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Use of Search Engines by Students of Auchi Polytechnic, Auchi, Edo State Nigeria

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This study investigated the use of search engines by Students of Auchi Polytechnic, Auchi, Edo state Nigeria. Four (4) specific objectives and four (4) research questions were raised to guide the study. The study employed a descriptive survey method. Questionnaire was the instrument used for data collection. The total population for the study is seven thousand two and seven eight (7278) students that have registered with the polytechnic library during the period of the study. The researcher determined the proportion that constituted the sample using Yaro Yemani's formula for sample size determination. A sample size of three hundred and seventy- nine (379) were therefore selected and used in the study. A proportionate stratified random sampling technique was adopted to ensure that the entire element (stratum) that constituted the population is represented in the study. The study revealed that majority of the students used Google and yahoo search on daily basis. The study also revealed that most students acquired\ their knowledge of search engine use through self-Study, frequent use of internet, trial and error, online training and friends/colleagues. The study recommended that the polytechnic management should ensure that the e-library section of the library is functional with adequate computers and internet connectivity to enable the students access the internet and familiarize themselves with search engines.

Keywords: Use, Search Engines, Students, Auchi, polytechnic, Edo state, Nigeria

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INTRODUCTION

Technology has penetrated all areas of life. Electronic information sources are becoming more and more essential for the academic community in the 21st century (Kumar & Kumar, 2008). Grillon (1994) posits that the internet has changed the format of information storage and retrieval. Individual cannot read billions of information content available on the web, and such requires help from search engines to enable him or her narrow down to specific areas worth looking at. Microsoft Encarta Dictionary (2008) opines that search engine are computer programmes that searches for specific words and returns a list of documents in which they were found, especially a commercial Internet service. According to Williams and Sawyer (2007), search engine is a search tool that allows one to find specific documents through keyword searches and menu choices, in contrast to directories, which are lists of websites classified by topic. Kimmon (2012) defines search engine as a website that connects and organize contents from all over the internet. He explained further that those wishing to locate

something would enter a query about what they like to find and the engine provides links to content that matches what they want. Britannica Concise Encyclopedia (2012) defines a search engine as a tool for finding information, especially on the internet or World Wide Web.

Furthermore, it states that search engines are essentially massive databases that cover wide swaths of the internet. Britannica Concise Encyclopedia explained further that search engines mostly consist of the parts at least one program called a spider, or crawler or robot, which craws through the internet gathering information; a database, which stores the gathered information and a search tool, with which users search through the database by typing a keyword describing the information desired. The search engine then generates a list of sites that match the search criteria, ranking in order of relevance. Communicating with search engines is a critical and vital part of the search process. In the past decade, search engines have become indispensable tools in the construction of scholarly knowledge (Van Dijck, 2010). Digitized search has evidently changed the way we learn and read, and it might well be argued that the production of scholarly knowledge has never been easier because we now have more access to more sources than ever before (Carr, 2008). Aina (2004) viewed keyword as a combination of few words or phrases that represent what the information seeker is looking for; giving enough information about each document that will enable a user to retrieve the desired document when needed. One of the main components of search engines is a robot which is called Web Crawler (Spider). A web crawler is a kind of computer programmme that browses the Web in a methodical and automated way.

The term search engine is fast and effective means of getting to the information that one needed in the web. In the era of information overload and explosion, search engines are very vital otherwise a researcher will be very confused when searching for information in the web. The internet offers an important opportunity to source for materials for research, it has to some extent enlarge search scheme for students, technology has made the system of searching information easier than ever before, but it has since increased critical thought in the development of search engines and search strategies so as to enhance validity of search outcome (Ngwuchukwu, 2012). Ware (2001) discovered that the availability of information in the web are enormous and that anyone can author anything on the internet, so now there is need to be more aware of some search engines that has information in an organized version, some engines have well organized information so there is need to know all these search engines for effective search. According to the scholar, search engines are the tools used to unlock information from the internet, it is a fast and effective means of getting to the information that one needed in the web, just like the content page of a book, the catalogue a book index a journal index and a teacher library provides guide to literature search, a search engine does. But they provide services in different ways. a survey of share of visit to search engine site conducted by Hitwise in April 2004, Google was the mostly visited web search engines among US web surfers with a share of 15.3%. Other study of student web information seeking has also reported that Google is the first engine of choice and the first port of when locating information on the web (Griffiths &Brothy 2002). Also, Serjeant, (2004) in his research said that the most popular search engine used was Google, a search engine which has become “not just the world’s most popular internet search engine but a verb, a house hold world and a cultural phenomenon

