INFORMATION SEEKING BEHAVIOUR AS DETERMINANTS OF UNDERGRADUATES' USE OF INTERNET SEARCH ENGINES IN TWO UNIVERSITIES IN OYO STATE, NIGERIA

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ABSTRACT

This study investigated information seeking behaviours as determinants of undergraduates' use of Internet search engines in two universities in Oyo State, Nigeria. The finding shows that majority of the undergraduate students preferred to use Google and Yahoo! to surf information resources on the Web when faced with academic task and are overwhelmed with the amount of information retrieved by these search engines, due to its ease of use, speed of access, quality and quantity of information. The study also shows that there is significant relationship between Internet search engines and information seeking behaviour. Therefore, university libraries should sensitize students by creating awareness of numerous ,functional Internet search engines and their search mechanism and also make provision for effective access to and use of the Internet.

Keywords: Information seeking behaviour, Internet, Search engines, Use, Oyo State, Nigeria

INTRODUCTION

The rapid development of the Internet and the expanded use of the Web by academic institutions increased the demand for search engines. In 1991, Tim Berners- Lee developed a network of files connected by hypertext links for linking documents, hypertext transfer protocol (HTTP) along with server and client software to manage communications between computer and hypertext markup language (HTML), a language for creating and linking documents (Danrita, Babu, Marichamy(2009);Baldauf and Stair, (2011). This network today is referred to as World Wide Web which is an Internet service that provides convenient access to information. The World Wide Web and the Internet have created a new mode of universal access whereby information seekers, by mere click on the mouse on the computer or the button in other electronic device can have access to a whole world

of information (Nwalo, 2012).The most popular form of Information and Communication Technology (ICT) is the Internet which is often referred to as electronic superhighway. This has helped to reduce the world in a sense to a "global village".The Internet is a global network of many different computers that are linked together for communication purposes. Thus, searching, sharing, accessing and using the Internet are more effectively done by performing keyword searches on tools specifically designed for the purpose- "the Search engines"- which provides a list of relevant results to the search terms.

In order to relieve the strain of information overload, web developers have provided powerful tools to assist in searching, processing, and organizing and, or cataloguing Web content. Baldauf and Stair (2011) define search engine as a valuable tool that enable searchers to find information on the Internet by specifying words that are key to a topic of interest, that is, keywords. Aina (2004) asserts that search engine enables a user to find the contents of millions of webpage's simultaneously once the appropriate search term or keywords are used. The search engines have different strengths for area of interest on the Internet.

Therefore, the ability of undergraduate students to search and retrieve information resources effectively becomes an essential skill useful for their life-long learning activity as well as enabling the positive and successful use of information resources available in all sources. Also, the use of the Internet search engines enable undergraduates' to retrieve seemingly endless volumes of information resources from all over the globe within a short time. Currently, information is usually presented in electronic form and under these circumstances; the Web is a major platform supporting this format. Therein, it is necessary to understand why the undergraduates' need information, how they seek information and the means to the availability of information resources.

However, academic libraries and information professionals need to find out strategies and courses of action undertaken by undergraduate students in order to improve their information seeking, information search and user behaviour which forms an important part of students' life.

LITERATURE REVIEW

According to Wilson (2000) information seeking behaviour is the totality of human behaviour in relation to sources and channels of information including active and

passive information seeking and information use. Therefore, information seeking behaviour of undergraduate students is the manner which they exhibit when seeking, searching and accessing information resources in different sources that will satisfy their quest for their academic work which is germane to their academic performance. In the quest for information, different kinds of behaviour are manifested as students' have different reasons for seeking information, different levels of search skill and preference for some types of information bearing materials.

According to Kakai, Ikoja – Odongo and Kigongo-Bukenya (2004) information seeking behaviour is the way people go about searching for information. They also observed that students information seeking involves purposeful information seeking as a result of the need to complete course assignment, prepare for class discussions, seminars, workshops, and write final year research papers. It is against this background that Uhegbu(2007) said that information seeking behaviour is the way an information user conduct himself or acts when looking for, receiving or acquiring information. Therefore, it is also the attitude or means of searching, gathering and utilizing information for personal use, advancement and knowledge development.

