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Information Search Strategies among LIS Professionals: A Case Study of Selected Institutions in India

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Abstract

This study examined Information Search Strategies employed by Library and Information Science (LIS) professionals of selected institutions in India for research. Questionnaire was used as the main instrument for the gathering of data. Data collected were analyzed using simple frequency tables and mean. Search specialists can be found in libraries of all kinds, but are located especially in college and university libraries and in the information centre and other special libraries associated with business and industrial organizations, law firms and medical establishments. Some search specialists are freelance entrepreneurs, in business for themselves and actively marketing their services to special user populations. clients of online information retrieval search specialists include undergraduate and graduate students and faculty in academic libraries, and scientists, engineers, businessmen, doctors, lawyers, and many others using special libraries and information centres to help satisfy their information needs. The study revealed that most of the respondents belonging to various educational qualifications prefer 'their library catalogue', except the respondents belonging to 'UG in LIS' qualification. Most of the respondents (44.4%) belonging to 'UG in LIS' qualification prefer 'open access databases' to seek needed information, followed by 'their library catalogue' (22.2%). The findings of such study would put light on the important data and insight into the current state of practices of LIS professionals and their understanding about information searching process on internet. The outcome and suggestions of the study would be beneficial for them to take appropriate measures to improve their information search strategy skills.

Keywords: Information, Search Strategy, Academic Library, LIS Professionals, User Study, Internet.

1. Introduction

According to Eke, Helen Nneka (2014), the convergence of computer and telecommunication has revolutionized information management in the present day information environment. One of the products of this myriad of convergence is the birth of the Internet. In the process of trying to make information available to information seekers and users in the past few years, Internet search strategies have become the state of the art. This is so considering the strategic importance of Internet in information retrieval. The world over have been availed the opportunity of Internet in the enhancement of knowledge and research. The invention of the Internet, CD-Rom technology, and on-line information search engines, among others have made this possible.

According to Babita Pattanaik (2011), internet is considered as an affluent source of information. The potential impact of this technology on academic and research scenario

is not an exception, as it greatly affects the teaching and research environment in higher education system. The internet has brought data communication and information exchange into a new level and justified its existence and potential at online information retrieval platform; by providing access to myriad source of data and wide range of online information resources, faster rate of data transfer, making information searching more efficient and fulfills the diversified need of user. Due to the extensive growth of information in internet, the users of internet are lost in the flood of information. Information seekers need to have basic skills in finding relevant information from the ocean of information. Thus navigation of internet has become one of the most essential literacy skills in the present age. It is important to learn the basic process and techniques of searching the exact information over the internet to improve the search effectiveness of users. Therefore, it is necessary to evaluate the user interface and analyze the searching behavior pattern of end users towards consumption of exact information.

2. Review of Literature

Iran Asefeh Asemi (2005) reports a survey on the search habits of internet users at the Medical University of Isfahan (MUI), a governmental university in Isfahan city, Iran. The study emphasizes to find the search requirements related to the use of internet information. Data were collected by using a questionnaire and follow-up interviews with internet users from five faculties. Results show that all the respondents are using the internet frequently as each of them has been provided the internet connection. It is revealed that the researchers of MUI are getting quality information through the internet. 55% respondents search for scientific information through the internet because the university library has provided access to various databases and online journals for all students and staff. They use the internet in different ways, such as accessing to online journals, downloading software or text, chatting, discussion, E-mail services and for finding related references. It was unveiled that the internet services are normally used for research. Also it is observed that the Google and Yahoo search engines are more widely used compared to other search engines. The analysis reveals that 54% of internet users always find useful information on the internet. 31% of respondents believed that quality information is available on the internet and finally, 35% of the studied population use print, online and offline form of information for updating their subject knowledge.

Thanuskodi (2012) identified Public libraries are essential since they improve literacy, stimulate imagination and expand personal horizons. They also inform and empower citizens, enable access to a common cultural heritage and support education at all levels. Also, a positive relationship is observed between public library and literacy level, which in turn, contributes to increase in economic productivity. Extensive studies were undertaken to study the role of public libraries in information society, value of services offered and use of the resources. Assessing the effectiveness of libraries is the order of the day. In order to keep up with the current trends, libraries must constantly evaluate its functions. Evaluating through user perspective is result based. Because users are the ultimate beneficiaries and can suggest effective measures to improve the existing facilities in libraries. This study evaluates library services and gives suggestions for the improvement of district central libraries in Tamilnadu, India.

Moyo (1996) conducted a study to determine the training needs of internet users in an academic environment. Data were collected through questionnaire, which was mailed

to a sample of 200 academic staff, among which 164 questionnaires were returned and analyzed. The analysis shows that71.3% of respondents subscribed and used e-mail facility. The Investigator found that there were under utilization of existing facility due to lack of basic IT skills posses by the academic staff, at present help provided by laboratory staff of the computer center was neither adequate nor effective in assisting academic staff to learn about the existing facility. Overall impact of the facility on academic work in University of Botswana was generally very low.