On the awareness of search engines by undergraduates, Shearer (2012) avers that students’ use of various search engines is low due to the fact that undergraduate students lack existence of the various search engines. The scholars stresses further that students are not familiar with the concept of various search engines. Some students claimed that they got the various search engines awareness from friends, internet debate and workshop (Gabriel, 2011). The most pressing purpose of using the internet by students is for research; this indicates the need for these students to know how the different search engines existing in their various fields of study. Bradley (2002) reveals that there are over 20,000 search engines that one can use to get available information yet in the university only two search engines are popular, this implies that research work will be delayed. Recent studies indicate that widely used search engines, such as Google, could play a more important role in the information seeking process. Brophyand Bawden (2005) compared internet search engine (Google) with academic library resources in order to assess the relevant value, strengths and weaknesses of the systems and they found that good coverage requires the use of both systems as both have unique features. The authors concluded that both systems had advantages and disadvantages but Google managed to retrieve a high proportion of relevant documents, adequate or good quality results and unique documents and there were no problems with accessibility. Students use the search engines for research and made evaluation on the quality and type of research materials being used. Burton and Chadwick (2000) opines that internet search habits of students depend solely on e- resources in writing research papers and majority of the students used combination of library and online resources. Most students are fast users, but unsophisticated, inefficient researchers. Google as a search engine has changed the way in which we read and retrieve information (Henry, 2006)..

Ngwuchukwu (2012) posits that ICT literacy skills is very important for use of internet and should be got through seminars, lectures and conferences or even self-help. However, recent studies indicate that widely used

search engines, such as Google, could play a more important role in the information seeking process. A study on the uses of search engines by students of private universities in Ogun State, was conducted by Salaam and Adegbore (2010) and discovered that 51 (45.95%) of the total population of 111 use search engine very frequently. In a related development, Madhusudhan (2007) conducted a survey on Internet use by research scholars at Delhi University, which reveals that most respondents used search engines more than subject gateways or Web directories to locate information. The use of search engines has been found to predominate over all other types of Electronic Information Seeking strategies. Although there is a greater emphasis on Web search engines as important tools for information retrieval, quantitative analyses of large sets of data collected from real online searches reveal that search engines are not used to their full potential, and online searching behaviour of users has retained for the past years a rather homogeneous character with Web users following surface strategies, appearing reluctant to build complex searches, investing little effort in structuring a search and viewing only a small number of results (Martzoukou, 2007).

Commercial search engines, such as Google, have often been dismissed as information retrieval tools that give access to "infobesity" (Bell, 2004). Most undergraduate students have very confused understanding of various search engines and its concept. Haubitz (2012) opines that search engines bring about too much information which is one of the problems of search engines. Lack of awareness of the various search engines among undergraduate students in higher institution will bring to the non-usage (Taiwo, 2009). Ngwuchukwu (2012) noted in a study of ICT use for knowledge societies that some staff who is also postgraduate students lacks basic ICT skills which will help in achieving good results in the university. But chief among these is poor knowledge and where to seek for information about search engines. Abdullahi and Haruna (2008) found that lack of basic knowledge of ICT is the second major constraint after the problem of erratic power supply to the use of ICT in the university libraries in Adamawa State, Nigeria. However, the authors stresses that the percentage is low as compared to other constraints such as erratic power supply, networking, and availability of equipment, among others.

Several studies have been carried out on students' use of search engines by different scholars among which are: Gender implication in awareness and use of search engines by private university lecturers in south-south, Nigeria (Anyira, 2013),Use of Search Engines by Postgraduate Students of the University Of Nigeria, Nsukka, Enugu State, South East Nigeria (Nwanchukwu, 2012),From Encyclopedia to Search Engines: Search engines and the production of academic knowledge (van Dijck, 2010**).** However, many researchers have written about search engines but none has been written on use of search engines byStudents of Auchi Polytechnic, Auchi Edo state.

Statement of the Problem

Electronic information sources are becoming more and more essential for the academic community in the 21st century. Libraries have transformed into digital and virtual libraries where books, journals, and magazines have changed into e-books, e-journals, and e-magazines. Polytechnics in developing countries are fast adapting to the Internet as a source of information for learning, teaching and research. The tools for accessing information on the internet are different from those used to access library materials. Catalogues, bibliographies, indexes, abstracts, shelf lists, accession registers are used to access materials in the library, while search engines are used to search the internet.

