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## The Use of Public Web Portals by Undergraduates of Library, Archival and Information Studies Students at the University of Ibadan

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### Abstract

The research is a survey of the use of public web portals by undergraduate students of the Department of Library, Archival and Information Studies Students of the University of Ibadan. It employed an expost facto design to execute the study. Total populations of 87 students were selected through purposive sampling for the study. Questionnaires were used for collecting data, while frequency counts and simple percentages were used to answer the research questions. Findings of the study revealed that the respondents used different types of public web portals but Yahoo, Google, MSN were mostly used; the respondents used public web portals mostly to retrieve information. E-mail ranked first among the public web portals that the students used. Based on the findings of the study, it is recommended that students should be encouraged to use web portals during their university education program. The issue of power outages should be properly addressed by our government and suggestions for further research were made.

**Keywords:** Web; Portals; Yahoo; Information.

### 1. Introduction

The world is fast becoming a global village. There is a growing phenomenon of the application of information communication technology [ICT] to all areas of human endeavors. The result of this is increased speed, accuracy and efficiency of information storage and retrieval.

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This therefore calls for early acquisition of ICT skills for all, especially students of library and information science in Nigeria Universities because their effectiveness and efficiency depend on their ability to retrieve information from the Internet. The Internet is one of the most important complex innovations in human history, the largest and most complete tool for information exchange ever made available to the global population [13]. One of its services is the Web Portals which is increasingly having impact in all sphere of life especially to students because of its many benefits. A web portal is defined as a 'gate way', 'a door' or an entrance [9]. It is a major starting site for users when they get connected to the web or one that users tend to visit as an anchor site, which hosts content from multiple websites. Butters [7] defines a web portal as a network service that brings together contents from diverse distributed resources using technologies such as cross searching, harvesting and alerting and collates these into an amalgamated form for presentation to the users.

Public web portals need not necessarily create content themselves but host it by packaging contents from providers, organize it to suit their target audience and make revenue through advertisement [17]. In the late 1990s, the web portal was a hot commodity. After proliferation of web browsers in the mid-1990s many companies tried to valid or acquire a web portal, to have a piece of the internet market. Web portal gained special attention because it was for many users, the starting point of their web browser. Netscape because a part of American online, the Wait Disney Company Launched Go.com, and Excite and @Home. However, many of them started initially as directories (notably Yahoo!) or search engines like Excite, Lycos, Alta Vista, Info seek, Hotbot, Netvibes, i-Google, Netscape, AOL, IWON, MSN, Go2net. These were among the earliest Web portals revenue.

Web portal is becoming very popular in Africa. According to reference [1] Africa's web portals are of two different categories. The first is based on geographical coverage while the second is content based. The geographical category is of three types. First is general web portals, which are web portals that focus on the whole of the African continent. Examples are. Africa, De, Find Africa, Jamb web and so on and so forth. The second category is Regional Web Portals. These focus on regions of Africa. An example is Lemodade du Mahgreb, which is a web portal for Mahgreb (North Africa). The third is the country National Web Portals. These devote their content to the countries they originate from. Examples are Benin Watch (Benin), e-Dumella.com (Botswana), Cameroon.net (Cameroon) and Nijacol or Net. Nigeria (Nigeria).

The second category is content coverage based and is divided into two: general and specialized. General web portals focus on different topics on African that is, general African Information like Politics, business, education, entertainment and so on. Examples include Warm Africa, All Africa.com and Afrionline. Specialized Web portals restricted themselves to one subject coverage. Examples are Mbedi. (On business opportunities in Africa) and African politics online (<http://www.africa.Capoliticsonline.com>), an Internet resource for African politics. Web portals are not a "one size fits" all solution. Although the term web portal is often treated as synonymous with enterprise information portals, there are actually many. Different types of web portals are tailored to meet a specific business need.

Web portals are of two types and can be differentiated on the basis of their content and intended users. Philips in reference [1] categorized web portals into: Vertical portals or Vortals.