Islam & Panda (2007) conducted a survey to find out the trends of web-based information seekers at Sambalpur University, India. A structured questionnaire was distributed among the relevant researchers at Sambalpur University in order to ascertain their web searching habits. The finding of the survey revealed that the scholars are spending nearly three hours per week more using traditional library services than they are using the internet and 61 (97%) respondents believe that web-based information or the internet is important for their research work. 90% of the respondents are using the internet to find journal articles related to their research. With regard to the views of researchers on the performance of individual search engines, 82% respondents like to search through Google search engine.

Thanuskodi (2009) India has significant advantages in the 21st century knowledge race. It has a large higher education sector – the third largest in the world in student numbers, after China and the United States. The library is the chief instrument for accumulating and using our intellectual heritage. Formal education can be conducted effectively and efficiently only with well-equipped libraries. Today, libraries are connected to a vast ocean of Internet-based services. Electronic resources are developing rapidly. Academic libraries are the nerve centres of their institutions, and must support teaching, research, and other academic programmes. The situation in academic libraries in India is the same as that of academic libraries the world over; however, Indian libraries must provide maximum information with limited resources. This article explores the Indian higher education environment in relation to academic libraries.

A review of literature reveals that the lecturers and the students are the most frequent users of the Internet. They use the Internet mainly for educational purposes rather than for entertainment. Chen (1998) highlighted that the Internet is used for searching for useful information on a specific issue as a result of the tremendous, diversity and volume of information contained. Students not only use the Internet to search for materials to complete their assignment, but also use it to gather resources to supplements curricular offering, Adomi (2003). In the same vain, William (1999) opines that students use the Internet to send and receive messages using electronic mail, Internet telephoning, keyboard chat and video conferencing.

Dike (2000) states that one of the reasons why students prefer digital technology is because it provides instant access to information from multiplicity of choices, and this motivates them to learn. It has been reported that adult Web users search the Internet more than they engage in any other computer activity (about 70% of their time online) except using e-mail Nachmias & Gilad (2002). Therefore, searching on the Internet isn't just a popular activity but an important skill needed to obtain information, thus understanding information searching processes is a relevant research issue. Mutula (2003) observed that students use Internet mostly for educational purposes. Equally, Attama (2005) says that

Internet have really helped in conducting a good research and easy dissemination of information in the 21st century.

Thanuskodi (2013) E-resources are mushrooming online and in other formats. This phenomenon is due to the rapid advancement of information technologies, including the Internet and digitizing techniques. The extent of e-resources (including e-journals, e-books, etc.) is spiraling, although no exact number is available. These changes significantly enlarge the size of the electronic resources pool. Electronic resources have become one of the most important aspects of a digital library. The study reveals that slightly over one-third of the respondents (40%) spent less than 2 hours on the Internet per session, followed by those having 2-3 hours per session (29.17%). The study also shows that of the total of 120 respondents, 30.83% search documents with the help of the library Website.

Ohakwe & Okwuanaso (2005) are of the opinion that students use the Internet for research and communication. On the part of Usman (2006) the Internet has opened up numerous possibilities for doing resource sharing at local and global level and that information on latest journals, books and discussion can be exchanged directly through the Internet.

3. Objectives of the Study

The main purpose of this study is to examine the information search strategies employed by LIS professionals of selected institutions in India for research.

- To know the different search techniques adopted while searching information on internet.
- To ascertain the behavior pattern of the searcher after locating the information.
- To study the purpose of using web information resources and services by LIS professionals.
- To determine the most preferred tool to seek information
- To ascertain the most satisfied printed resources
- To ascertain the most satisfied e-Resources
- To ascertain the problems encountered by LIS professionals while searching the information

4. Methodology

The simple random sampling technique was used for this research study. Simple random sampling is a procedure that assures each element in the population has an equal chance and probability of being selected. Hence, the selection bias is not possible in simple random selection.

This technique is very useful to reach the respondents in various age groups, designations, educational and technical qualifications, types of libraries and institutions. In academic, special and public libraries, the library and information science professionals were selected in all kind of designations by random selection. In LIS teaching institutes like universities, the library and information science professionals are selected in the categories of professors, associate professors and assistant professors by random selection. For this study, the questionnaire has been framed in such a manner to gather information, which favors the objectives of the project. The questionnaires were distributed and the

filled questionnaires were collected from the library and information science professionals in person and through post. The number of people from the target population where the researcher conducting survey is the sample size for the survey study. For this present study, 750 questionnaires were distributed among library and information science professionals, only 572 filled questionnaires (76.3%) were received.