Consequently, for a person to experience an information need, there must be a motive behind it (Ajioye and Tella, 2007). Thus, information seeking behaviour of students varies according to disciplines, exposure and, search patterns. Importantly, there are factors that influence information seeking behaviour such as the source, authenticity of the source, information literacy, content and time. Other important factor affecting information seeking behaviour of students seems to be the type of learning task (Kerins et al, 2004), teaching and learning styles (Eskola, 2005), the motivation to learn and personality (Heinstrom,2005). It is based on this discourse that Urquhart and Rowley's (2007) outlined two sets of factors that influence students' information seeking behaviour:

- Macro factors: information resource design, information and learning technology infrastructure, access, organizational leadership and culture, policies and funding
- Micro factors: information literacy, search strategy, academic role in changing information behaviour, discipline and curriculum, pedagogy, support and training.

All these factors are seen as significant variables in undergraduate students' information seeking behaviour, irrespective of the type of medium (journal, online): Leckie et al (1996) states that quality (detail, accuracy), accessibility (relative ease), packaging (usefulness and reliability) and relative cost effectiveness of an information source are all very important in helping define information seeking behaviour for professionals'.

It is pertinent to note that undergraduate students need a wide variety of information to meet their academic needs. Therefore, information is a very crucial tool for students, thereby how they access and use information are key determinants of their performance. This recognition underpins students' needs for access to useful information and the necessary skills for using such information. Information seeking behaviour or the pattern of using information system and sources depends on a number of factors such as: users' education, professional background, livelihood, environment, awareness, information literacy, accessibility, and usability.

OBJECTIVES OF THE STUDY

The main objective of this study is to investigate the information seeking behavior as determinants of undergraduates' use of Internet search engines in two universities in Oyo State,Nigeria. The specific objectives to the study are to:

1. determine the extent to which undergraduates' of University of Ibadan and Lead City University use Internet search engines to surf information on the web;
2. find out the preferred Internet search engines used for information retrieval;
3. find out if information seeking behaviour of undergraduates and use of Internet search engines affect their efficiency on the Internet;
4. determine the purpose of undergraduates' use of Internet search engines;
5. identify the challenges encountered by undergraduates' in the use of the Internet search engines.

SCOPE OF THE STUDY

The study covers undergraduate students' of University of Ibadan and Lead City University in Oyo State, Nigeria. It also investigated the information seeking behaviour as determinants of undergraduates' use of Internet search engines.

METHODOLOGY

Survey research method was adopted for the study and structured questionnaire was used to collect data. The target population for this study comprises of undergraduate students of University of Ibadan and Lead City University which is made up fourteen thousand one hundred and eighty-five (14,185). A total of four hundred respondents (400) were sampled out of which three hundred and eighty two copies were completed for analysis using frequency counts, simple percentage, mean and standard deviation, to answer the research questions. Thus, Random sampling technique was used to administer the questionnaire.

FINDINGS

Demographic Information of the Respondents

Table 1: Distribution of the respondents by Name of Institution

Name of Institution	Frequency	Percentage
University of Ibadan	349	91.4
Lead City University	33	8.6
Total	382	100.0

Table 1 show the information culled from the questionnaire on demographic information. It was revealed that 349(91.4%) of the respondents were from University of Ibadan, while 33(8.6%) were from Lead City University.

Table 2: Distribution of the respondents by Gender

Gender	Frequency	Percentage
Male	181	47.4
Female	201	52.6
Total	382	100.0

Table 2 shows that 181(47.4%) of the respondents were males while their female counterparts were 201(52.6%).

Table 3: Distribution of the respondents by Age

Age	Frequency	Percentage
Under 18 years	18	4.7
18-22 years	163	42.7
Above 23 years	201	52.6
Total	382	100.0

Table 3 above shows that 18(4.7%) of the respondents were under 18 years, 163(42.7%) were aged 18-22 years, while 201(52.6%) were above 23 years.