These are web portals that focus only on one specific industry, domain. These Vortals provide tools, for information, articles, research and statistics on specific industry. Examples are cnet.com which focuses only on computer and related issues. Vortals provide gateway to information related to a particular industry such as insurance, automobiles and so on.

Another type of web portal is Horizontal Portals which focus on a wide array of interests and topics. They focus on general audiences. They provide content on the topic of interest and guide toward the right direction to fetch more related resources and information .Classic examples of horizontal web portals are Excite, Lycos, igoogole, Yahoo, Netscape, MSN, Philips in reference [1]. These sites often refer to as megaportals' they are the concern of this research work. Other types of web portals according to Phillip in reference [1] are: Enterprise portals: These are developed and maintained for use by members within an organization. They focus on providing employees with information on a regular manner along with document management system, availability of application on demand, online training courses, and communication in form of e-mails, messaging and web meeting. E-commerce portals are another type of web portal which facilitate the sharing of information to external partners, customers and suppliers. They have a transactional processing component, provide information on products and services and often include supply chain management features. Others are collaboration portals, web searching portals and communication portals.

### ***1.1 Statement of the Problem***

Individuals, organizations and students depend on the adoption and use of technologies to enable them meets their information needs. Public web portals are repositories of information resources, and serve as gateways to a variety of information. As information resources, it is observed that many undergraduates are not aware of the public web portals that are available they only concentrate on Yahoo and Google because these are the two major portals they know. Apart from this, previous studies revealed that most students use these resources only for E-mail, forgetting that there are other uses to which the resources can be put. It is on these premises that the study intend to investigate the use of public web portals by undergraduates library, Archival and Information studies students at the university of Ibadan.

## **2. Research Questions**

The following research questions will be answered in this study:

- i. How frequent do undergraduate library, Archival and Information Studies students use different types of public web portals?
- ii. How frequent do the students of LARIS use public web portals for different reasons?
- iii. What features of public web portals do the students use?
- iv. How long do the students typically spend per use?

- v. What are the factors limiting the students' use of public web portals?
- vi. What are the benefits students derived from the use of public web portals?

### **3. Purpose of Study**

This study instigated the use of public web portals by undergraduate LARIS students at the University of Ibadan.

Specifically the purpose of this study is to:

- i. Find out how frequently undergraduate LARIS students use different types of public web portals.
- ii. Explore how frequently the students use public web portals for different reasons.
- iii. Unravel the features of public web portals that the students use.
- iv. Investigate how long the students spend per use.
- v. Discover the factors limiting students' use of the public web portals

the use of public web vi. Determine the benefits student's derive from portals.

### **4. Scope and Delimitation of the Study**

The study focused on 300 and 400 level undergraduates' students of Library, Archival and Information Studies students of the University of Ibadan and restricted to the six research questions above.

### **5. Significance of the Study**

This new knowledge will contribute to the larger body of research knowledge of information seeking and behavior on the www and expand the overall corpus of information science research. Specifically it will contribute to a better understanding of undergraduates demographic and use characteristics as well as their motivations for using public web portals and similar sites and services.

For the developers and administrators of public web portals and other, portal sites that offer a wide range of information and allow the use of personalization, this work will provide the opportunity of better understanding of how undergraduate users use these new forms of information system and what problems they face while using them. This better understanding could result in improved design of public web portals. Furthermore, the study will be of high interest for institutions such as libraries, universities, schools and government agencies available on the World Wide Web.