5. Results and Discussion

5.1 Population Analysis

Percentage analysis is basic and easy to comprehend, which is used to describe the physiognomies of the respondents among the chosen population. It involves calculating measures of variables selected of the study and its finding will give easy understanding for the readers. Table 1 reveal that the male professionals are the maximum respondents (56%) compared with male professionals (44%). In age group category, large number of respondents (45%) belonging to 36 to 45 years age group, and the least (2%) are the senior library professionals above 56 years age group. The large number of respondents (55%) are 'Librarians' and the least number of respondents are 'Professors (2%)' and 'Associate Professors (2%)'. Most of the respondents (33%) are PhD holders in Library and Information Science and regarding technical qualification most of the respondents (34%) are belonging to 'Others' category, which are other than PGDLAN and PGDCA. The large number of respondents are from 'Academic Library (62%) and from 'Government Institution' (54%). Most number of the respondentsarefrom 'Urban (70%) area.

Table 1. Frequency Distribution of Respondents

S.No	Type	Division	Frequency	Percentage (%)
1.	Gender	Male	320	56
		Female	252	44
2.	Age Groups (in years)	Below 25	32	6
		26-35	164	29
		36-45	260	45
		46-55	104	18
		56 and above	12	2
3.	Designations	Librarian	316	55
		Deputy Librarian	20	4
		Assistant Librarian	116	20
		Library Technical Staff	76	13
		Professor	8	2
		Associate Professor	12	2
		Assistant Professor	24	4

4.	Educational Qualification	PhD in LIS	188	33
		UGC-NET/SET	116	20
		Mphil in LIS	96	17
		PG in LIS	136	24
		UG in LIS	36	6
5.	Technical Qualification	PGDLAN	76	13
		PGDCA	116	20
		Others	196	34
		No Technical Qualifications	184	32
6.	Type of Library	Academic Library	352	62
		Special Library	44	7
		Public Library	176	31
7.	Type of Institution	Government	308	54
		Aided	56	10
		Self-Financing	208	36
8.	Location	Urban	400	70
		Semi-Urban	108	19
		Rural	64	11
		Total	572	100

5.2. Descriptive Analysis on Most Preferred Tool to seek Information:

Table 2.Most preferred tool to seek information with reference to various age groups

S. No	Age Groups (in years)	Most preferred tool to seek information (Percentage within age groups)					Total (%)
		Our Library Catalogue	Online Catalogues of Other Libraries	Open Access Databases	Internet Search Engines	Social Media	
1.	Below 25	12 (37.5%)	8 (25%)	12 (37.5%)	0	0	32 (5.6%)
2.	26-35	56 (34.1%)	36 (22%)	28 (17.1%)	28 (17.1%)	16 (9.8%)	164 (28.7%)
3.	36-45	112 (43.1%)	32 (12.3%)	52 (20%)	56 (21.5%)	8 (3.1%)	260 (45.5%)

4.	46-55	32 (30.8%)	44 (42.3%)	16 (15.4%)	12 (11.5%)	0	104 (18.2%)
5.	56 and above	12 (100%)	0	0	0	0	12 (2%)
Total		224 (39.2%)	120 (21%)	108 (18.8%)	96 (16.8%)	24 (4.2%)	572 (100%)

From the Table 2, it could be referred that most of the respondents (39.2%) belonging to various age groups prefer 'their library catalogue' to seek information, followed by 'online catalogues of other libraries' (21%), except the respondents belonging to '46 to 55 years' age group. Most of the respondents (42.3%) belonging to '46 to 55 years' age group prefer 'online catalogues of other libraries', followed by 'their library catalogue' (30.8%). Most of the respondents belonging to 'below 25 years' age group prefer 'their library catalogue' and 'open access databases' equally (37.5%). Most of the respondents (43.1%) belonging to '36 to 45 years' age group prefer 'their library catalogue' to seek information, followed by 'internet search engines' (21.5%). All the respondents (100%) belonging to '56 years and above' age group prefer 'their library catalogue' to seek needed information. 'Social media' is the least preference of the respondents belonging to all age groups.

Table 3. Most preferred tool to seek information with reference to various designations

S. No	Designations	Most preferred tool to seek information (Percentage within designations categories)					Total (%)
		Our Library Catalogue	Online Catalogues of Other Libraries	Open Access Databases	Internet Search Engines	Social Media	
1.	Librarian	132 (41.8%)	54 (17.1%)	70 (22.2%)	43 (13.6%)	17 (5.4%)	316 (55.2%)
2.	Deputy Librarian	4 (20%)	4 (20%)	8 (40%)	4 (20%)	0	20 (3.5%)
3.	Assistant Librarian	40 (34.5%)	28 (24.1%)	20 (17.2%)	28 (24.1%)	0	116 (20.3%)
4.	Library Technical Staff	32 (42.1%)	16 (21.1%)	4 (5.3%)	20 (26.3%)	4 (5.3%)	76 (13.3%)
5.	Professor	0	8 (100%)	0	0	0	8 (1.4%)
6.	Associate Professor	4 (33.3%)	8 (66.7%)	0	0	0	12 (2.1%)
7.	Assistant Professor	12 (50%)	2 (8.3%)	6 (25%)	1 (4.2%)	3 (12.5%)	24 (4.2%)

