Online Databases, Projectors, E-Books, E-Journals, and Computer System in Lead City University Library, Ibadan, Nigeria.
4. Overall, majority of the respondents (53%) Strongly Agree and (29%) Agree respectively to perceived usefulness of the Library Electronic Information Resources in their academic tasks.
5. 36% of the respondents Agree while 38% strongly Agree respectively that Overall, they find the Library Electronic Information Resources easy to use.
6. Likewise, the study revealed that students are pleased, happy, satisfied and mentally fulfilled using the Library Electronic Information Resources: 43% agree and 31% strongly agree respectively.
7. On challenges in use of Library Electronic Information Resources by undergraduate students of Lead City University Library respondents do not have challenges in digital literacy skills, library personnel attitude, inferiority complex, awareness of resources, and power supply but have challenges with slow internet access.

## **7. Conclusion**

The uniqueness of 21<sup>st</sup> century is Information and Communication Technology use in all human endeavours. Libraries and information centers have focus on acquisition and provision of information in digital format to meet undergraduate preference for these information resources. This study revealed that Lead City University Library has a number of electronic information resources available and accessible to undergraduate students and the students were aware and use the resources.

The perceived usefulness and ease of use of Library electronic information resources of the respondents are impressive. This shows that the students are in tune with technological use and acceptances in the library and their academic exercises. The level of satisfaction reveals that the respondents are pleased, happy, satisfied and mentally fulfilled using the library electronic resources. The commitment of the university and the library in provision of adequate power supply and library electronic information resources is acknowledged by the students.

## **8. Recommendations**

1. The library management should ensure continuity in provision of current and up-to-date library electronic information resources.
2. Because undergraduate students reveal high perceived usefulness of the library electronic information resources, academic work and exercise should be presented in digital form to further enhance the use of the library resources.
3. Library management should continue to acquire digital information resources that are user-friendly in order to further encourage ease of use.
4. The library management and personnel should continue in the provision of conducive and friendly atmosphere for library users.
5. The university and library management continue to provide internet access, create awareness on the library resources and uninterrupted power supply to the students.

## References

- Abdullahi, ZM Haruna, I. (2009). Utilization of Information And Communication Technology (ICT) For Information Service Delivery In University Libraries In Adamawa State, Nigeria.
- Adeoye, Azeez Adebamgbola (2017): “*Electronic Database Resources and Digital Literacy Skills as Determinants of Nigerian Undergraduates Library Use*” : Journal of Capital Development in Behavioural Sciences. Vol 5, Issue 1, Pg.140. June, 2017. ISSN: Online: 2449-0679, Print 2354-3981.
- Adeoye, Azeez and Adeoye, Basirat (2017): “*Digital Literacy Skills of Undergraduate Students in Nigeria Universities*” : Library Philosophy and Practice (e-journal) Libraries at University of Nebraska-Lincoln. <https://digitalcommons.unl.edu/libphilprac.1665>
- Agrawal S. K., (2013), “Knowledge management”, International Journal of Advance Research in Computer Science and Management Studies, vol. 1, no. 7,
- Airasian, P. & Gay, L. R., (2003). Educational research: Competencies for analysis and application (7th ed.). Upper Saddle River, NJ: Pearson Education
- Al-Mamary Y. H., A. Shamsuddin, N. A. Abdul Hamid, Al-Maamari and Hasan Mohammed, (2015b), “Adoption of Management Information Systems in Context of Yemeni Organizations: A Structural Equation Modeling Approach”, Journal of Digital Information Management, vol. 13, no. 9.
- Al-Mamary, Y. H, A. Shamsuddin and N. A. A. Hamid, (2015a), “Enhancing Technological Capability of Telecommunications Sector in Yemen: A Technology Adoption Approach”, Mediterranean Journal of Social Sciences, vol. 6, no. 4S1,
- Bandura A., (1986). “Social foundations of thought and action: A social cognitive theory”, Prentice-Hall, Inc.
- Bhatti, R. and Hanif, M. [2013]. A study of library usage and satisfaction by social scientists at Bahauddin Zakariya University, Multan. (<http://digitalcommons.unl.edu/libphilprac/996>).
- Chatman, E.A. (1996). The impoverished life-world of outsiders. Journal of the American Society for Information Science, 47, 193–206.
- Daramola, C. F. 2016. Perception and Utilization of Electronic Resources by Undergraduate Students: The Case of the Federal University of Technology Library, Akure. *American Journal of Educational Research*. Vol. 4, No. 5, 2016, pp 366-370. Retrieved on 15/02/2017 from <http://pubs.sciepub.com/education/4/5/1/>
- Davis F. D., R. P. Bagozzi and P.R. Warshaw, (1989), “User acceptance of computer technology: a comparison of two theoretical models”, Management science, vol. 35, no.8.
- Emerson & Cook, R & K (1976). "Annual Review of Sociology". *The Social Exchange Theory*. 2: 335–362
- Fishbein M. and I. Ajzen, (1975). “Belief, attitude, intention and behavior: An introduction to theory and research”, Goodhue,
- Greene, J. (1984). A cognitive approach to human communication theory: An action assembly theory. Communication Monographs, 51, 289–306
- Grover, R., & Glazier, J. (1986). A conceptual framework for theory building in library and information science. Library and Information Science Research, 8, 227–242
- Hartmann. L., Kerksenfischer. F, Fritsch T., and Nguyen T. (2015), User Acceptance of Customer Self-Service Portals *Journal of Economics, Business and Management*, Vol. 1, No. 2, May 2013 DOI: 10.7763/JOEBM.2013.V1.33 150