## **6. Review of related literatures**

The roles of public web portals as a major gateway to information and services on the internet and their popularity among web users can be seen in the following reports. Global web properties ranked yahoo as first that is frequently used with 137,845 506 user, followed by MSN with 124 885,229 users, AOL ranked third with 86,114,991 users and Lycos ranked the least with 71,588,781 users [15]. Reference [10] carried out a research on "Use of Public web portals by undergraduate students and reports that of 142 respondents used 79 used Yahoo: 38 respondents used MSN, 23 used Netscape, 15 respondents used AOL, 22 used Excite, 18 respondents used Lycos, 7 respondents used IWON, while 6 respondents used Go2Net. Public Web Portals are intended to play some significant roles to users in various ways depending on what you are using it for or what you want. A public web portal helps the user find his or her way as it has links to the most basic places easily accessible and gathers, sorts out and categorizes the information that is of interest and offers needed services [5]. People use public web portals because it helps to solve the problem of paucity of local content, that is, the advent of electronic publishing over the net has provided opportunity as improved distribution of accessibility to research from developing countries [8]. Web Portals are useful, they reduce search costs, travel costs for and vendors. They improve customers services and accelerate response times. They minimize operating costs while increasing efficiencies. They also make searching of information convenient. Web portals can also used for services such as news, weather forecast, job vacancy and announcement, alerting service to new resources and so on. Reference [10] mentioned the following reasons why undergraduates use public web portals as reputation, familiarity, ease of use, accessibility, community and satisfaction. According to reference [16] portals can serve as a workstation where academic staff and students find databases, dissertations, electronic texts and Online Public Access Catalogues.

### **Butters (2003) highlighted the following as features of public portals:**

- Utilities

These include e-mail, account facilities, address book, calculator information on exchange rate, internet telephony, language translation (of the web pages), web space that and be used to create one's own web site.

- Resource discovery

Under this we have single sign-on Access Management, (a situation where user has an automated access to all services for which a user is authorized through a single login to the portal,) search Bibliographic database, search citation database, search local online public access catalogue (OPAC), search e-journals, search table contents, search World Wide Web (WWW).

- News / New Feed

This involves news and headlines, general new-world, general news, weather forecast, news, stock market prices and stock market news, sport results, sport news, entertainment news, travel news job vacancy, message of the day, alerting service.

- Community Communication

Chat (real time), (internet relay chat), chat channels , instant messaging , computer conferencing, Newsletter/e-journal , bulleting/message boards/online discussion, find/ask an expert,

- Advertising

Advert – general, adverts –classified, conference announcements,

- Education based

Course announcements, Web-based learning recourses, course ware-course specific information, library account, library borrowing record.

- Leisure

Horoscope, online shopping, interviews

- Miscellaneous Services

Book reviews, online surveys, organization chart, CV Submission, e-commerce, online banking/finance.

### **The following impediments working against the use of public web portals**

- Cost and Accessibility

Authors in reference [18] conducted a study on the use of internet and e-mail among Sudanese librarians and came out that (75 percent) accessed the internet at educational institutions, (universities and colleges and public cafes). 22 percent of the sample had an internet connection at home.

Almost 37.8 percent of the sample also had an internet connection via the office. Besides, not only is accessibility limited but time to use it also. The field survey showed that 47.7 percent used the internet fewer than 5 hours per week i.e also about 29.7 percent of the sample used the internet for 5-15 hours per week i.e. 77.4 percent of the sample used the internet for fewer than 15 hours per week. There figures are proof that many people have little access to the Internet.

- Inadequate Search Skills

Low level of internet Literacy / Awareness: low level of Internet literacy among Africans and (beyond) has been reported by some scholars [2, 3, 4]. Most of the management staff in organizations or institutions is not ICT literate. Hence they lack awareness of the benefits their organizations or firms or institutions can derive from the use of web portals.

- **Power Outages**

Authors in reference [3, 4, 19] were of the opinion that electricity in Africa hampers Internet /Web development and applications. When there is no power or when power cut occurs, a web portal hosted in affected areas would normally be unavailable as the server would be shut down.

Another impediment to the use of web portals is the problem of information overload. The amount of information available on the web means that users tend to be sidetracked, since there are no checks on the information being published. Also since the Internet is dynamic and dependent on hardwares that are expensive, it is also going to be a problem in upgrading the softwares that are required. Inadequate Knowledge of Available Pubic Web Portals According to reference [14] inadequate knowledge of available public web portals also constitutes a barrier to web portals use. He asserted in his study carried out on “searching the web for business information” that information professionals concentrated on three search engines while others were little used. This is because of lack of knowledge of other available search engines or web portals.