It could be inferred from the Table 3 that most of the respondents belonging to librarian (41.8%), assistant librarian (34.5%), library technical staff (42.1%) and assistant professors (50%) designations prefer 'their library catalogues' to seek needed information. Most of the respondents (40%) belonging to deputy librarian designation prefer 'open access catalogues' to seek needed information. It is also referred that most of the respondents belonging to professors (100%) and associate professors (66.7%) designations prefer 'online catalogues of other libraries'. Among them the second most preference of the respondents belonging to 'librarian' (22.2%) and 'assistant professor' (25%)

designations is ‘open access databases’. In ‘assistant librarian’ category, the respondents prefer ‘online catalogues of other libraries’ and ‘internet search engines’ equally (24.1%), next to ‘their library catalogue’. Most of the respondents (42.15) belonging to ‘library technical staff’ designation prefer ‘their library catalogue’, followed by ‘internet search engines’ (26.3%).

Table 4. Most preferred tool to seek information with reference to various educational qualifications

S. No	Educational Qualifications	Most preferred tool to seek information (Percentage within educational qualification categories)					Total (%)
		Our Library Catalogue	Online Catalogues of Other Libraries	Open Access Databases	Internet Search Engines	Social Media	
1.	PhD in LIS	72 (38.3%)	48 (25.5%)	40 (21.3%)	24 (12.8%)	4 (2.1%)	188 (32.8%)
2.	UGC NET/SET	48 (41.4%)	8 (6.9%)	20 (17.2%)	36 (31%)	4 (3.4%)	116 (20.3%)
3.	MPhil in LIS	44 (45.8%)	16 (16.7%)	16 (16.7%)	16 (16.7%)	4 (4.2%)	96 (16.8%)
4.	PG in LIS	52 (38.2%)	44 (32.4%)	16 (11.8%)	16 (11.8%)	8 (5.8%)	136 (23.8%)
5.	UG in LIS	8 (22.2%)	4 (11.2%)	16 (44.4%)	4 (11.1%)	4 (11.1%)	36 (6.3%)

From the Table 4, it could be found that most of the respondents belonging to various educational qualifications prefer ‘their library catalogue’, except the respondents belonging to ‘UG in LIS’ qualification. Most of the respondents (44.4%) belonging to ‘UG in LIS’ qualification prefer ‘open access databases’ to seek needed information, followed by ‘their library catalogue’ (22.2%). Most of the respondents (38.3%) belonging to ‘PhD in LIS’ qualification prefer ‘their library catalogue’, followed by ‘online catalogues of other libraries’ (25.5%). Most of the respondents (41.4%) belonging to ‘UGC NET / SET’ qualification prefer ‘their library catalogue’, followed by ‘internet search engines’ (31%) to seek information. The respondents belonging to ‘MPhil in LIS’ qualification prefer ‘online catalogues of other libraries’, ‘open access databases’ and ‘internet search engines’ equally (16.7%), next to ‘their library catalogue’ (45.8%).Most of the respondents (38.2%) belonging to ‘PG in LIS’ qualification prefer ‘their library catalogue’, followed by ‘online catalogues of other libraries’ (32.4%). ‘Social media’ is the least preference of the respondents belonging to all educational qualifications.

Table 5.Most preferred tool to seek information with reference to various types of library

S. No	Types of Libraries	Most preferred tool to seek information (Percentage within types of libraries)					Total (%)
		Our Library Catalogue	Online Catalogues of Other Libraries	Open Access Databases	Internet Search Engines	Social Media	
1.	Academic Library	132 (37.5%)	76 (21.6%)	72 (20.5%)	56 (15.9%)	16 4.5%)	352 (61.5%)
2.	Special Library	16	28	0	0	0	44

		(36.4%)	(63.6%)				(7.7%)
3.	Public Library	76 (43.2%)	16 (9.1%)	36 (20.5%)	40 (22.7%)	8 (4.5%)	176 (30.8%)

It could be revealed from the Table 5 that most of the respondents belonging to various types of libraries prefer 'their library catalogue' to seek needed information, except 'special library'. Most of the respondents (63.6%) belonging to 'special library' prefer 'online catalogues of other libraries', followed by 'their library catalogue' (36.4%). Most of the respondents (37.5%) belonging to 'academic library' prefer 'their library catalogue', followed by 'online catalogues of other libraries' (21.6%). Most of the respondents (43.2%) belonging to 'public library' prefer 'their library catalogue, followed by 'internet search engines' (22.7%) to seek needed information.

