

University of Nebraska - Lincoln  
**DigitalCommons@University of Nebraska - Lincoln**

---

Library Philosophy and Practice (e-journal)

Libraries at University of Nebraska-Lincoln

---

# AWARENESS AND USE OF INFORMATION RESOURCES, SERVICES AND FACILITIES BY STUDENTS IN FEDERAL UNIVERSITY OF AGRICULTURE ABEOKUTA, NIGERIA

Lawal Mohammed Tukur

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

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

---

AWARENESS AND USE OF INFORMATION RESOURCES, SERVICES AND FACILITIES  
BY STUDENTS IN FEDERAL UNIVERSITY OF AGRICULTURE ABEOKUTA, NIGERIA

*1. Mohammed Tukur Lawal, Research Scholar, Department of Library and Information Science SRM University, Sonapat, Haryana, India Email: [mohammed.tukur@umyu.edu.ng](mailto:mohammed.tukur@umyu.edu.ng)*

*2. Dr. S. Kannan, University Librarian and Prof in Lib. I.Sc, SRM University, Sonapat, Haryana, India Email: [skannan@srmuniversity.ac.in](mailto:skannan@srmuniversity.ac.in)*

*The present study provides an overview about the user's awareness in Federal University Agriculture Abeokuta, Nigeria.. The study was conducted to ascertain the level of awareness of information resources, services and facilities by students of FUAA. Three research objectives guided the study. 306 copies of questionnaire were administered to the respondents in the university and 217 received and analyzed. Simple random and stratified sampling techniques were employed for the study due to the largeness of the population. In the data analysis, frequency counts, simple percentages, and charts was used for the statistical analysis. The study Highlight the levels of awareness of different types of information resources, services and facilities provided by the university library and revealed that the students are fully aware and seems to use them regularly. Other findings from the study showed that students utilized the information resources such as text books, journals, E-theses and dissertations E-journals, and E-books for learning and research. The study recommended that the university library should make more efforts to improve the relevant information resources to encourage students to patronize the library*

**Keywords:** Awareness, Utilization, Information resources, services, facilities, students, university

### **Introduction**

The current global surge on the awareness and utilization of information resources, services and facilities in academic environments by academics, students and researchers has brought about significant impact on the educational sector. There is a declining emphasis on student's physical presence in the library to use print formats as information needs. Today, students can stay at their hostels and access online or electronic library resources and services via networks or

authentication methods at any time. This has been made possible by rapid developments in Information and Communication Technologies (ICTs), which have made it possible to store and retrieve information in many different forms and from any place with a computer or an internet enabled device, at the same time there is also need for students to patronize the library by constant library visit. It is interesting to note that these developments have become parts of the Nigerian higher educational scene in particular and universities in general especially in Agriculture university libraries. In light of the above therefore, the need of awareness of information resources, services and facilities is become imperative.

### **Statement of the Problem**

One of the cardinal objectives of libraries today are to meet the information needs of users by making information resources, services and facilities available and accessible; organizing and disseminating of information resources to users for optimum utilization. However in spite of the above it was assumed by the researchers that information resources available and accessible, services and facilities that are provided in Agriculture University libraries in Nigeria are not utilization may be due to low level of awareness, No study has been conducted to address the situation, in fact to the best of the researcher's knowledge, there has not been any study carried out on this regard to ascertain the level of awareness and utilization of information resources, services and facilities by, students, in the agriculture university library under study

### **Review of Related Literature**

#### **Awareness of Information Resources, services and facilities in the Library**

Oriogu, Anthony Onyebuchi Chukwuemeka, & Darlina, (2018), examined the Awareness, Perception and use of Information Resources and Services in a Private University in Nigeria the study shows the rating of the Awareness of Information Resources by respondents as follows: "CD-ROM Databases" has the highest mean score rating (1.86), and was followed by "Online Public Access Catalogue (OPAC)" (1.76), "Library Catalogue" (1.65), "Electronic Databases" (1.57), "E-books" (1.40), "Bulletins/Newsletters" (1.38), "Theses/Dissertation" (1.38), "Reference Sources" (1.36), "E-Journals" (1.36), "Journals" (1.25), "Internet" (1.16), "Newspapers/Magazines" (1.14) and lastly "Textbooks" (1.12). the rating of the means of awareness to information resources and services by respondents as follows: "Exhibition and

displays” has the highest mean score rating (2.13), and was followed by “Phone call/SMS” (2.01), “Annual brochure/report” (1.96), “User education programme” (1.93), “Meetings/social interactions” (1.78), “Bulletin/Newsletter” (1.68), resources/services” (1.63) and “Access to school website/library portal” (1.58).