The knowledge of how to issue search query is a major factor to getting the needed information from the internet. Search engines have become dominant instruments in the production of knowledge and they are commonly being regarded as neutral tools for information gathering. The significant of search engines in searching for information on the internet or online just like catalogue to printed materials in the library cannot be downplay. It is against this background that this study attempts to investigate the use of search engines by Students of Auchi Polytechnic, Auchi, Edo state Nigeria.

Objectives of the Study

The study sets out to:

i. examine the frequency of use of search engines by students of Auchi Polytechnic
ii. ascertain the various sources where students of Auchi Polytechnic acquire knowledge about search engines ?
iii. determine the purpose of using search engines by students of Auchi Polytechnic
iv. ascertain the problems militating against the use of search engines by students of Auchi Polytechnic.

Research Questions

The following research questions are raised for this study

i. What is the frequency of use of search engines by students of Auchi Polytechnic?
ii. How do students of Auchi Polytechnic acquire knowledge about search engines?
iii. What is the purpose of using search engines by students of Auchi Polytechnic?
iv. What are the problems militating against the use of search engines by students of Auchi Polytechnic?

Research method

The study employed descriptive research design. The descriptive design focuses on the demography of the respondents of the sampled population. It enables the researchers to gather data from members of the selected population with the aid of the questionnaire in order to determine the current status (Foddy, 2004 cited in Oni, Abu &Ekeniyere, 2018).The population of this study consists of all regular students of Auchi polytechnic, Auchi irrespective of their departments. The library was used as target point and only the students that visit the library during the period of the study were used for the study. The population for the study is seven thousand two hundred and seventy eight (7278) students that have registered with the polytechnic library during the period of the study for 2019/2020 academic session. The researchers determined the proportion that constituted the sample size of the respondents' using YaroYemani's formula for sample size determination. The formula is provided as follows:

$$n = \frac{N}{1 + N(e)}$$

Where n = Sample size
N = Population size
e = Sampling error or level precision.
The total number of the registered students is 4278.

$$n = \frac{7278}{1 + 7278 (0.5)^2}$$

$$\frac{7278}{1 + 7278 (0.0025)}$$

$$\frac{7278}{1 + 18.195} = \frac{7278}{19.195.}$$

n = 379

A sample size of three hundred and seventy- nine (379) were therefore selected and used in the study. A proportionate stratified random sampling technique was adopted to ensure that the entire element (stratum) that constituted the population is represented in the study. That is, respondents irrespective of their departments, level, sex etc. will be represented in this study. Proportionate stratified random sampling ensure greater representativeness of the sample relative to the population and guarantees that minority constituent of the population are represented in the sample. The research instrument used in this study is the questionnaire. The questionnaire is made up of two parts. The first part consists of biographical data such as the department of the students, level, sex etc. The second part contains structured statements aimed at eliciting data on the use of search engines by Students of Auchi Polytechnic, Auchi, Edo state Nigeria. The data obtained from the copies of questionnaire retrieved from the respondents will be analyzed using simple statistics of frequency counts and percentage. The formula for the analysis is presented as follows:

$$\frac{\text{No of Responses}}{\text{Total No of Respondents}} * \frac{100}{1}$$

RESULTS AND DISCUSSION

Table 1. Analysis of returned and unreturned Questionnaires

Returned/Unreturned Questionnaire	Response	Percentage %
Returned Questionnaire	300	79.2%
Unreturned Questionnaire	79	20.8%
Total	**379**	**100**

Source: Fieldwork, 2021

Table1 shows the returned rate of the questionnaire. Out of the 379-questionnaire distributed, 300 were filled and returned completed and were considered good for analysis. This represented 79.2% return rate.

Table 2. Level of Study of the Respondents

Study Level	Number of respondents	Percentage %
ND1	96	32.0
ND2	94	31.3
HND1	48	16.0
HND2	62	20.7
Total	300	100

Source: Fieldwork, 2015

Table 2 shows the current level of the respondents. The result shows that 32.0% of respondents are ND1 level students, 31.3% are ND2 level students and 20.7% respondents are HND2 level students while 16.0% are HND1 level students. This clearly shows that ND1 and ND2 level students have the highest number of respondents in the study

Table 3. Gender Distribution of Respondents

Sex	**Number of respondents**	**Percentage (%)**
Males	141	47.0
Females	159	53. 0
Total	**300**	**100**

Source: Fieldwork, 2021

Table 3 shows the gender distribution of the respondents. The results show that 47.0% of respondents were males, while 53.0% were females. This implies that there were more females among the respondents.