Table 6. Most preferred tool to seek information with reference to various types of institution

S. No	Types of Institutions	Most preferred tool to seek information (Percentage within types of institutions)					Total (%)
		Our Library Catalogue	Online Catalogues of Other Libraries	Open Access Databases	Internet Search Engines	Social Media	
1.	Government	136 (44.2%)	56 (18.2%)	52 (16.9%)	44 (14.3%)	20 (6.5%)	308 (53.8%)
2.	Aided	20 (35.7%)	4 (7.1%)	16 (28.6%)	16 (28.6%)	0	56 (9.8%)
3.	Self-Financing	68 (32.7%)	60 (28.8%)	40 (19.2%)	36 (17.3%0	4 (1.9%)	208 (36.4%)

From the Table 6, it could be referred that most of the respondents belonging to various types of institutions prefer 'their library catalogue' to seek needed information. Among them, most of the respondents (44.2%) belonging to 'government institutions' prefer 'their library catalogue', followed by 'online catalogues of other libraries' (18.2%). Most of the respondents (35.7%) belonging to 'aided institutions' prefer 'their library catalogue', followed by 'open access databases' and 'internet search engines' equally (28.6%). Most of the respondents (32.7%) belonging to 'self-financing institutions' prefer 'their library catalogue', followed by 'online catalogues of other libraries' (28.8%) to seek needed information.

5.3 Descriptive Analysis on Most Satisfied Printed Resources:

Table 7.Most satisfied printed resources with reference to various age groups

S.No	Age Groups (in years)	Most Satisfied Printed Resources (Percentage within age groups)							Total (%)
		Books, Current Journals	Back Volumes of Periodicals	Patents	Government Publications	Printed Catalogues	Printed Bibliographies	Reference Books	

1.	Below 25	16 (50%)	8 (25%)	0	0	8 (25%)	0	0	32 (5.6%)
2.	26-35	84 (51.2%)	16 (9.8%)	24 (14.6%)	8 (4.9%)	0	4 (2.4%)	28 (17.1%	164 (28.7%)
3.	36-45	120 (46.2%)	40 (15.4%)	36 (13.8%)	24 (9.2%)	16 (6.2%)	4 (1.5%)	20 (7.7%)	260 (45.5%)
4.	46-55	32 (30.8%)	48 (46.2%)	8 (7.7%)	12 (11.5%)	4 (3.8%)	0	0	104 (18.2%)
5.	56 and above	8 (66.7%)	4 (33.3%)	0	0	0	0	0	12 (2%)
Total		260 (45.5%)	116 (20.3%)	68 (11.9%)	44 (7.7%)	28 (4.9%)	8 (1.4%)	48 (8.4%)	572 (100%)

From the Table 7, it could be referred that large number of the respondents (45.5%) belonging to various age groups satisfy with 'books, current journals', except the respondents in '46 to 55 years' age group. Most of the respondents (46.2%) belonging to '46 to 55 years' age group satisfy with 'back volumes of periodicals', followed by 'books, current journals'(30.8%).

Among them, most of the respondents (50%) belonging to ‘below 25 years’ age group satisfy with 'books, current journals', followed by ‘back volumes of periodicals’ and ‘printed catalogues’ equally (25%). Most of the respondents (51.2%) belonging to '26 to 35 years' age group satisfy with 'books, current journals', followed by ‘reference books’ (17.1%).

Most of the respondents (46.2%) belonging to '36 to 45 years' age group satisfy with 'books, current journals', followed by ‘back volume of periodicals’ (15.4%). Most of the respondents (66.7%) belonging to ‘56 years and above' age group satisfy with 'books, current journals', followed by ‘back volume of periodicals’ (33.3%).

‘Printed bibliographies’ are the least (1.4%) satisfied printed resources among all categories.

Table 8. Most Satisfied Printed Resources with reference to various designations

S. No	Designations	Most Satisfied Printed Resources (Percentage within designations)							Total (%)
		Books, Current Journals	Back Volumes of Periodicals	Patents	Government Publications	Printed Catalogues	Printed Bibliographies	Reference Books	
1.	Librarian	148 (46.8%)	55 (17.4%)	51 (16.1%)	19 (6%)	18 (5.7%)	7 (2.2%)	18 (5.7%)	316 (55.2%)
2.	Deputy Librarian	8 (40%)	4 (20%)	8 (40%)	0	0	0	0	20 (3.5%)
3.	Assistant Librarian	56 (48.3%)	24 (20.7%)	0	12 (10.3%)	8 (6.9%)	0	16 (13.8%)	116 (20.3%)
4.	Library Technical Staff	28 (26.8%)	16 (21.1%)	8 (10.5%)	12 (15.8%)	0	0	12 (15.8%)	76 (13.3%)
5.	Professor	0	8	0	0	0	0	0	8

			(100%)						(1.4%)
6.	Associate Professor	8 (66.7%)	4 (33.3%)	0	0	0	0	0	12 (2.1%)
7.	Assistant Professor	12 (50%)	5 (20.8%)	1 (4.2%)	1 (4.2%)	2 (8.3%)	1 (4.2%0	2 (8.3%)	24 (4.2%)

It could be found from the Table 8 that most of the respondents belonging to various designations satisfy with 'book, current journals', except 'professors'. The respondents (100%) belonging to 'professors' designation satisfy with 'back volumes of periodicals'.