Donabedia & John, (2018), conducted a study on Use and Awareness of Library Services among Faculty at Two Armenian Universities, to determine use and awareness of academic library services and resources including reference, interlibrary loan, subscription databases, subject liaisons, and more. A minority of respondents reported making frequent use of the services the usage varying according to such factors as academic rank, length of employment, and full- or part-time status. Many participants also had suggestions for services not available at their libraries. These results help illuminate user preferences among faculty at these universities and could help librarians at similar institutions identify underutilized resources to promote or new services to offer.

### **Utilization of information resources, services and facilities in university of agriculture Libraries**

Onye, (2016) Find out the Availability, Accessibility and Utilization of Library Information Resources by Students of the Federal University of Technology, Owerri (FUTO) the study shows the extent of utilization of information resources by students in FUTO. The study revealed that 670 (98.4%) students mainly utilized textbooks, followed by 341 (50.1%) stating serials, 256 (37.6%) indicated the internet, 93 (13.7%) agreed students use of computers while 41 (6.0%) mentioned films

Madu, Ibrahim, & Saratu, (2018) conducted a research on Availability and Utilization of ICT for Information Retrieval by Undergraduate Students in Ramat Library, University of Maiduguri: A Case Study; the study determined the low level of computer utilization for information retrieval in the library under study, utilization of CD ROM was very low, low level of Internet utilization. Also, majority of the respondents do not use e-mail for information retrieval in the Library

Salubi Ezra & Nekhwevh (2018) Conducted a study on Utilisation of Library Information Resources among Generation Z Students: Facts and Fiction the study reveals that the majority of the respondents rarely/never use e-journals 267 (69.5%,  $\bar{x}$  1.70), library databases 216 (56.3%,  $\bar{x}$

1.56) and also, do not consult with information service librarians 280 (72.2%,  $\bar{x}$  1.72). Resources that are also rarely/never used include e-books 267 (69.7%,  $\bar{x}$  1.70), and information literacy/library trainings 324 (83.5%,  $\bar{x}$  1.84). From the mean scores the most used information resource/service when undergraduate students visit the library is Wi-Fi ( $\bar{x}$  1.16) while the least utilized service is information literacy/library training ( $\bar{x}$  1.84). Other frequently used library resources are library books ( $\bar{x}$  1.43), and computer laboratories 244 ( $\bar{x}$  1.37

### Objectives of the Study

1. To ascertain the level of awareness of information resources, services and facilities in FUA library
2. Determine the extent is library resources, services and facilities are utilized in FUA library under study
3. Determine the extent is the library users satisfied with the resources, services and facilities in FUA library under study

### Population of the Study

**Table 1 population of the respondents**

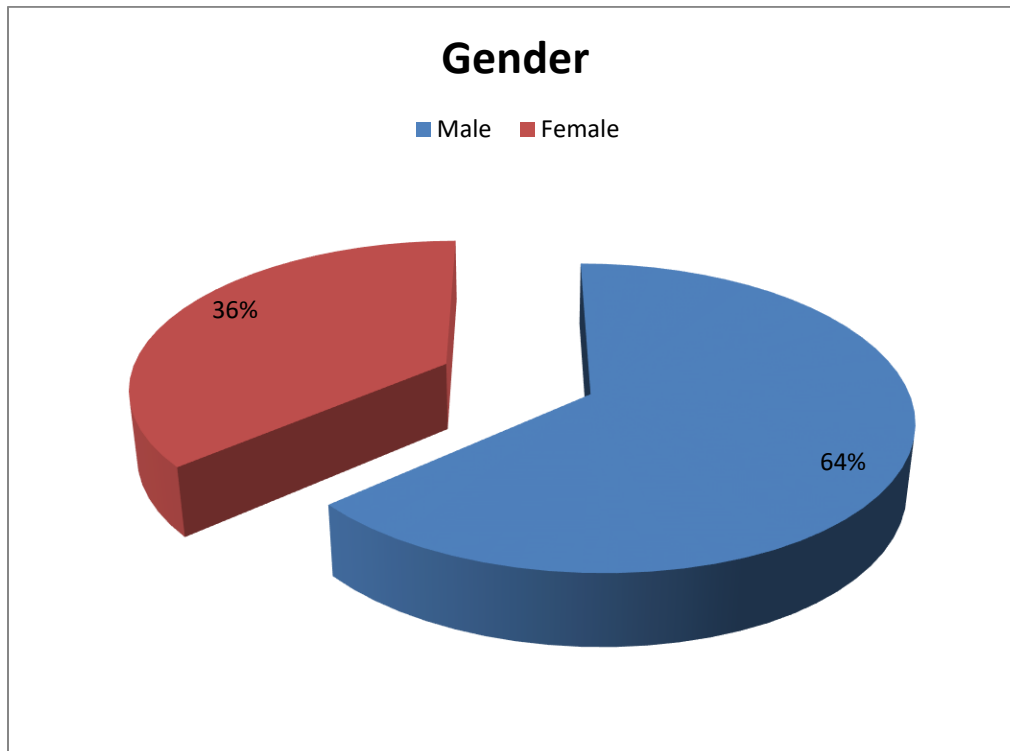
S/N	Number of students	sampled	Questionnaire distributed	Questionnaire returned
1	19883	306	306	217