- **Access to Wide Variety of Information**

According to reference [6] people / organization get access to a variety of information on issues that had not even occurred to them. He asserted that information on parenting and coping with major illness can be accessed on web portals. The author in reference [11], and in her write up on Internet usage by Nigerian University students mentioned the benefits of the content of public web portals in higher institutions of learning to be an avenue through which researchers can access past and current research publications. He is also of the opinion that prospective students can also access information on courses being offered by institutions as well as their admission requirements. It is a mechanism for information dissemination and a medium for collaborative interaction between individuals and their computers without regards to geographical limitation of space [8, 20]. Though some research studies have been conducted on use of public web portals, most of them are foreign based.

Review of literature did not reveal any that has addressed the use of public web portals by Library, Archival and Information studies students at the University of Ibadan. Hence this study will fill this research gap.

## **7. Methodology**

The study made use of ex post–facto research design to investigate the research topic. The population of the students used was 87, which was determined through purposive sampling. The research instrument used to collect data for the study was the questionnaire. The questionnaire consisted of two sections; section A contained items on students personal data while section B contained items on Public Web Portals use items. The instrument was validated by the research supervisor. However, Test-retest technique was used in establishing the reliability of the instrument. The questionnaire was administered to the LARIS student of University of Ibadan by the researcher with the help of a research assistant. The copies of the questionnaire were collected immediately after completion. The retrieved questionnaires were analyzed using frequency counts and simple percentages.

### 8. Population of Study

The population of the study consisted of all 300 and 400 levels undergraduate students of the Department of LARIS . Findings for this study are presented in Table 1 – 6

**Table 1:** Frequency of use of various types of public web portals

Types of public web portals	Daily		2-3 times a week		Once a week		Once in two weeks		Once a month		Occasionally		Never		Undecided	
	No	%	No	%	No	%	No	%	No	%	No	%	No	%	No	%
Netvibes	2	2.30	10	11.44	40	45.97	4	4.60	5	5.74	9	10.34	16	18.39	1	1.15
iGoogle	0	0	80	91.95	2	2.30	4	4.60	0	0	0	0	1	1.14	0	0
Yahoo	10	11.49	65	74.70	5	5.75	5	5.75	0	0	0	0	0	0	0	85
Netscape	7	8.05	12	13.80	2	2.30	15	17.24	10	9.20	10	11.49	23	26.44	10	11.49
Excite	13	14.94	14	16.09	21	24.12	0	0	12	13.80	5	5.75	17	19.54	5	5.75
AOL	5	5.75	10	11.49	12	13.80	14	16.09	12	13.80	9	10.35	15	17.24	10	11.49
Lycos	6	6.90	7	8.05	18	20.69	12	13.80	17	19.54	10	11.49	4	4.6	13	14.94
Iwon	0	0	4	4.60	8	9.20	7	8.05	5	5.75	10	11.49	40	45.98	13	14.94
MSN	6	6.94	10	11.49	5	5.75	7	8.05	3	3.45	4	4.60	37	42.53	15	17.24
Go2Net	0	0	0	0	24	27.60	8	9.20	12	13.80	0	0	38	43.68	5	5.75

Table 1 reveals that a majority of the respondents, 80 (91.95%), use iGoogle 2-3 times a week. Yahoo! Ranks 2<sup>nd</sup> with 65 (74.70%), Netvibes ranks 3<sup>rd</sup> with 40 (45.97%). The reason for the high use of these three public web portals by the students could be to keep them current and to retrieve information for their academic work. Besides, students also used public web portals like Netscape, Excite, AOL, Lycos and iwon, though the frequency of use was not as high as that of Google, Yahoo! And Netvibes.



The reason for this could be that they are not familiar with them; that is, they may not have the knowledge of other available public web portals, beside Yahoo!, IGoogle and Netvibes which are common to them.