It could be also referred that the second most satisfied printed resources are 'back volumes of periodicals' to the respondents belonging to 'librarian'(17.4%), 'deputy librarian' (20%), 'assistant librarian' (20.7%), 'library technical staff' (21.1%), 'associate professor' (33.3%) and 'assistant professor' (20.8%) designations.

5.4. Descriptive Analysis on Most Satisfied e-Resources:

Table 9. Most Satisfied e-Resources with reference to various age groups

S.No	Age Groups (in years)	Most Satisfied e-Resources (Percentage within age groups)							Total (%)
		E-Books, E-Journals	E-Reference Sources	Bibliography Databases	CD-ROM Sources	Full Text Databases	Open Access Databases	Audio Visual Sources	
1.	Below 25	8 (25%)	4 (12.5%)	8 (25%)	4 (12.5%)	0	8 (25%)	0	32 (5.6%)
2.	26-35	36 (22%)	44 (26.8%)	28 (17.1%)	24 (14.6%)	4 (2.4%)	28 (17.1%)	0	164 (28.7%)
3.	36-45	84 (32.3%)	36 (13.8%)	44 (16.9%)	28 (10.8%)	28 (10.8%)	32 (12.3%)	8 (3.1%)	260 (45.5%)
4.	46-55	56 (53.8%)	8 (7.7%)	12 (11.5%0	8 (7.7%0	8 (7.7%)	12 (11.5%0	0	104 (18.2%)
5.	56 and above	4 (33.3%)	4 (33.3%)	0	0	4 (33.3%)	0	0	12 (2.1%)
	Total	188 (32.9%)	96 (16.8%)	92 (16.1%)	64 (11.2%)	44 (7.7%)	80 (14%)	8 (1.4%)	572 (100%)

From the Table 9, it could be identified that most of the respondents (32.9%) belonging to various age groups satisfy with 'e-Books, e-Journals', except the respondents belonging to '26 to 35 years' age group. Most of the respondents (26.8%) belonging to '26 to 35 years' age group satisfy with 'e-reference sources', followed by 'e-books, e-journals' (22%). Most of the respondents belonging to 'below 25 years' age group satisfy with 'e-Books, e-Journals', 'bibliography databases' and 'open access databases' equally (25%), followed by 'e-reference sources' and 'CD ROM sources' equally (12.5%). Most of the respondents (32.3%) belonging to '36 to 45 years' age group satisfy with 'e-Books, e-Journals', followed by 'bibliography databases' (16.9%).

Most of the respondents (53.8%) belonging to ’46 to 55 years’ age group satisfy with ‘e-Books, e-Journals’, followed by ‘bibliography databases’ and ‘open access databases’ equally (11.5%). The respondents belonging to ’56 years and above’ equally (33.3%) satisfy with ‘e-Books, e-Journals’, ‘e-reference sources’ and ‘full text databases’. ‘Audio visual sources’ are the least (1.4%) satisfied e-resources among all categories of respondents.

Table 10.Most Satisfied e-Resources with reference to various designations

S.No	Designations	Most Satisfied e-Resources (Percentage within types of designations)							Total (%)
		E-Books, E-Journals	E-Reference Sources	Bibliography Databases	CD-ROM Sources	Full Text Databases	Open Access Databases	Audio Visual Sources	
1.	Librarian	96 (30.4%)	64 (20.3%)	39 (12.3%)	44 (13.9%)	25 (7.9%)	48 (15.2%)	0	316 (55.2%)
2.	Deputy Librarian	8 (40%)	4 (20%)	0	4 (20%)	0	4 (20%)	0	20 (3.5%)
3.	Assistant Librarian	40 (34.5%)	12 (10.3%)	36 (31%)	8 (6.9%0	8 (6.9%)	12 (10.3%)	0	116 (20.3%)
4.	Library Technical Staff	24 (31.6%)	4 (5.3%0	12 (15.8%)	8 (10.5%)	8 (10.5%)	12 (15.8%)	8 (10.5%)	76 (13.3%)
5.	Professor	4 (50%)	0	4 (50%)	0	0	0	0	8 (1.4%)
6.	Associate Professor	8 (66.7%)	4 (33.3%)	0	0	0	0	0	12 (2.1%)
7.	Assistant Professor	8 (33.3%)	8 (33.3%)	1 (4.2%)	0	3 (12.5%)	4 (16.7%)	0	24 (4.2%)

It could be found from the Table 10 that most of the respondents belonging to various designations satisfy with ‘e-Books, e-Journals’. Among them, most of the respondents belonging to ‘assistant professors’ designations satisfy with ‘e-Books, e-Journals’ and ‘e-reference sources’ equally (33.3%), followed by ‘full text databases’ (16.7%). Most of the respondents (30.4%) belonging to ‘librarian’ designations satisfy with ‘e-Books, e-Journals’, followed by ‘e-reference sources’ (20.3%). Most of the respondents (40%) belonging to ‘deputy librarian’ designations satisfy with ‘e-Books, followed by ‘e-reference sources’, ‘CD-ROM sources’ and ‘open access databases’ (20%).