### Data analysis

**Table 2 demographic of respondents**

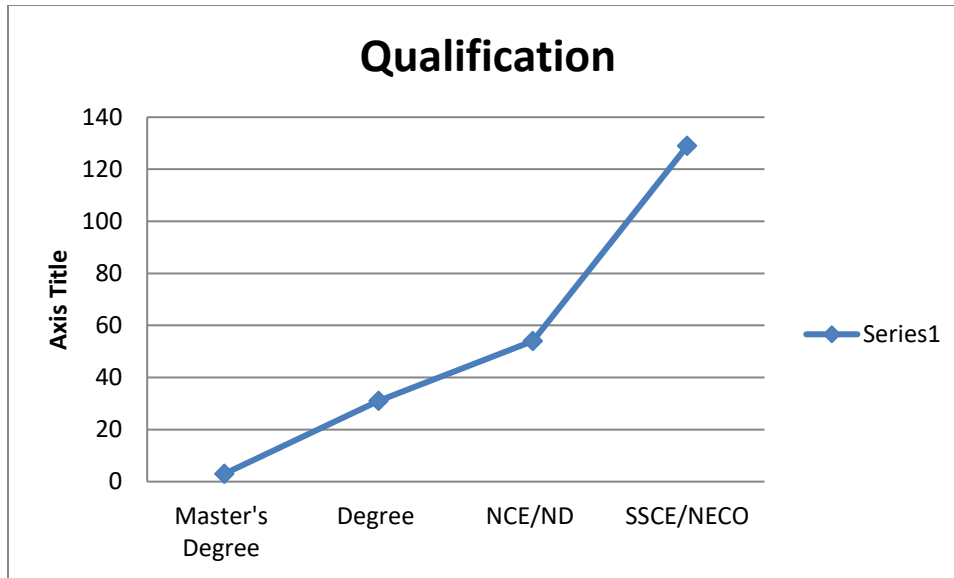
Gender	Frequency	Percentage %
Male	138	63.59%
Female	79	36.40

Table 2 revealed that 217 students were selected as sample for this study by using research advisor table. Of these 217 students, 138 (63.59%) were male while the remaining 79 (36.40%) were female. The result from this table implies that there were more male among the students used for this study. Figure 2 below presents the result from the table in a pie chart.

**Figure 1****Table 3 Highest Educational Qualification**

Qualification		
Master's Degree	03	1.38
Degree	31	14.29%
NCE/ND	54	24.88%
SSCE/NECO	129	59.45%

Table 3 indicated that 129 (59.45%) of the respondents have SSCE/NECO as highest qualification, follow by 54 (24.88%) NCE/ND then 31(14.29%) Degree and 03 (1.38%) have the least qualification with Master's Degree. Figure 2 below presents the result from the table in a line chart



**Figure 2**

**Table 4 Awareness of information resources**

Awareness of information resources			
S/N	Information resources	Frequency	percentage%
<b>Print collections</b>			
1	Journals	193	88.9%
2	Text books	212	97.7%
3	Conference proceedings	129	59.5%
4	Technical reports	112	51.6%
5	Thesis/Dissertations/projects	176	81.1%
6	Bulletins	141	64.97%
7	Magazines	180	82.94%
8	News papers	188	86.6%
9	Maps	154	70.96%
10	Government publications	130	59.9%
11	Atlas	135	62.2%
12	Dictionaries	169	77.9%