- Kuhlthau, C. C. (1991). Inside the search process: Information seeking from the user's perspective. *Journal of the American Society for Information Science*, 42(5), 361-371.
- Kumar B.T. Sampath and Kumar. G.T., (2010) "Perception and usage of e-resources and the internet by Indian academics", *The Electronic Library*, Vol. 28 Issue: 1, pp.137-156, <https://doi.org/10.1108/02640471011023432>
- Kyung-Sun Kim, Eun-Young, Yoo-LeeSei-Ching Joanna Sin (2011) Social media as information source: Undergraduates' use and evaluation behavior. *Proceedings of the American Society for Information Science and Technology* 48(1)DOI: 10.1002/meet.2011.14504801283
- Nwezeh, Chinwe M.T. (2010). Libraries and distance education in Nigerian Universities: a revisit. *New Review of Academic Librarianship*, 16:102–115, 2010. DOI:10.1080/1361453090358425
- Nwezeh, Chinwe M.T., (2010) "The impact of internet use on teaching, learning and research activities in Nigerian universities: A case study of Obafemi Awolowo University", *The Electronic Library*, Vol. 28 Issue: 5, pp.688-701, <https://doi.org/10.1108/02640471011081960>
- Oladokun, Taofeek and Kolawole, Lucia Folasade Mrs, "Sustainability of Library Automation in Nigerian Libraries: A Case for KOHA Open Source Software" (2018). *Library Philosophy and Practice (e-journal)*. 1929. <http://digitalcommons.unl.edu/libphilprac/1929>
- Quadri, G. O. Adetimirin, A. E. and Idowu, O. A. 2014. A study of availability and utilization of library electronic resources by undergraduate students in Ogun State, Nigeria. *International Journal of Library and Information Science*. Vol 6 No3 28-34. Retrieved on 5/12/2018 from <http://www.academicjournals.org/journal/IJLIS/article-full-textpdf/873B14147473>
- Rogers E.M., (2003). *Diffusion of innovations* 5th Edition. Simon and Schuster,
- Sahin, Yasar Guneri, Balta, Sabahand and Ercan, Tuncay (2010) The Use Of Internet Resources By University Students During their Course Projects Elicitation: A Case Study *The Turkish Online Journal of Educational Technology* – April 2010, volume 9 Issue 2
- Salaam, Ajiboye & Bankole, (2013) Use of Library Electronic Information Resources by academic staff at Federal University of Agriculture, Abeokuta, Ogun, Nigeria. *PNLA, Quarterly*. The official publication of the Pacific Northwest Library Associations. 77(2).
- Surendran P., (2012), "Technology acceptance model: A survey of literature. International", *Journal of Business and Social Research*, vol. 2, no. 4,
- Taylor S. and P. Todd, (1995), "Assessing its usage: The role of prior experience, *MIS quarterly*, pp. 561– 570.
- Tella, A., Owolabi, K.A. and Attama, R.O. [2009]. Student use of the library: a case study at Akanu Ibiam Federal Polytechnic, Unwana, Nigeria. *Chinese Librarianship: an International Electronic Journal*, 28. (<http://www.iclc.us/cliej/pdf>).
- Thanuskodi, S. (2010), "Use of Internet and electronic resources for medical science information: A case study", *Journal of Communication*, vol. 1, no. 1, pp
- Thompson, R., Higgins, C., & Howell, J. (1991). Personal Computing: Toward a Conceptual Model of Utilization. *MIS Quarterly*, 15(1), 124–143.
- Ugah, A.D. [2011]. Size and quality of information sources and the use of library services in a university library, ISSN 1522-0222. *Library Philosophy and Practice*, Nigeria.