Most of the respondents (34.5%) belonging to ‘assistant librarian’ designation satisfy with ‘e-books, e-journals’, followed by ‘bibliography databases’ (31%). Most of the respondents (31.6%) belonging to ‘library technical staff’ designation satisfy with ‘e-books, e-journals’, followed by ‘bibliography databases’ and ‘open access databases’ equally (15.8%). Most of the respondents belonging to ‘professors’ designation satisfy with ‘e-books, e-journals’ and ‘e-reference sources’ equally (33.3%).

5.5. Descriptive Analysis on Most Preferred Search Strategy:

Table 11.Most preferred search strategy with reference to various age groups

S. No	Age Groups (in years)	Most preferred search strategy (Percentage within age groups)					Total (%)
		Typing full required statement in the search box	Typing keywords only in the search box	Typing keywords using Boolean operators	Using truncations	Don't know any search techniques	
1.	Below 25	8 (25%)	8 (25%)	12 (37.5%)	4 (12.5%)	0	32 (5.6%)
2.	26-35	24 (14.6%)	80 (48.8%)	36 (22%)	24 (14.6%)	0	164 (28.6%)
3.	36-45	80 (30.8%)	104 (40%)	32 (12.3%)	44 (16.9%)	0	260 (45.5%)
4.	46-55	56 (53.8%)	36 (34.6%)	8 (7.7%)	0	4 (3.8%)	104 (18.2%)
5.	56 and above	4 (33.3%)	8 (66.7%)	0	0	0	12 (2.1%)
Total		172 (30.1%)	236 (41.3%)	88 (15.3%)	72 (12.6%)	4 (0.7%)	572 (100%)

From the Table 11, it could be found that most of the respondents (41.3%) belonging to various age groups prefer 'typing keywords only in the search box' as their search strategy, except the respondents belonging to 'below 25 years' and '46 to 55 years' age groups. Most of the respondents (37.5%) belonging to 'below 25 years' prefer 'typing keywords using Boolean operators' while search information, followed by 'typing full required statement in the search box' and 'typing keywords only in the search box' (25%). Most of the respondents belonging (53.8%) to '46 to 55 years' age group prefer 'typing full required statement in the search box' to find the needed information, followed by 'typing keywords only in the search box' (34.6%). It could be also revealed that only few number of respondents (3.8%) belonging to '46 to 55 years' age group being 'unaware of any search techniques'. Very few numbers of respondents (0.7%) only 'do not know any search techniques' to find their needed information among all categories.

Table 12. Most preferred search strategy with reference to various designations

S. No	Designations	Most preferred search strategy (Percentage within designations)					Total (%)
		Typing full required statement in the search box	Typing keywords only in the search box	Typing keywords using Boolean operators	Using truncations	Don't know any search techniques	
1.	Librarian	105 (33.2%)	120 (38%)	40 (12.7%)	48 (15.2%0	3 (0.9%)	316 55.2%)
2.	Deputy Librarian	8 (40%)	8 (40%)	0	4 (20%)	0	20 (3.5%)
3.	Assistant	28	44	28	16	0	116

	Librarian	(24.1%)	(37.9%)	(24.1%)	(13.8%)		(20.3%)
4.	Library Technical Staff	16 (21.1%)	44 (57.9%)	12 (15.8%)	4 (5.3%)	0	76 (13.3%)
5.	Professor	4 (50%)	0	4 (50%)	0	0	8 (1.4%)
6.	Associate Professor	4 (33.3%)	8 (66.7%)	0	0	0	12 (2.1%)
7.	Assistant Professor	7 (29.2%)	12 (50%)	4 (16.6%)	0	1 (4.2%)	24 (4.2%)

It could be referred from the Table 12 that most of the respondents belonging to various designations prefer 'typing keywords only in the search box' as their search strategy, except the respondents belonging to 'professors' designations. The respondents belonging to 'professors' designations prefer 'typing full required statement in the search box' and 'typing keywords using Boolean operators' equally (50%). Most of the respondents (38%) belonging to 'librarian' designation prefer 'typing keywords only in the search box', followed by 'typing full required statement in the search box' (33.2%).