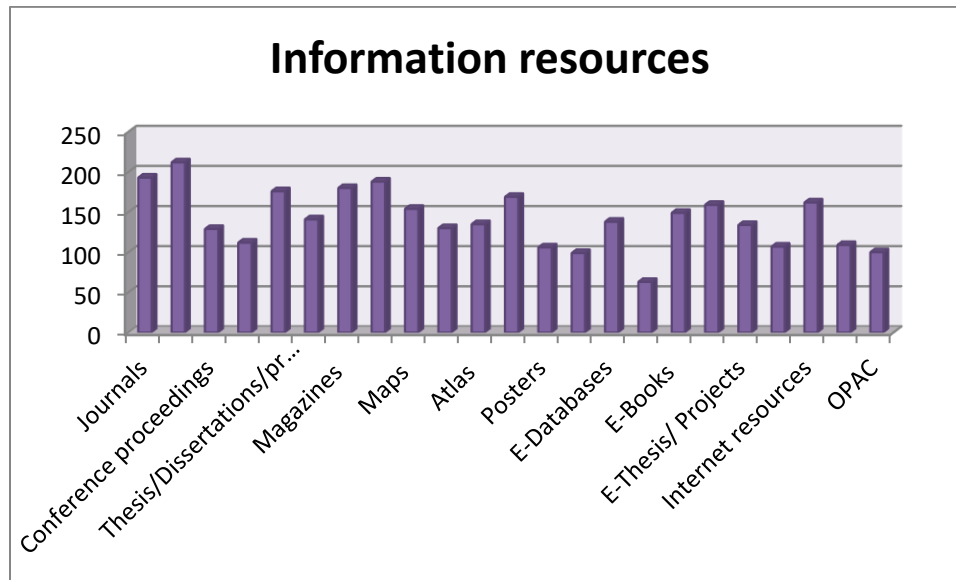
13	Posters	106	48.9%
14	Manuscripts	99	45.6%
	<b>E-Resources</b>		
15	E-Databases	138	63.6%
16	Radio Message	63	29.03%
17	E-Books	149	68.7%
18	E-Journals	159	73.3%
19	E-Thesis/ Projects	134	61.8%
20	E-Newspapers	107	49.3%
21	Internet resources	162	74.7%
22	CDROM	109	50.2%
23	OPAC	100	46.1%

The awareness of information resources is depicted in the table 4. The table shows that majority of respondents are aware of all the available information resources. But majority of respondents are more aware of information resources such as text books, journals, newspapers, magazines with highest number above 80% followed by Atlas, bulletins, and dictionaries with less than 60% the least print resources that are aware by respondents are technical report, government publication, manuscripts, conferences proceedings with 50% downward

In terms of awareness of the E-resources by the students, the study revealed that, e-journals, internet resources, e-database, e-books, e-thesis are the highest percentages with 70% and above followed by OPAC, CDROM, E-Newspapers, with ranges from 50% to 40% respectively and least is radio messages with 29.03%



Figure 3

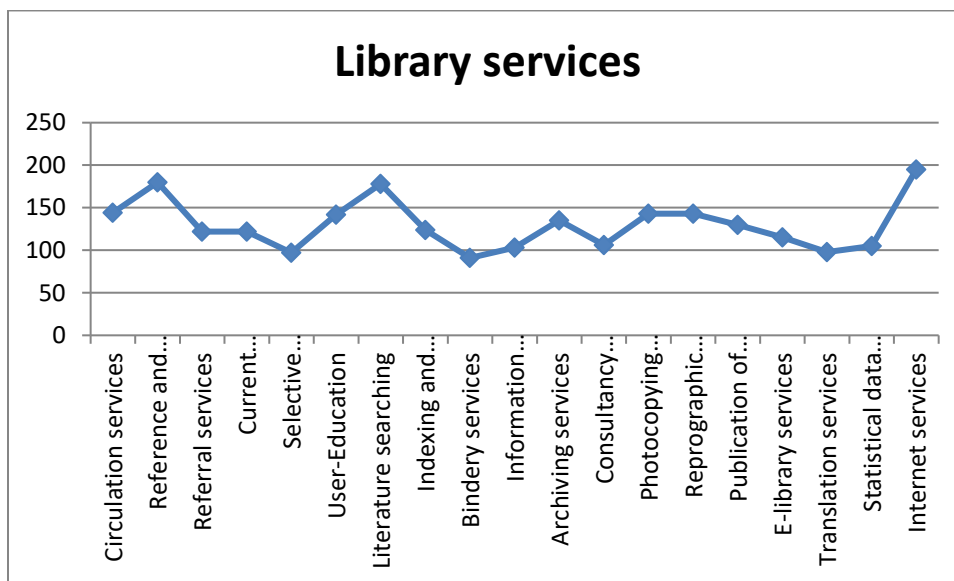
**Table 5 Awareness of information services**

Awareness of information services			
S/N	Services	Frequency	percentage%
1	Circulation services	144	66.4
2	Reference and Information services	180	82.9
3	Referral services	122	56.2
4	Current awareness services	122	56.2
5	Selective Dissemination of Information (SDI)	97	44.7
6	User-Education	142	65.4
7	Literature searching	178	82
8	Indexing and abstracting services	124	57.1
9	Bindery services	91	41.9
10	Information literacy services	103	47.5
11	Archiving services	135	62.2
12	Consultancy services	106	48.9
13	Photocopying services	143	65.9
14	Reprographic services	143	65.9