Table 4. Age Distribution of Respondents

Age	**Number of respondents**	**Percentage %**
15 - 20	113	37.7
21 – 25	136	45.3
26 – 30	39	13.0
30 and above	12	4.0
Total	**300**	**100**

Source: Fieldwork, 2021

The result on table 4 shows the age of respondents. From the table 136(45.3%) respondents are between 21–25years, 113(37.7%) are between 15-20years, and 39 (13.0%) are 26 – 30years, while 12 (4.0%) are between 30years and above. From this it can be concluded that majority of the respondents are within the ages of 15-25. This represents a factual state of age distribution of undergraduate in Nigeria polytechnics.

Table 5. Frequency of use

Types of Search engines	**Frequency of use**									
	Daily		**Weekly**		**Fourth Night**		**Monthly**		**Never use**	
	No	**%**	**No**	**%**	**No**	**%**	**No**	**%**	**No**	**%**
Google	220	73.3	46	15.3	21	7.0	13	4.3	0	0
Yahoo	169	56.3	78	26.0	15	5.0	22	7.3	16	5.3
Alta vista	52	17.3	60	20.0	27	9.0	43	14.3	118	39.3
Lycos	39	13	57	19.0	48	16.0	37	12.3	128	42.7
Net-find	18	6.0	34	11.3	30	10.0	27	9.0	191	63.7
Search.com	17	5.7	68	22.7	29	9.7	14	4.7	172	57.3
Vlib.org	49	16.3	32	10.7	38	12.7	45	15.0	136	43.3
Electronic library	70	23.3	10	3.3	57	19.0	29	9.7	134	44.7
Ask jeeves	10	3.3	53	17.7	71	23.7	41	13.7	125	41.7

Source: fieldwork 2021

Table 5 shows that majority of the respondents used Google 220(73.3%) and Yahoo169 (56.3%) on a daily basis. It is also evident from the table that 91 (63.7%) of the respondents have never used net -find while about 172(57.3%) never actually used search.com.

Table 6. Search Engines knowledge acquisition by students of Auchi polytechnic

Knowledge/skills of search engines usage								
	Strongly Agree		**Agree**		**Disagree**		**Strongly Disagree**	
	No	**%**	**No**	**%**	**No**	**%**	**N o**	**%**
Trial and Error	180	60.0	62	20.7	45	15.0	13	4.3
Self-Study	198	66.0	49	16.3	36	12.0	17	5.7
Online training	52	17.3	184	61.3	58	19.3	6	2.0
Frequent use of internet	191	63.7	72	24.0	37	12.3	--	--
Through information From books	77	25.6	99	33.0	52	17.3	31	10.3
From friends/colleagues	40	13.3	177	59.0	42	14.0	41	13.7
School/lecturers	55	18.3	97	32.3	101	33.7	47	15.7

Source: fieldwork 2021

From table 6 most of the respondents strongly agreed and agreed that they acquired their knowledge of search engine use through self-study 198 (66.0%), frequent use of internet 191(63.7%), trial and error 180 (60.0%), online training 184(61.7%) and friends/colleagues 117(59.0%). However, the findings clearly show that school/lecturers contributed nothing to the respondent's knowledge on how to use the search engines

Table 7. Purpose of Using Search Engines by Students of Auchi

Purpose	**Uses of search engines for educational purpose**							
	Strongly Agree		**Agree**		**Disagree**		**Strongly Disagree**	
	No	**%**	**No**	**%**	**No**	**%**	**No**	**%**
Current/up-to-date information	175	58.3	71	23.7	30	10	24	8.0
Research	188	62.7	89	29.7	13	4.3	10	3.3
Study /Assignment	210	70.0	78	26.0	10	3.3	2	0.7
Reading (e-books /serials/Wikipedia/online dictionaries)	159	53.0	77	25.7	29	9.7	35	11.7
Online course/ Education	78	26.0	148	49.3	54	18.0	20	6.6
Browsing	161	53.7	40	13.3	37	12.3	21	7.0
Sending and receiving e-mail	50	16.7	137	45.7	147	49.0	41	13.7

Source: fieldwork 2021

The result on table 7 shows that the respondents majorly used the search engines for the purpose of study/assignment with 210(70.0%), research with 188(62.7%), current/up-to-date information 175(58.3%), browsing 161(53.7%) and reading (eBooks/serials/Wikipedia/online dictionaries) with 159(53.0%).