Table 4: Extent of Internet Search Engine Use

S/N	Frequency of Internet Search Engines	No use	About every day	Two or more times a week	About once a week	Two or more times a month	Nearly once a month	Mean	Std
1	Yahoo	531 3.9%	1002 6.2%	9725. 4%	6517.0 %	174.5 %	5013. 1%	3.11	1.53
2	Google	256. 5%	2275 9.4%	9324. 3%	236.0%	3 0.8%	112.9 %	2.44	.94
3	Info seek	309 80.9 %	1 0.3%	22.5 %	236.0%	123.1 %	359.2 %	1.78	1.66
4	Allthe web	292 76.4 %	195.0 %	215.5 %	205.2%	92.4 %	215.5 %	1.69	1.42
5	Alta Vista	311 81.4 %	92.4 %	123.1 %	153.9%	153.9 %	205.2 %	1.62	1.43
6	Hotbot	322 84.3 %	8 2.1%	4 1.0%	16 4.2%	17 4.5%	15 3.9%	1.54	1.36
7	Dog pile	329 86.1 %	5 1.3%	6 1.6%	11 2.9%	11 2.9%	20 5.2%	1.51	1.36
8	Inktomi	331 86.6 %	3 0.8%	13 3.4%	9 2.4%	11 2.9%	15 3.9%	1.46	1.26
9	Excite	329 86.1 %	9 2.4%	14 3.7%	7 1.8%	9 2.4%	14 3.7%	1.43	1.20
10	Lycos	342 89.5 %	8 2.1%	6 1.6%	7 1.8%	6 1.6%	13 3.4%	1.34	1.11

Table 4 indicates that the rating of the items of frequency of Internet Search Engine Use is shown as follows: Yahoo (Mean=3.11), ranked highest in the mean score rating and was followed by Google (Mean=2.44), Info seek (Mean= 1.78), All the web (Mean=1.69), AltaVista (Mean=1.62), Hotbot(Mean=1.54), Dog pile?(Mean=1.51), Inktomi (Mean=1.46),Excite(Mean=1.43), lastly followed by Lycos (Mean=1.34).

Table 5: Preference of Internet search engines

S\N	Preference of internet search engines	NP	FP	P	HP	Mean	S.D
1	Google	19 5.0%	4 1.0%	9 2.4%	350 91.6%	3.81	.69
2	Yahoo!	34 8.9%	20 5.2%	155 40.6%	173 45.3%	3.22	.90
3	Alta vista	260 68.1%	46 12.0%	37 9.7%	39 10.2%	1.62	1.02
4	Allthe web	268 70.2%	42 11.0%	37 9.7%	35 9.2%	1.58	.99
5	Hotbot	283 74.1%	33 8.6%	45 11.8%	21 5.5%	1.49	.90
6	Dogpile	274 71.7%	45 11.8%	51 13.4%	12 3.1%	1.48	.84
7	Infoseek	275 72.0%	53 13.9%	36 9.4%	18 4.7%	1.47	.85
8	Inktomi	295 77.2%	50 13.1%	35 9.2%	2 0.5%	1.33	.66
9	Excite	299 78.3%	53 13.9%	22 5.8%	8 2.1%	1.32	.68
10	Lycos	320 83.8%	33 8.6%	21 5.5%	8 2.1%	1.26	.65

Note: NP=(Not Preferred), FP=(Fairly Preferred), P=(Preferred), HP=(Highly Preferred)

Table 5 indicates the rating of the items on Preference of Interest Search Engines. Itshows that Google (Mean =3.81) ranked highest in the mean score rating and was followed by Yahoo! (Mean =3.22), Alta vista (Mean =1.62), Allthe web (Mean =1.58), Hotbot (Mean =1.49), Dogpile (Mean =1.48), Infoseek (Mean =1.47), Inktomi (Mean =1.33), Excite (Mean =1.32) and lastly followed by Lycos (Mean =1.26)