15	Publication of guides to the library	130	59.9
16	E-library services	115	53
17	Translation services	98	45.2
18	Statistical data analysis services	105	48.4
19	Internet services	195	89.9

Table 5. Highlight the levels awareness of different types of information services provided by the university libraries. As it revealed from Table 5 where indicates that the majority of the respondents 80% and above are aware of the internet services, Literature searching and Reference and Information services. It is also observed that a good number of respondents from 50% to 60% are aware' with different-information services to their suitability such as E-library services, Publication of guides to the library, Reprographic services, Photocopying services, Archiving services, Indexing and abstracting services, User-Education, Current awareness services, referral and circulation services while the least services that are not much aware by the students is less than 50% are Statistical data analysis services, Translation services, Consultancy services, information literacy, Bindery services, and SDI services

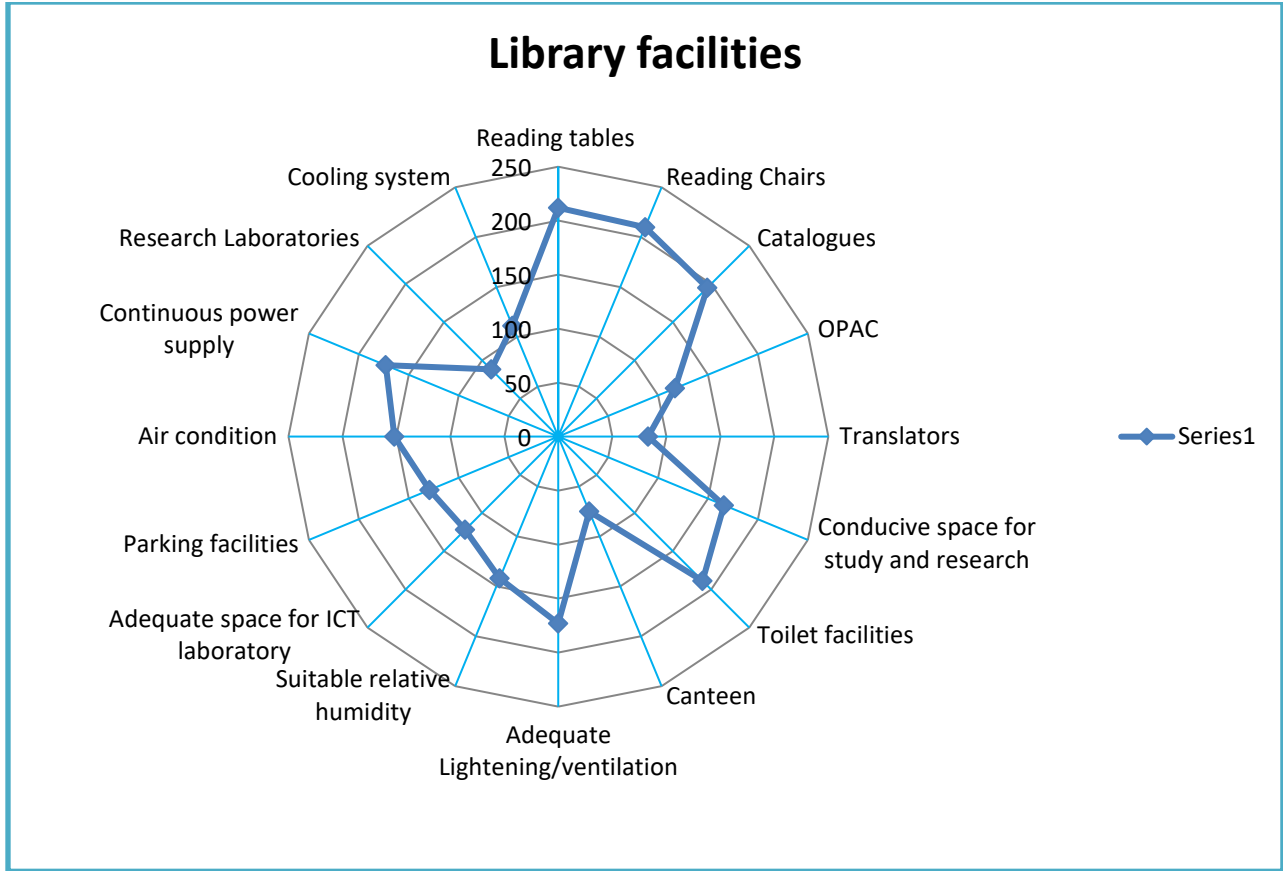
Figure 4



**Table 6. Awareness of Library facilities**

<b>Awareness of Library facilities</b>			
<b>S/N</b>	<b>Facilities</b>	<b>Frequency</b>	<b>percentage%</b>
1	Reading tables	212	97.69
2	Reading Chairs	210	96.77
3	Catalogues	195	89.86
4	OPAC	117	53.92
5	Translators	83	38.25
6	Conducive space for study and research	166	76.49
7	Toilet facilities	189	87.09
8	Canteen	75	34.56
9	Adequate Lightening/ventilation	173	79.72
10	Suitable relative humidity	142	65.43
11	Adequate space for ICT laboratory	122	56.22
12	Parking facilities	129	59.44
13	Air condition	152	70.05
14	Continuous power supply	173	79.72
15	Research Laboratories	88	40.55
16	Cooling system	111	50.92

Table 6 highlights the levels awareness of different types of library facilities provided by the university library. As indicates that the majority of the respondents 70% to 80% and above are aware of the Continuous power supply Air condition, Adequate Lightening/ventilation, toilets facilities, Conducive space for study and research, catalogues, reading chairs and reading tables. It is also observed that a good number of respondents from 50% to 60% are aware' with different-library facilities such as Suitable relative humidity, OPAC, Cooling system, Parking facilities, Adequate space for ICT laboratory and Suitable relative humidity, while the least library facilities that are not much aware by the students is less than 50% are Research Laboratories, Translators and canteen