Venkatesh V. and F.D. Davis, (2000), “A theoretical extension of the technology acceptance model: Four longitudinal field studies”, Management science, vol. 46, no. 2.

Venkatesh V. and H. Bala, (2008), “Technology acceptance model 3 and a research agenda on interventions”, Decision sciences, vol. 39, no. 2.

Venkatesh V., (2000), “Determinants of perceived ease of use: Integrating control, intrinsic motivation, and emotion into the technology acceptance model”, Information systems research, vol. 11, no. 4.

Venkatesh V., J.Y. Thong and X. Xu, (2012), “Consumer acceptance and use of information technology: extending the unified theory of acceptance and use of technology”, MIS quarterly, vol. 36, no. 1.

Venkatesh, V., M.G. Morris, G.B. Davis and F.D. Davis, (2003), “User acceptance of information technology: Toward a unified view”, MIS quarterly.

Wilson, T.D. (1999). Models in information behavior research. Journal of Documentation, 55, 249–270.

**APPENDIX**  
**LEAD CITY UNIVERSITY**  
**FACULTY OF ARTS AND EDUCATION**  
**DEPARTMENT OF LIBRARY AND INFORMATION SCIENCE**  
**QUESTIONNAIRE ON ELECTRONIC INFORMATION RESOURCES USE (QEIRU)**

Dear respondent,

I am a final year student of the above named Department. I crave your indulgency to elicit information on Electronic Information Use in Library through the filling of this questionnaire. I promise that all the information provided will be solely used for academic purpose. Thanks for your honest response.

Yours faithfully,

Adijat Oluwasola **OLANREWAJU**

**Section A**

1. Faculty:.....
2. Department:.....
3. Gender:..... Age (15-19)..... (20-24)..... (25-29).....(Others).....
4. Level:.....

**Section B**

5. What are the available Electronic Information Resources in Lead City University Library?

Tick the box appropriately: Very Much Available (VMA), Much Available(MA), Available(A), Not Available(NA).

S/No	Resources	AV	NA
1	OPAC (Online Public Access Catalog)		
2.	CD ROM		
3.	Micro Forms		
4.	Internet Access		

5.	Open Source Online Databases (Google Scholar, AJOL,)		
6.	Subscribed Online Database(Questal, Pro Quest, Ebsco, Emerald etc)		
7.	Projector forms (Readers, Screen)		
8.	E-Books		
9.	E-Journals		
10.	Personal Computer System		

Comment:.....

**Section C**

6. What is the perceived usefulness of Library Electronic Information Resources to undergraduate student of Lead City University?

Tick the box appropriately: Strongly Agree (SA), Agree (A), Disagree (DA), Strongly Disagree (SDA).

