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scholastica chukwu  
nnechika2005@gmail.com

Ifeoma Stella Njoku  
omanjoku@ymail.com

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# INFORMATION SEARCH TECHNOLOGIES AND ACADEMIC LIBRARY DATABASES IN A NIGERIAN UNIVERSITY OF TECHNOLOGY.

## **Abstract:**

*Databases are collection of electronic books, journals and other study materials available through the internet. While some can be accessed free of charge, others are subscribed to by universities before clients can access them online. Consequently, the library Federal University of Technology, Owerri has provided accesses to both online and offline databases. This article explored various databases of the library Postgraduate students were aware of and use. It also identified the challenges hindering its use and made some suggestions on the way forward. Descriptive survey research method was adopted to investigate a total population of 305 Postgraduate Students of Federal University of Technology, Owerri. Structured questionnaire was used to collect data for the research out of which 289 were duly filled and returned for analysis. Findings revealed low usage of the databases subscribed to by the library. The study also identified some challenges hindering effective usage of the databases in the library. It discovered that lack of awareness of the databases, low speed internet connectivity, insufficient computers with internet connectivity and lack of skills in searching the databases. Suggestions were also made on the way forward in combating these challenges.*

Keywords: Information search, Library databases, Academic library, Technologies, University. FUTO library

## **Introduction:**

Academic libraries exist in tertiary institutions to support, teaching, learning, and research. In recent years, the advent of the World Wide Web in academic libraries services have transformed the way information is accessed. Thus, academic libraries are faced with the proliferation of search technologies such as Google, Bing, Ask.com, Directory databases and MSN, etc. Search technologies are highly complex software systems that employ technology that has evolved over the years (Wikipedia). To Patel and Dave (2016), Search technology has altered the traditional role of libraries thus attention is more on electronic systems, online assistance, navigation help and conversion issues but not so in developing countries such as Nigeria. Vasu (2014) asserts that, with a whole range of general information search technologies, library users have the opportunity to use various search available to approach the world of information.

Academic libraries in Nigeria subscribe to and acquire many databases and print resources for the sole benefit of its users to accomplish research and other educational activities. Be that as it may, library users especially the postgraduate students still prefer the search engines to the databases and also print materials acquired by the academic library. These Search engines have brought unprecedented changes and transformation to information seeking and use. Lossau (2004) observes that while librarians are mostly worried about the type of information covered by established search indexes, postgraduate students prefer these new tools and makes use of them for any information search. Therefore, it is in this competitive situation that libraries need to see things much more from the perspective of the users.

## **Background to the study.**

The Library, Federal University of Technology, Owerri, at its inception on 3<sup>rd</sup> August 1981 at the temporary site at Lake Nwabere campus; opened its doors to readers on 9<sup>th</sup> November 1981 with approximately 2,500 volumes of books and related materials. The Library has grown in all the facets of its operation since the Library moved along with the University to its permanent site on 17<sup>th</sup> May 1993. Today the library collection is over 90,000 volumes of books, Journal (electronic and hardcopy), documents and maps.

As part of the Library development, the Library is automated with access provided through Alexandria automation library software; Online Public Access Catalogue (OPAC). Access is provided for both online and offline databases namely: The Essential Electronic Agricultural Library (TEEAL); Access to Global Online Research in Agriculture (AGORA); Health Internetwork Access to Research Initiative (HINARI), Online Access to Research in Environment (OARE), Science Direct, Ebrary, EBSCOhost, and ProQuest. Others contain the open access ones which are free and includes Doaj, Doab, Hindawi. The Institutional Repository of the University is housed in the Library using ENDNOTE and is presently being migrated to DSPACE. Through the Library, electronic access is provided to theses/dissertations, lectures, proceedings, journals and textbooks emanating from the University. The library research commons space is established for the postgraduate student's research.