**Objectives 2** to determine the extent library resources are utilized by students in Agriculture University Library under study

**Table 7 Extent of utilization of information resources**

S/N	Utilization of information resources			Rarely used		fairly used		mostly used	
		Freq	%	Freq	%	Freq	%	Freq	%
1	Journals	6	2.76	17	7.83	75	35	119	54.84
2	Text books	8	3.69	11	5.1	73	33	123	56.68
3	Conference proceedings	76	35.02	121	56	12	5.5	8	3.69
4	Technical reports	18	8.29	6	2.8	112	52	81	37.33
5	Thesis/Dissertations/projects	7	3.23	10	4.6	76	35	124	57.14

6	Bulletins	90	41.47	108	50	12	5.5	7	3.23
7	Magazines	88	40.55	115	53	6	2.8	8	3.69
8	News papers	8	3.69	6	2.8	91	42	112	51.61
9	Maps	86	39.63	93	43	15	6.9	23	10.59
10	Government publications	83	38.25	117	54	6	2.8	11	5.07
11	Atlas	23	10.59	45	21	78	36	71	32.72
12	Dictionaries	48	22.12	14	6.5	79	36	76	35.02
13	Posters	75	34.56	117	54	16	7.4	9	4.15
	<b>E-Resources</b>								
14	E-Databases	14	6.45	8	3.7	123	57	72	33.18
15	E-Books	23	10.59	17	7.8	111	51	66	30.41
16	E-Journals	16	7.37	7	3.2	109	50	85	39.17
17	E-Thesis/ Projects	13	5.99	18	8.3	121	56	65	29.95
18	E-Newspapers	14	6.45	16	7.4	107	49	80	36.87
19	Internet resources	12	5.53	19	8.8	109	50	73	33.64
20	CDROM	22	10.14	12	5.5	109	50	81	37.33
21	OPAC	32	14.75	18	8.3	100	46	67	30.88

Table 7. the data collected from respondents' revealed that books, journals, News papers and theses/dissertation were the most utilized information resources by 123(56.68%), 119(54.8%), 112(51.61%), 124(57.14%) respectively, while the most utilized E-resources were E-Journals, E-News papers, and CDROM by 85 (39.17%), 80 (36.87%) 81 (37.33%) The rating of items on Library Information Resources utilisation by Students of FUAA is as follows: Theses/dissertation 124(57.14%) ranked highest in the frequency score rating and was followed by Books 123(56.68%), journals 119(54.8%), News papers 112(51.61%), others are Technical Reports 81(37.33%), Dictionaries 76(35.02%), and the highest most used E-Resources includes E-Journals85 (39.17%), E-News papers 80 (36.87%) and CDROM 81 (37.33%) while the least

information resources that are not utilized both print and E-resources were conference proceedings 8 (3.69%) Bulletins 7 (3.23), Magazines 8 (3.69), posters 9 (4.15), and Government publication 11 (5.07),. E-resources such as E-books 66 (30.41), E-theses 65 (29.95), and OPAC were the least utilized resources