**Table 2:** Frequency of using public web portals for different reasons

Reasons	Daily		2-3 times a week		Once a week		Once a month		Occasionally		Never	
	No	%	No	%	No	%	No	%	No	%	No	%
Information	2	2.30	63	72.41	7	8.05	15	17.24	0	0	0	0
Familiarity	3	3.45	15	17.24	25	28.74	21	24.14	13	14.94	10	11.49
Reputation	2	2.30	24	27.59	13	14.94	16	6.90	21	24.14	15	17.24
Accessibility	4	4.6	18	20.7	25	28.74	8	9.20	20	22.98	12	13.79
Community	10	11.49	11	12.64	0	0	2	2.30	24	27.59	40	45.98
Satisfaction	10	11.49	53	60.92	3	3.45	4	4.60	14	16.09	3	3.45

**Table 3:** Various features of public web portals used

Features	Daily		2-3 times a week		Once a week		Once in two weeks		Once a month		Occasionally		Never	
	No	%	No	%	No	%	No	%	No	%	No	%	No	%
Games	18	20.69	20	22.99	6	6.90	5	5.74	6	6.90	10	11.50	20	22.99
E-mail	36	41.40	36	41.40	5	5.74	1	1.15	2	2.30	3	3.45	4	4.60
Calendar	20	22.90	15	17.24	18	20.69	4	4.60	3	3.45	18	20.69	9	10.34
Internet Searches	25	28.74	20	22.99	16	18.39	1	1.15	1	1.15	20	22.99	4	4.60
Weather	25	28.74	20	22.99	14	16.09	5	5.74	19	21.84	15	16.90	8	9.20
National/local news	30	34.48	13	14.94	25	28.74	2	2.30	1	1.15	13	14.94	3	3.45
World News	35	40.22	10	11.50	12	13.80	7	8.05	3	3.45	14	16.09	6	6.90
Business News	15	17.24	12	13.80	8	9.20	11	12.64	6	6.90	22	25.29	13	14.94
Health Information	30	34.48	10	11.50	10	11.50	5	5.74	5	5.74	15	17.24	11	12.64
TV Listings	8	9.20	8	9.20	14	16.09	3	3.45	4	4.60	30	34.48	21	24.14
Shopping	2	2.30	15	17.24	7	8.85	13	14.94	2	2.30	40	45.98	8	9.20
Travels	1	1.15	4	4.60	2	2.30	12	13.80	6	6.90	47	54.02	15	17.24
Movies	8	9.20	21	24.14	4	4.60	11	12.64	3	3.45	20	22.99	20	22.99
Maps	5	5.75	5	5.75	4	4.60	12	13.80	12	13.80	22	25.29	27	31.03
Autos	3	3.45	10	11.50	7	8.05	12	13.80	7	8.05	18	20.69	30	34.48
Finance	13	14.94	20	23.00	6	6.90	7	8.05	6	6.90	18	20.69	17	19.54
Jobs	9	10.34	27	31.03	7	8.05	13	14.74	9	10.14	13	14.94	9	10.34
Horoscope	8	9.20	18	20.69	1	1.15	18	20.69	8	9.20	14	16.09	20	22.99
Time	22	25.20	12	13.80	7	8.05	7	8.05	7	8.05	8	9.20	24	27.59
Forum	9	10.34	14	16.09	13	14.94	8	9.20	8	9.20	28	32.10	7	8.05
Stock prizes	2	2.30	17	19.54	10	11.50	11	12.64	2	2.30	26	29.89	19	21.84
Chat	10	11.50	21	24.13	11	12.64	7	8.05	7	8.05	16	18.39	15	17.24
Messaging Services	30	34.48	25	28.74	8	9.20	3	3.45	4	4.60	13	14.94	4	4.64

The analysis in table 2 reveals that the respondents use public web portals for various reasons with information ranking first with 63 (72.41%) respondents, the reason for this could be that being students, it enhances their academic performance. Satisfaction ranked second with 53 (60.92%). Table 3 reveals that respondents make use of various features of public web portals. From the table above, electronic mail (E-mail) is the most used which is indicated by 36 (41.40%). The reason for high use of e-mail could be that it is the quickest means of sending and receiving information that they need for their academic work. Table 4 shows that a majority of the respondents, 75 (86.21%), spend over 30 minutes on public web portal per visit.