S/No	Item	SA	A	DA	SDA
1	My job would be difficult to perform without Library electronic Information Resources				
2.	Using Library Electronic Information Resources gives me greater control over my course work.				
S/No	Item	SA	A	DA	SDA
3.	Using Library Electronic Information Resources improve my work performance.				
4.	The Library Electronic Information Resources address my course-related needs.				
5.	Using Library Electronic Information Resources save me time.				
6.	Library Electronic Information Resources enable me to accomplish tasks more quickly.				
7.	Library Electronic Information Resources support critical aspects of my academic work.				
8.	Using Library Electronic Information Resources allow me to accomplish more work than would otherwise be possible.				
9.	Using Library Electronic Information Resources reduce the time I spend on unproductive activities.				
10.	Using Library Electronic Information Resources enhance my effectiveness on my academic work.				
11.	Using Library Electronic Information Resources improve the quality of the academic work I do.				
12.	Using Library Electronic Information Resources increase my productivity.				
13.	Using Library Electronic Information Resources make it easier to do my academic work				
14.	Overall, I find the Library Electronic Information Resources useful in my academic tasks				

Comment:.....

**Section D**

7. What is the perceived ease of use of Library Electronic Information Resources to undergraduate student of Lead City University?

Tick the box appropriately: Strongly Agree (SA), Agree (A), Disagree (DA), Strongly Disagree(SDA).

S/No	Item	SA	A	DA	SDA
1.	I often become confused when I use the Library Electronic Information Resources system.				
2.	I make errors frequently when using Library Electronic Information Resources.				

3.	Interacting with the Library Electronic Information Resources is often frustrating				
4.	I need to consult the user manual often when using Library Electronic Information Resources.				
5.	Interacting with the electronic mail system requires a lot of my mental effort.				
6.	I find it easy to recover from errors encountered while using Library Electronic Information Resources				
7.	The Library Electronic Information Resources are rigid and inflexible to interact with.				
8.	I find it easy to get the Library Electronic Information Resources to do what I want them to do.				
9.	The Library Electronic Information Resources often behave in unexpected ways.				
10.	I find it cumbersome to use the Library Electronic Information Resources				
11.	My interaction with the Library Electronic Information Resources is easy for me to understand.				
12.	It is easy for me to remember how to perform tasks using the Library Electronic Information Resources.				
13.	The Library Electronic Information Resources provide helpful guidance in performing tasks.				
14.	Overall, I find the Library Electronic Information Resources easy to use				

Comment:.....

**Section E**

8. What is user satisfaction of Library Electronic Information Resources of undergraduate student of Lead City University?

Tick the box appropriately: Strongly Agree (SA), Agree (A), Disagree (DA), and Strongly Disagree (SDA).

S/No	Item	SA	A	DA	SDA
1.	I often become please when I use the Library Electronic Information Resources.				
2.	I am frequently happy when using Library Electronic Information Resources.				
3.	Interacting with the Library Electronic Information Resources is often satisfactory				
4.	It is acceptable to me consulting the user manual often when using Library Electronic Information Resources.				
5.	Interacting with the Library Electronic Information Resources create a lot of mental fulfillment.				

Comment:.....

**Section F**

9. What are the challenges in use of Library Electronic Information Resources by undergraduate students of Lead City University?

Tick the box appropriately: Strongly Agree (SA), Agree (A), Disagree (DA), and Strongly Disagree (SDA).

S/No	Item	SA	A	DA	SDA
1.	I have inadequate digital literacy skills to use the Library Electronic Information Resources				
2.	The Library personnel do not render assistance on how to use the Library Electronic Information Resources				
3.	I am discouraged to use the Library Electronic Information Resources due				



	to slow internet access				
4.	I personally experience Inferiority complex in using the Library Electronic Information Resources				
5.	I am not aware of the availability of these Library Electronic Information Resources				
6.	The Epileptic power supply in library discourages me to use Library Electronic Information Resources.				

Comment:.....