Table 8. Problems militating against the use of search engines

Problems	Responses					
	Agree		Disagree		Undecided	
	No	%	No	%	No	%
Inadequacy of computers in my school	220	73.3	59	19.7	21	7.0
High cost airtime/data	235	78.3	61	20.3	4	1.3
Power failure	248	82.7	23	7.7	29	9.7
Poor skills/knowledge of search engines	193	64.3	93	31.0	14	4.7
Lack /poor of internet connectivity in the polytechnic library	239	79.7	41	13.7	20	6.7
Techno-phobia	115	38.3	86	28.7	99	33.0

Source: fieldwork 2021

From table 8, it is clear that the major problems militating against the students of Auchi Polytechnic use of search engines are: power failure with 248(82.7%), high cost of airtime/data with 235 (78.3%), lack/poor internet connectivity in the polytechnic library with 239(79.7%) and poor skills/knowledge of search engines with 175(58.3%).

Discussion of Findings

The study found that majority of the students used Google and yahoo search on daily basis. This finding is in line with a survey of share of visit to search engine site conducted by Hitwise in April 2004, Google was the mostly visited web search engines among US web surfers with a share of 15.3%. Other study of students web information seeking has also reported that Google is the first engine of choice and the first port of when locating information on the web (Griffiths &Brothy 2002). Also, Serjeant, (2004) in his research said that the most popular search engine used was Google, a search engine which has become “not just the world’s most popular internet search engine but a verb, a house hold world and a cultural phenomenon. The study also revealed that most students acquire their knowledge of search engine use through self-study, frequent use of internet, trial and error, online training and friends/colleagues. The finding corroborates the work of Salaam and Adegbore (2010) that revealed more than half of the respondents from their study were taught by friends, less than half learnt to use it by trial and error while a few were taught at a computer school.

The study equally found that the respondents majorly use search engine for study/assignment, research, current/up-to-date information, browsing and reading (eBooks/serials/Wikipedia/online dictionaries). This finding was supported by Ngwachukwu (2012) shows the respondents different purpose for using the internet search engine. In the table 98% of the postgraduate students which represents the highest number (55) of postgraduate students indicated that they use the search engine to source information for research. This was followed by 62% who used it for checking or reading, 61% of the postgraduates used it for reading news.Finally, it was found that the major problems facing the use of search engines by students of Auchi polytechnic are power failure, high cost of airtime/data, lack/poor internet connectivity in the polytechnic library and poor skills/knowledge of search engines. This finding as supported by Ware (2001), posited that students have problems using search engines because of lack of knowledge and skills in using them. This is also in conformity with Luambano and Nawa (2004) who investigated the internet use by students of the University of Dares Salaam. Their findings revealed that the majority of the students were not using the internet due to the inadequacy of computers with internet access, Lack of skills in internet use and slow speed of computers.

CONCLUSION

Search engines are the windows to the vast amount of information available on the internet. Ability to use search engines is therefore crucial to successful access to the useful information available on the internet. Auchi polytechnic students use Google and yahoo search on daily basis for study, assignment, research, current up-to-date information, browsing and reading eBooks/serials/Wikipedia and online dictionaries. The students acquired their search engines knowledge through self-Study, frequent use of internet, trial and error, online training and friends/colleagues. However, some factors such as power failure, high cost of airtime/data, and lack/poor internet connectivity in the polytechnic library and poor skills/knowledge of search engines are militating against students’ use of search engines.

RECOMMENDATIONS

Based on the finding of this study the following recommendations have been mmade:

1. A course on search engine and the internet should be introduced and taught with practical. This course should be taught especially at ND1 level
2. students should be enlightened on the benefits of search engines and internet to their life related issues and not just schools centered issues
3. The polytechnic management should ensure that the e-library section of the library is functional with adequate computers and internet connectivity to enable the students access the internet and familiarize themselves with search engines.
4. Internet services should be provided at the polytechnic at a subsidized rate to enable the students access the internet more frequently.
5. The internet facilities available in the polytechnic should be upgraded to enable fast and easy access to the internet.

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