The reason for spending 30 minutes and more could be that since most of the respondents are average users as shown in their responses in the questionnaire they may find it difficult to retrieve information needed because of inadequate search skills. It could also be as a result of information overload on the web.

**Table 4:** Length of time spend on public web portals per visit

Length of Time	No	%
1 – 10 minutes	5	5.75
10 minutes-less than 20 minutes	2	2.30
20 minutes-less than 30 minutes	5	5.75
30 minutes and more	75	86.21

**Table 5:** problems encounter with the use of public web portals

Problems	Strongly agree		Agree		Disagree		Strongly disagree	
	NO	%	NO	%	NO	%	NO	%
Slow internet response	28	32.18	42	48.28	10	11.49	7	8.05
Inadequate search skills	9	10.34	40	45.98	33	37.93	5	5.75
Information overload	26	29.86	33	37.93	19	21.84	9	10.34
Power outages	26	29.86	33	37.93	19	21.84	9	10.34
Unsolicited advertisement	34	34.08	27	31.04	13	14.94	13	14.94
Inadequate knowledge of available web portals	35	4.23	21	24.14	21	24.14	10	11.49

Table 5 reveals that all the respondents agreed that they encountered problems with the use of public web portals .However, a majority of the respondents, 42 (48.28%), agreed that slow internet response is the major problem that impede their use of public web portals. (2) Findings agreed that slow internet response is a major problem of the use of public web portals in Nigeria.

It can be seen in Table 6 that the respondents derived various benefits from the use of public web portals. A total of 56 (64.37) respondents strongly agreed that their use of public web portals help to facilitate quick sending and receiving of messages and access to current information.

This agrees with reference [10] findings who posit that the public web portals are beneficial in quick sending and receiving of information. Access to a variety of information ranks second with 49 (956.32%) respondents who strongly agree that they help them to have access to variety of information. This corroborates Ambrose study [6] that people /organization get access to a variety of information on issues that had not even occurred to them via public web portals. Forty two (48.28%) strongly agree that they obtain information for their research/academic work from the portals. Reference [11] pointed out this fact that the public web portals are avenue through which researcher can access past and current research publications. Jagboro also opined that students can access information on courses being offered by institutions as well as their admission requirement. Forty two (48.28%) agreed that they benefits from the use of public web portals in the area of entertainment.

**Table 6:** Benefits derived from the use of public web portals

Problems	Strongly agree		Agree		Disagree		Strongly disagree	
Fast quick sending and receiving of messages/access to current information	56	64.37	14	16.9	7	8.05	7	8.05
Obtain information for my research and academic work	42	48.28	37	42.53	1	1.15	8.05	5.75
Entertainment	31	35.63	42	48.28	8	9.20	6	6.90
Access to variety of information	49	56.32	34	39.08	3	3.45	1	1.15

**9. Conclusion and Recommendation**

Based on the findings of this study, it could be concluded that the respondents find the various public web portals useful . Also most of the respondents use public web portals to obtain fast information. Though the respondents make use of all the features of the public web portals, electronic mail (e-mail) is most used. The

problems that impede the respondent's use of public web portals are of different types.

Most of them agreed that power outages and slow internet response are the major problems that they encounter when they use public web portals. Public web portals are beneficial to them majority of them strongly agreed that the use of public web portals have accessed them to quick sending and receiving of information.

Based on these research findings the following recommendations are made.

- i. The LARIS students should use various types of public web portals frequently in order to be informed on different field of study
- ii. Students should use public web portals to obtain and send information.
- iii. Students should use e-mail and other features of public web portal to improve their academic status.
- iv. Students should be taught as early as possible after admission on how to use public web portals.
- v. University authority should organize web use training programmes that would help the students to improve upon their skills in using public web portals.
- vi. The problem of slow internet response and power outages should be addressed by the government.