## **Problem statement.**

It is an undeniable fact that accessing library subscribed databases offer an opportunity for students to obtain relevant and accurate information promptly. The Federal University of Technology Owerri Library subscribes to many databases to provide access to scholarly information to their users. However, despite these acquired databases by the library to assist in research and academic work, statistics show that usage of these databases are low. Hence the need to determine the effect of search engines on library subscribed databases in Federal University of Technology Owerri library

## **Objectives**

The broad objective of this study is to access the impact of search technologies on academic library databases in Federal University of Technology Owerri, and the specific goals include

1. To identify the type of search technologies used by postgraduate students of FUTO
2. To determine the type of library subscribed databases postgraduate students of FUTO are aware of and use
3. To identify the challenges, postgraduate students encounter in the use of library subscribed databases.

4. To proffer Suggestions on the way forward.

## **Literature review**

Within the last decade, information and communication technology has permeated the entire society and institutions including academic libraries. The quantity of information on the internet is increasing, and users are likely to search the web using its link graph, often starting with high-quality human maintained listings such as Yahoo! or with search engines (Brin and Page, 1998). Search engines operate as a link between web users and web documents (Brewinton and Cybenko, 2000; Lewandowski, 2005). According to McBryan (1994), search engine technology has had to scale dramatically to keep up with the growth of the web. Heydon and Najork (1999) defines it as a searchable database which collects information from the internet pages on the web, indexes the data and stores the result in a massive database from where it can be searched quickly. It is an information retrieval software program that discovers, crawls, transforms and stores information for retrieval and presentation in response to user queries. It makes use of keywords to surf for instruments that pattern to these keywords and then puts the findings in order of relevance to the topic that was explored. Search engines usually consist of four components, e.g., search interface, crawler(also known as a spider or bot), indexer, and database. The primary aim of a search engine is to extract requested information from the vast database of resources available on the internet. It has become a daily tool for finding the required information without knowing where correctly it is stored.

Ahiazu (2009) defines databases as a collection of electronic books, journals and other study materials available through the internet. While some can be accessed free of charge, others are subscribed to by universities before clients can access them online. Hundie (2002) says that most of this information in the databases are accessible free of charge while some are fee-based. This implies that libraries need to pay subscription fees to access these resources; while there are significant numbers of databases that can be searched for at no cost such as the Directory of Open Access Journal (DOAJ) and many others. Some universities in developed nations, foundations, and international organizations such as The World Health Organization (WHO) provide free access to EIR databases to higher institutions and research centers in developing countries to support teaching, learning and research work. These databases include HINARI, AGORA, and OARE (Research4life, 2012). In a study conducted by Patra (2006) on introducing e-journal services among researcher in Kolkata in India. It was discovered that the library subscribe to e-journals databases such as Elsevier Science, Springer, American Institute of Physics, Blackwell, American Chemical Society, John Wiley, Cambridge University Press, Oxford University Press, Royal Society of Chemistry and Engineering databases

Various reasons could be assigned to users' unwillingness to patronize electronic databases, though some users would continue to use them despite the challenges they may experience. The prevalence of these challenges have been reported by researchers in several studies; Hamza et al. Chirra & Madhusudhan (2009); Gupta (2011) and Ahmed (2013) said that lack of training, slow download speed, and slow internet connectivity were the problems inhibiting users use of the electronic databases. A

survey conducted by Naushad (2005) also found that faculty experienced difficulties like slow downloading of articles and lack of knowledge of the online databases. Touching on the same issue, Kwadzo (2015) identified online access problems and difficulty in searching as some of the challenges they encounter on the use of the databases. On the same issue Ahmed (2013) also noted that online databases are widely used by faculty members. However, they were not satisfied with the resources due to challenges such as slow downloading speed, limited access to back issues and inability to access the resources from their home. The fact is that electronic databases have become a valuable resource of information to teaching and research, and faculty cannot ignore it.

## Methodology

The study adopted a descriptive survey using the questionnaire to collect data from 305 respondents chosen from the entire population of 1300 postgraduate students using Yarro Yamane statistical formula. The questionnaire was designed using a four point likert scale and out of the 305 questionnaires, 289 copies representing 94.7% were returned and found usable. The choice of the respondents is significant to this study because they are research students.