The implication of this finding is that despite the availability of some of the information resources in the FUAU Library it indicate that information resources were made available to students but some resources were less utilized. This could be tied to the fact that majority of the resources were not of relevant to the students and as well it is evident that students do not even avail themselves for the use of the library as expected which can cause majority of them will not utilized the opportunities of getting the latest information and be connected globally with the available information resources that can make them better on their academic programmes

### **Objectives 3 determine the extent is the students satisfied with the resources in Agriculture University Library under study**

**Table 8. User satisfaction of information resources**

S/ N	User satisfaction of information resources	Total No=217				Highly dissatisfied		Dissatisfied		Satisfied		Highly satisfied	
		Y es	%	N o	%	Frequ ency	%	Frequ ency	%	Frequ ency	%	Frequ ency	%
1	Journals	213	98.2	4	1.8	6	2.76	17	7.83	75	34.56	115	53
2	Text books	206	94.9	9	4.2	8	3.69	11	5.07	68	31.34	119	55.8
3	Conference proceedings	211	97.2	6	2.8	74	34.1	117	53.9	12	5.53	8	3.69
4	Technical reports	203	93.6	14	6.5	18	8.29	6	2.76	112	51.61	67	30.9
5	Thesis/Dissertations/projects	205	94.5	12	5.5	7	3.23	10	4.61	71	32.71	117	53.9
6	Bulletins	199	91.7	18	8.3	78	35.94	102	47	12	5.53	7	3.23

7	Magazines	21 5	99 .1	2 0	0. 9	88	40. 55	113	52. 1	6	2.7 6	8	3. 69
8	News papers	21 3	98 .2	4 1	1. 8	8	3.6 9	6	2.7 6	87	40. 09	112	61 .6
9	Maps	19 8	92 .2	1 9	8. 8	76	35. 02	84	38. 7	15	6.9 1	23	10 .6
10	Government publications	20 3	93 .6	1 4	6. 5	76	35. 02	110	50. 7	6	2.7 6	11	5. 07
11	Atlas	21 4	98 .6	3 1	1. 4	23	10. 59	45	20. 7	78	35. 94	68	31 .3
12	Dictionaries	20 2	93 .1	1 5	6. 9	48	22. 12	14	6.4 5	75	34. 56	65	30
13	Posters	20 5	94 .5	1 2	5. 5	68	31. 34	112	51, 61	16	7.3 7	9	4. 15
	<b>E-Resources</b>												
14	E-Databases	20 0	92 .2	1 7	7. 8	14	6.4 5	8	3.6 9	123	56. 68	55	25 .3
15	E-Books	20 7	95 .4	1 0	4. 6	23	10. 59	17	7.8 3	111	51. 15	56	25 .8
16	E-Journals	20 8	95 .9	4 9	4. 2	16	7.3 7	7	3.2 3	109	50. 23	76	35
17	E-Thesis/ Projects	20 6	94 .9	1 1	5. 1	13	5.9 9	18	8.2 9	121	55. 76	54	24 .9
18	E-Newspapers	20 9	96 .3	8 7	3. 7	14	6.4 5	16	7.3 7	107	49. 31	72	33 .2
19	Internet resources	20 6	94 .9	7 2	3. 2	12	5.5 3	19	8.7 6	109	50. 23	66	30 .4
20	CDROM	21 3	98 .2	4 1	1. 8	22	10. 14	12	5.5 3	109	50. 23	70	32 .3
21	OPAC	20 9	96 .3	8 7	3. 7	32	14. 75	18	8.2 9	100	46. 08	59	27 .2

Table 8 shows that respondents with a frequency score of 115(52.99%) accepted that they were highly Satisfied with the journals available in the library. A frequency score of 112(51.61%) respondents agreed that they were Satisfied with the available Technical reports in the library as a sources of information. A frequency score of 119(55.85%) respondents accepted that they were Highly Satisfied with available text books in their subject areas. It was also seen that a frequency score of 117(53.92%) respondents accepted that they were dissatisfied with the conference proceedings provided in the library, and respondents with frequency score of 102 (47.00%) respondents accepted that they were dissatisfied with the library bulletins, Respondents with

frequency score of 113(52.1%) accepted that they were dissatisfied with magazines in the library. Respondents with frequency score of 112(51.61%) accepted that they were dissatisfied with the posters in library, greater percentage of the respondents 117(53.92%) indicated that they were Highly satisfied with the theses/ dissertations, followed by 110(50.69%) who were dissatisfied with government publications in the electronic resources. 123(56.68%) indicated that they were satisfied with the E- databases whereas 121(55.76%) also reported that they were satisfied with E-Theses/projects. 32(14.75%) of the respondents were Highly dissatisfied with the OPAC as against 109 (50.23%) who were satisfied with E-Journals, Internet resources and CDROM respectively. implying that a combined majority of the respondents were satisfied with electronic resources of the libraries As user preference is shifting from print materials to electronic resources,

### **Summary of the findings**

The study examined the awareness of Information Resources, Services, Facilities by students Satisfaction in Federal University of Agriculture Abeokuta Ogun State, Nigeria.