## **References**

- [1] E.E Adomi, "Foundation of Reference service", Warri Goddick Publishers.(2007).
- [2] E.E Adomi, Interview with Mrs. Victoria Okojie, President of the Nigerian Library Association. "Library High Tech News" 2005a, 22(9), 24 – 27.
- [3] E.E Adomi, "Internet Development and connectivity in Nigeria." Program, 2005b, 39(3), 257 – 268.
- [4] E.E Adomi & S Akinseinde "E-mail usage by technical education students in Nigeria Universities" Library High Tech News, 2004. 21(9), 15-20
- [5] Afrol.com. "African Internet Portal launched this night" [www.afrol.com/nws/editorial/033.htm](http://www.afrol.com/nws/editorial/033.htm). 2000. (Nov 2,2005).
- [6] B.A Ambrose "Leveraging Technology via knowledge portal." Compensation Benefits Review; [www.cbr.sagepub.com/cgi/content/abstract/33/3/43](http://www.cbr.sagepub.com/cgi/content/abstract/33/3/43). 2001, (April 5, 2009).
- [7] G. Butters "What features in portals?" [www.ariadne.ac.uk/issues35/butters/intro.html](http://www.ariadne.ac.uk/issues35/butters/intro.html).2003, (April 18, 2010).
- [8] L.Chan, B.Kirsop, A.Costa, S.Arunachalam, "Improving access to research literature in developing countries: challenges and opportunities provided by open access." [www.ifla.org/iv/ifla71/papers/150e-chan.pdf](http://www.ifla.org/iv/ifla71/papers/150e-chan.pdf) 2005. (July 24,2005).
- [9] S.L Daigle, & P.M Cuocco, Portals technology opportunities, obstacles and options .[www.Educause.edu/ir/library/pdf/pub506\\_K.pdf](http://www.Educause.edu/ir/library/pdf/pub506_K.pdf) 2002. (Nov 23,2005).
- [10] H.Haubitz, The use of public web portals by undergraduate students. Library and information Science Research 2005 Texas: Heiko Haubitz 104 – 196.
- [11] Jagboro, K.O "A study of internet usage in Nigerian Universities: A case of Obafemi Awolowo University Ile – Ife." .2003.
- [12] B.M Leiner, V.G Cert, D.D Clark, R.E Kahn, L Kleinrock, D.C Lynch, J. Postal, L.G Robert, & S.

Wolff "A brief history of the internet." [www.isoc.org/internet/history/brief.shtml](http://www.isoc.org/internet/history/brief.shtml). 2000.

[13] B.Maharanta, K. Nayak, and N.K Sahu, "Scholarly use of web resources in LIS research: a citation analysis" *Library Services* .[www.emeraldinsight.com/0024-2535](http://www.emeraldinsight.com/0024-2535), 2006 (sep.8,2007)

[14] D.Mort., "Searching the web from Business Information. The Skills and preferences of end users and information professionals." *Business Information Review*. 2001. 18(2) IRN Services Ltd, U.

[15] Nielsen, "Search engines, portals and communities are the most popular online category word wide, according to Nielsen /Net Ratings global index" [//www.nielsen-netrating.com/pr/pr-020426-erating.pdf](http://www.nielsen-netrating.com/pr/pr-020426-erating.pdf).2002b. (June, 2004).

[16] F. Osareh, " A notice on content on library and information science (LIIS) School web site" [www.rockefface.com/archive/typesofwebsites.html](http://www.rockefface.com/archive/typesofwebsites.html).2003. (April 7, 2007).

[17] Rao, S.S. "Portal proliferation: An Indian Scenario" *New Library Word*, 102(1168),325-331.,2001

[18] M.S.N. Mudawi. "The use of the Internet and e-mail among Sudanese Libraris: a survey report" *Library Review* [www.emeraldinsight.com/0024-2535.Htm](http://www.emeraldinsight.com/0024-2535.Htm) 2005 April 4,2007 (54(6),355-365).

[19] D. Rosenberg. "Towards the Digital Library Finding of an investigation to establish the current status of University Libraries in Africa" [www.inasp.info/pubs/INAspdigitallib.pdf](http://www.inasp.info/pubs/INAspdigitallib.pdf). 2005 June 6,2005.

[20] A.M Singh. "The Internet-strategy for optimum utilization in South Africa" *South Africa journal of Information Management*, 2002 vol.4, issue1,