## Result

Data was analyzed using descriptive statistics. Mean and Percentage were employed to present data. The following was used in calculating the mean from the responses based on likert scale: Strongly Agree = 4; Agree = 3; Disagree = 2; Strongly Disagree = 1 for research objectives 3 and 4. To obtain the mean value,  $4+3+2+1 = 10$ . Where mean value is  $10/4 = 2.5$ . for objectives 3 and 4 statement with mean of 2.5 and above were Accepted whereas below 2.5 were Rejected.

### Search engine technologies Post graduate Students were aware and use

The study sought to know the type of search engine technologies Postgraduate Students are aware of and use.

S/N	Search Engine Technology	Response	Percentage
a	Google	289	100%
b	Google scholar	187	64.70%
c	Ask.com	96	33.21%
d	Yahoo	57	19.72
e	Bing	35	12.11
f	Sciencedirect	50	17.30
g	Agora	-	-
h	Hinari	5	1.73
i	Doaj	-	-
j	Ebrary	7	2.42
k	EbscoHost	8	2.76
l	Jstor	10	3.46

**N=289**

From the table above all the respondents indicates they are aware and use Google (100%), 187 indicated that the use Google Scholar (64.70%), Ask.com 96 (33.21%), Yahoo 57 (19.72), Bing 35

(12.11%), Sciencedirect 50 (17.30), Hinari 5 (1.73), Ebrary 7 (2.42), EbscoHost 8 (2.76) and Jstor 10 (3.46).

### Library Subscribed databases

The study also sought to identify the library subscribed databases Postgraduate Students were aware of and use.

S/N	Library Databases	Response	Percentage
a	Sciencedirect	50	17.30
b	Agora	5	1.73
c	Hinari	7	2.42
d	Doaj	11	3.80
e	Ebrary	15	5.19
f	EbscoHost	8	2.76%
g	Jstor	10	3.46%

**N = 289**

Out of the 289 Postgraduate Students sampled, 50 (17.30%) indicated that they are aware and use library databases, 5 (1.73%) said yes to Agora, Hinari 7 (2.42%), Doaj 11 (3.80%), Ebrary 15 (5.19%), EbscoHost 8 (2.76%), Jstor 10 (3.46%).

### Challenges in the use of library subscribed databases

The following were identified as challenges hindering the use of library subscribed databases in FUTO.

S/N	Challenges to library subscribed databases	SA	A	D	SD	Total	Mean	Decision
a	Library database make use of username and password	124	160	5	-	289	3.41	Significant
b	It cannot be accessed outside the university environment	145	144	-	-	289	3.50	Significant
c	Some of the journals and books has restrictions to them	146	143	-	-	289	3.50	Significant
d	Some of the database require me to register before accessing the resources	39	60	78	112	289	2.08	Not Significant
e	I lack the skills to search using library subscribed databases	132	157	-	-	289	3.45	Significant
f	There is no constant power supply in the library	25	50	84	130	289	1.89	Not Significant
g	There is lack of awareness of the library subscribed database	112	170	7	-	289	3.36	Significant
h	The computers with internet facilities are not sufficient.	115	129	35	10	289	3.20	Significant
i	There is Low speed internet connectivity	105	159	10	15	289	3.22	Significant

Analysis of data showed that the mean response on the challenges hindering the use of library subscribed databases FUTO library was high in the following areas: Library database make use of username and password (3.41), It cannot be accessed outside the university environment (3.50), Some of the journals and books has restrictions to them (3.50), I lack the skills to search using library subscribed databases (3.45), There is lack of awareness of the library subscribed database (3.36), The computers with internet facilities are not sufficient (3.20) and There is Low speed internet connectivity (3.22). However, the mean response on challenges hindering the use of library subscribed databases were low on some of the database require me to register before accessing the resources (2.08) and there is no constant power supply in the library (1.89).