Table 6: Information seeking behaviour

S\N	Information seeking behavior	SD	D	A	SA	Mean	Std
1	When faced with risk ,I use the internet search engine to seek for information	6 1.6 %	11 2.9 %	172 45.0 %	193 50.5 %	3.45	.63
2	I usually find the information I am looking for when I use internet search engines	12 3.1 %	22 5.8 %	139 36.4 %	209 54.7 %	3.43	.74
3	I am more confident after more in-depth search with internet search engine	11 2.9 %	18 4.7 %	164 42.9 %	189 49.5 %	3.39	.71
4	I regularly browse through the internet known search engine to seek and obtain information	6 1.6 %	14 3.7 %	192 50.3 %	170 44.5 %	3.38	.64
5	I feel a little relieve when searching for information with internet search engines	12 3.1 %	25 6.5 %	174 45.5 %	171 44.8 %	3.32	.73
6	It is very conducive to browse and get academic materials from the internet	5 1.3 %	26 6.8 %	198 51.8 %	153 40.1 %	3.31	.65
8	I feel overwhelmed with the amount of information I usually find	92.4 %	33 8.6	177 46.3 %	163 42.7 %	3.29	.72
9	I formulate my own key words or develop keywords as I search	18 4.7 %	40 10.5	138 36.1 %	186 48.7 %	3.29	.84
10	Too many search results are usually returned for my search	21 5.5 %	43 11.3	136 35.6 %	182 47.6 %	3.25	.86
11	I usually find internet search engines useful for academic purpose	19 5.0 %	19 5.0 %	217 56.8 %	127 33.2 %	3.18	.74
12	Even though I can get what I need in books in the library ,I prefer to search for materials with the use of search engines	26 6.8 %	41 10.7	178 46.6 %	137 35.9 %	3.12	.85

Note: SA = Strongly Agree, A= Agree, D = Disagree, SD = Strongly Disagree

The rating of the items on information seeking behaviour is revealed on table 7 as follows: When faced with task, I use the internet search engine to seek for information (Mean=3.45) ranked highest in the mean score rating and was followed by I usually find the information I am looking for when I use internet search engines(Mean=3.43), I am more confident after more in-depth search with internet search engine(Mean=3.39), I regularly browse through the internet known search engine to seek and obtain information(Mean=3.38), I feel a little relieve when searching for information with internet search engines(Mean=3.32), It is very conducive to browse and get academic materials from the internet(Mean=3.31), My use of internet search engines enhances my performance(Mean=3.31), I feel overwhelmed with the amount of information I usually find?(Mean=3.29), I formulate my own key words or develop keywords as I search(Mean=3.29),Too many search results are usually returned for my search(Mean=3.25), I usually find internet search engines useful for academic purpose(Mean=3.18) Even though I can get what I need in books in the library, I prefer to search for materials with the use of search engines(Mean=3.12), I have understanding of limitations of web materials(Mean=2.95), lastly followed by I usually fine internet search engines difficult to use(Mean=2.29).

Table 7a: Purpose for the Use of Internet Search Engine

S/N	Items	Yes	Somewhat	Never	Mean	SD
1	Ease of use	320 83.8%	13 3.4%	38 9.9%	2.77	.62
2	Speed of access	320 83.8%	46 12.0%	16 4.2%	2.80	.50
3	Quality of information	282 73.8%	85 22.3%	22 5.8%	2.70	.54
4	Quantity of information	290 75.9%	70 18.3%	22 5.8%	2.70	.57
5	Just out of habit	118 30.9%	170 44.5%	94 24.6%	2.06	.74

Table 7a shows the rating of the items on reasons for the use of search engines by undergraduate students. Speed of access (Mean =2.80) ranked highest in the mean score rating and was followed by Ease of use (Mean =2.77), Quality of information (Mean=2.70), Quantity of information (Mean-2.70) and lastly followed by just out of habit (Mean =2.06).

Table 7b: Purpose of Use of Internet Search Engines

S/N	Items	Yes	Somewhat	Never	Mean	SD
1	For project/research work	30579.8%	379.7%	4010.5%	2.69	.65
3	For term paper	28975.7%	6015.7%	338.6%	2.67	.63
4	Learning more about a subject	32184.0%	4110.7%	205.5%	2.79	.52
5	For course assignment	31783.0%	4812.6%	174.5%	2.79	.51
6	For seminar presentation	17545.8%	12933.8%	7820.4%	2.25	.77

Table 7b indicates the rating of items of the purpose of use of Internet search engines. It shows that: For course assignment (Mean =2.79), learning more about a subject(Mean=2.79), For downloading programs\files\images (Mean =2.79), For project\research work (Mean= 2.69), For term paper(Mean=2.67),and lastly followed by For seminar presentation (Mean=2.25).