The result of demographic variables shows that majority of the respondents 151(76.65%) were male. and 46 (23.35%) are females this indicated that male get more admission in the University. The Qualification distribution of the respondents showed that 119 (60.41%) of the respondents have SSCE/NECO Certificate follow by 44 (22.34%) NCE/ND then 24(12.18%) Degree this majority figure in favour of SSCE/NECO is an indication that the respondents were first degree students. Their highest educational qualifications had a direct relationship with provision of information resources and services utilization in the library

The study revealed that despite the availability of some of the information resources in the FUAA libraries it indicate that students are more aware of text books, journals, newspapers, magazines, E-journals, E-theses and dissertations and E-books This could be tied to the fact that majority of the resources were not relevant to the them or they are not aware of the new arrival resources

The study revealed that books, journals, News papers and theses/dissertation were the most utilized information resources by 123(56.68%), 119(54.8%), 112(51.61%), 124(57.14%) respectively, while the most utilized E-resources were E-Journals, E-News papers, and CDROM



by 85 (39.17%), 80 (36.87%) 81 (37.33%) The rating of items on Library Information Resources utilisation by Students of FUAA

The findings shows that the students were highly satisfied with the text books journals available in the library with 119 (55.85%) fellow by theses/dissertations, journals with 115(52.99%) and 117(53.92%) respectively

### **Conclusion**

The exponential growth of information resources in Agriculture University Library availability and awareness of the existences of the of information resources, services, facilities and utilization of the resources are the determining factors of student's satisfaction. However, the results of this study showed that the level of awareness of Library Information Resources, Services and facilities by the respondents was significant in FUAA, Nigeria. nevertheless , there is the need to improved the level of awareness through different approach such as user education, display of new arrivals and orientation programmes so as the utilization of information resources in agriculture university library will utilized in order to have high level of creativity and meet the challenge of man, food and hunger and to make for a sustainable development and economic growth in the country and achieve the anticipation and clear vision and mission of establishing the university that is learning, research and community services to move the country as an agricultural-industrialized economy, create wealth, jobs. The researcher was the viewed that improvement the awareness on the available information resources, services and facilities will no doubt guarantee the continuous patronage of the library by the students in the university. To achieve this, library as an ocean of information must also be properly funded to address major constraints facing the library

### **Recommendation**

The following are the recommendations made by the researcher on the basis of the data analysis:

The Nigerian University Commission (NUC) and Joint Admission and Matriculation Board (JAMB) should find means of reducing the mark of university entry for females at least 120 marks as against the 180 marks for both male and female so that the number of female will be increase and support them to be enrolled in the university

It is suggested that the University library should arrange various user awareness programme /orientation and training programmes, display of new materials arrived in the library to educate the students how to identify, access and utilized the available information resources to achieve their educational goals

The Agriculture Library should digital information resources available in the library and ensure that e-resources are that are free downloaded in the library for use by all students

Agriculture Library Consortium should be established or joined by the library; this may help in providing adequate information resources in different area of specialization and expand their digital resource to meet the user needs. Many full-text online databases AGORA, AGRIS AGRICOLA, PubMed, Biomed Central BEAST CD, VET CD, TEEAL, AGRICOLA some are quite expensive, but through consortium access can be provided to the students. This will help students have uninterrupted access to digital information

#### References

Donabedian, A., John, C., & Arshak, B. (2018). Use and Awareness of Library Services among Faculty at Two Armenian Universities. *Slavic and East European Information Science* , 1-12.

Madu, A. U., Ibrahim, V., & Saratu, C. M. (2018). Availability and Utilization of ICT for Information Retrieval By Undergraduate Students In Ramat Library, University of Maiduguri: A Case Study. *Journal Of Humanities And Social Science* , 1-8.

Onye, U. U. (2016). Availability, Accessibility and Utilization of Library Information Resources by Students of the Federal University of Technology, Owerri (FUTO) . *Information and Knowledge Management* , 1-8.

Oriogu, C. D., Anthony Onyebuchi Chukwuemeka, O. C., & Darlina, C. O.-O. (2018). Faculty Awareness, Perception and use of Information Resources and Services in a Private University in Nigeria. *Covenant Journal of Library & Information Science* , 32-44.

Salubi, O. G., Ezra, O. E., & Nekhwevh, F. (2018). Utilisation of Library Information Resources among Generation Z Students: Facts and Fiction. *MDPI* , 1-12.