### Suggestions on the way forward

The following suggestion were identified to to help in combacting these challenges hindering the use of library subscribed databases in FUTO library.

S/N	Suggestions on the way forward	SA	A	D	SD	Total	Mean	Decision
a	Library database username and password should be made accessible at all times	114	175	-	-	289	3.39	Significant
b	Library databases should be accessible outside the University environment	150	139	-	-	289	3.51	Significant
c	Access should be provided to some of the books and Journals that has restriction to them	140	149	-	-	289	3.48	Significant
d	Library staff should be available to help those that lack the skills to search the subscribed databases of the library	152	137	-	-	289	3.52	Significant
e	There should be constant power supply in the library	111	178	-	-	289	3.38	Significant
f	There should be a proper awareness of the subscribed databases in the library	115	174	-	-	289	3.39	Significant
g	Enough computers with internet connectivity should be provided	119	170	-	-	289	3.41	Significant
h	The speed of the internet connectivity should be increased	114	175	-	-	289	3.39	Significant
i	Assistance should be giving on how to register to some of the databases that require me to register.	86	187	7	9	289	3.21	Significant

Analysis of data revealed that the mean response on suggestion on the way forward in combacting these challenges hindering the use of library subscribed databases were high in the following areas: Library database username and password should be made accessible at all times (3.39), Library databases should be accessible outside the University environment (3.51), Access should be provided to some of the books and Journals that has restriction to them (3.48), Library staff should be available to help those that lack the skills to search the subscribed databases of the library (3.52), There should be constant power supply in the library (3.38), There

should be a proper awareness of the subscribed databases in the library (3.39), Enough computers with internet connectivity should be provided (3.41), The speed of the internet connectivity should be increased (3.39), and Assistance should be given on how to register to some of the databases that require me to register (3.21).

### **Discussion.**

The findings of the study revealed the library subscribed databases Postgraduate Students were aware and use. These findings prove that majority of the Students do not use the databases subscribed to by the library for the use. As a result there is low patronage of these databases. These low patronage may be as a result of the challenges that hinder its usage such as lack of awareness of the databases, the databases can not be accessed outside the University community, there are restrictions on some of the books and journals, lack of skills to search library databases and its use of username and password.

The study also discovered various challenges faced by Postgraduate Students in the use of library subscribed databases. The library databases cannot be accessed outside the university environment and some of the journals and books has restrictions to them was identified as one major challenge the face in using library subscribed databases. This may be due to the fact that they Postgraduate Students are leaving outside the University environment and these databases cannot be accessed outside the University community. Also lack of skills on how to search the library databases, lack of awareness of the library subscribed databases, low-speed internet connectivity has also contributed to the low patronage experienced by the library in the usage of its subscribed databases. If the students are not aware of the databases subscribed to by the library and also do not have the skills in searching the databases they therefore cannot make use of them. Internet connectivity is the fulcrum of online resources, therefore if there is low internet connectivity; it will be difficult to access the databases.

Finally the study also made various suggestions on the way forward in combating these challenges such as: Library databases should be accessible outside the University environment, Library staff should be available to help those that lack the skills to search the subscribed databases of the library, proper awareness of the subscribed databases in the library, speed of the internet connectivity should be increased. Therefore it behooves on the Management of the library to find a way to implement these suggestions as it will bring about improved patronage of the databases subscribed to by the library.

### **Conclusion.**

Databases are collection of electronic books, journals and other study materials available through the internet. While some can be accessed free of charge, others are subscribed to by universities before clients can access them online. The library, Federal University of Technology, Owerri has provided accesses to both online and offline databases. While these databases were provided, there is low record of usage due to some challenges. Therefore for these databases to be utilized maximally, there should be proper awareness of these databases by the Postgraduate Students and other clients of the library. Also users should be taught the skills of searching the databases, while the bandwidth of the library internet should be increased for efficient and effective utilization of the databases subscribed to by the library.



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