Table 8: Problems encountered by undergraduates in the use of the Internet search engines

S/N	Items	Yes	Somewhat	Never	Mean	SD
1	Low speed access	130 34.0%	127 33.2%	125 32.7%	2.01	.82
2	Low precision	85 22.3%	144 37.7%	153 40.1%	1.82	.77
3	Inadequacy of current and relevant information	81 21.2%	130 34.0%	171 44.8%	1.76	.78
4	Unaware of where to locate needed information	157 41.1%	104 27.2%	121 31.7%	2.09	.85
5	Downloading of PDF files takes time	154 40.3%	140 36.6%	88 23.0%	2.17	.78
6	Lack of text full online journal	154 40.3%	136 35.6%	92 24.1%	2.16	.79
7	Inactive/dead link	161 42.1%	140 36.6%	81 21.2%	2.21	.77
8	Out of data links	153 40.1%	128 33.5%	101 26.4%	2.14	.81

The table 8 revealed the rating of items on the problems encountered by undergraduate students in the use of search engines to surf for information resources on the Web:Inactive\dead link (Mean =2.21) ranked highest in the mean score rating and was followed by Downloading of PDF files takes time (Mean =2.17), Lack of full text online journals (Mean =2.16), Out of data links (Mean =2.14), Unaware of where to locate needed information (Mean =2.09), Low speed access (Mean=2.01),low precision (Mean= 1.82) and lastly followed by inadequacy of current and relevant information (Mean= 1.76).

Table 9: Relationship between Use of Internet Search Engines and Information Seeking Behaviour

Model	Sum of Squares	Std. Dev.	N	R	P	Remark
Internet Search Usage	17.2932	3.4478	382	.119*	.021	Sig.
Information Seeking Behaviour	44.6911	6.3757				

***Sig at.05Level**

Table 9 shows that there was significant relationship betwveen Internet search engines and information seeking behaviour (r = .119*, N = 382, P<.05). Hence, information seeking behaviour had influenced Internet search engines in the study.

DISCUSSION OF FINDINGS

Findings revealed that majority of the respondents use Google and Yahoo daily and weekly to search for information on the web due to,they are not familiar with the functionality of other search engines and highly preferred Google and Yahoo in surfing for information on the web.The study shows that there is significant relationship between Internet search engines and information seeking behaviour. It also indicated that search engines are conducive to browse and gets academic materials from the Internet as they are overwhelmed with the amount of information found using search engines. Rowley and Urquhart (2007) indicate that, there are gaps in the evidence concerning the browsing and selection strategies of undergraduate students and the interaction of some of the mediating influences on information behaviour. The study shows that even though undergraduate students' gets what they need from books in the library, they prefer to search materials with the use of Internet search engines. As Lukersiewicz (2007) observed that undergraduates' are looking for convenient, time saving and fast response as they move from using physical collections to the digital library.

It is pertinent to note that undergraduate students need a wide variety of information to meet their academic needs. Therefore, information is a very crucial tool for students, thereby how they access and use information are key determinants of their performance. This recognition underpins students' needs for access to useful

information and the necessary skills for using such information. Marchionin (1995) affirms that, it is the manifestation of an individual's query that determines the information seeking action. Therefore, undergraduate students preferred to use Internet search engines because of its ease of use, speed of access, quality and quantity of information retrieved and also to retrieve information resources for their research work, term paper, learning more about a subject, course assignment and seminar presentation. This is in support of the study of Kakai, Ikoja – Odongo and Kigongo-Bukenya (2004) that students information seeking involves purposeful information seeking as a result of the need to complete course assignment, prepare for class discussions, seminars, workshops, and write final year research papers.

Majority of the respondents indicated the challenges encountered when using Internet search engines to surf for information resources on the Web as inactive/dead link, downloading of PDF files takes time and lack of full text online journals.

CONCLUSION AND RECOMMENDATIONS

Information seeking behaviour of undergraduate students is an important area of research as it is a prerequisite to information use and that search engines have become an integral part of the information environment because of its ability to aid students in surfing the Internet for relevant information materials that facilitates learning. Therefore, university libraries should endeaavour to develop and improve undergraduates' searching skills, also create awareness of functional Internet search engines and their search mechanism. However, there should be proper training for undergraduate students on the use of Internet search engines, search skills and techniques in order to provide an enabling environment for learning and research.

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