Most of the respondents belonging to 'deputy librarian' equally prefer 'typing full required statement in the search box' and 'typing keywords only in the search box' (40%). Most of the respondents (37.9%) belonging to 'assistant librarian' designation prefer 'typing keywords only in the search box', followed by 'typing full required statement in the search box' (24.1%) and 'typing keywords using Boolean operators' (24.1%). Most of the respondents (57.9%) belonging to 'library technical staff' designation prefer 'typing keywords only in the search box', followed by 'typing full required statement in the search box' (21.1%). Most of the respondents (66.7%) belonging to 'associate professor' designation prefer 'typing keywords only in the search box', followed by 'typing full required statement in the search box' (33.3%). Most of the respondents (50%) belonging to 'assistant professor' designation prefer 'typing keywords only in the search box', followed by 'typing full required statement in the search box' (29.2%).

Table 13. Most preferred search strategy with reference to various locations

S. No	Location	Most preferred search strategy (Percentage within types of locations)					Total (%)
		Typing full required statement in the search box	Typing keywords only in the search box	Typing keywords using Boolean operators	Using truncations	Don't know any search techniques	
1.	Urban	124 (31%)	180 (45%)	56 (14%)	36 (9%)	4 (1%)	400 (69.9%)
2.	Semi-Urban	36 (33.3%)	32 (29.6%)	24 (22.3%)	16 (14.8%)	0	108 (18.9%)
3.	Rural	12 (18.8%)	24 (37.5%)	8 (12.5%)	20 (31.3%)	0	64 (11.2%)

From Table 13, it could be inferred that most of the respondents belonging to various locations prefer 'typing keywords only in the search box' while searching needed information, except the respondents belonging to 'semi-urban' location. Most of the respondents (33.3%) belonging to 'semi-urban' location prefer 'typing full required statement in the search box', followed by 'typing keywords only in the search box' (29.6%) as their search strategy. It could be also referred that most of the respondents (45%) belonging to 'urban' location prefer 'typing keywords only in the search box', followed by 'typing full required statement in the search box' (31%). Most of the respondents (37.5%) belonging to 'rural' location prefer 'typing keywords only in the search box', followed by 'using truncations' (31.3%) as their search strategy.

Table 14. Most preferred search strategy with reference to various educational qualifications

S. No	Educational Qualifications	Most preferred search strategy (Percentage within educational qualifications)					Total (%)
		Typing full required statement in the search box	Typing keywords only in the search box	Typing keywords using Boolean operators	Using truncations	Don't know any search techniques	
1.	PhD in LIS	68 (36.2%)	64 (34%)	28 (14.9%)	24 (12.8%)	4 (2.1%)	188 (32.9%)
2.	UGC NET/SET	32 (27.6%)	76 (65.5%)	4 (3.4%)	4 (3.4%)	0	116 (20.3%)
3.	MPhil in LIS	16 (16.7%)	52 (54.2%)	20 (20.8%)	8 (8.3%)	0	96 (16.8%)
4.	PG in LIS	44 (32.4%)	32 (23.5%)	28 (20.6%)	32 (23.5%)	0	136 (23.8%)
5.	UG in LIS	12 (33.3%)	12 (33.3%)	8 (22.2%)	4 (11.1%)	0	36 (6.3%)

It could be inferred from the Table 14 that most of the respondents belonging to various educational qualifications prefer 'typing full required statement in the search box' as their search strategy, except the respondents belonging to 'UGC NET/SET' and 'MPhil in LIS' qualifications. Most of the respondents (65.5%) belonging to 'UGC NET/SET' qualification prefer 'typing keywords only in the search box' while search information, followed by 'typing full required statement in the search box'(27.6%). Most of the respondents (54.2%) belonging to 'MPhil in LIS' qualification prefer 'typing keywords only in the search box' while search information, followed by 'typing keywords using Boolean operators' (20.8%).

It could be also found that most of the respondents (36.2%) belonging to 'PhD in LIS' qualification prefer 'typing full required statement in the search box', followed by 'typing keywords only in the search box' (34%). Most of the respondents (32.4%) belonging to 'PG in LIS' qualification prefer 'typing full required statement in the search box', followed by 'typing keywords only in the search box' and 'using truncations' equally (23.5%). Most of the respondents belonging to 'UG in LIS' qualification equally (33.3%) prefer 'typing full required statement in the search box' and 'typing keywords only in the search box' as their search strategy.

5.6. Descriptive Analysis on Most Preferred Parameter to Evaluate Information:

Table 15.Most preferred parameter to evaluate the information with reference to various age groups

S. No	Age Groups (in years)	Most preferred parameter to evaluate the information (Percentage within age groups)				Total (%)
		Authenticity	Usability	Coverage	Consistency	
1.	Below 25	24 (75%)	8 (25%)	0	0	32 (5.6%)
2.	26-35	60 (36.6%)	56 (34.1%)	24 (14.6%)	24 (14.6%)	164 (28.6%)
3.	36-45	116 (44.6%)	60 (23.1%)	56 (21.5%)	28 (10.8%)	260 (45.5%)
4.	46-55	32 (30.8%)	36 (34.6%)	28 (26.9%)	8 (7.7%)	104 (18.2%)
5.	56 and above	4 (33.3%)	0	8 (66.7%)	0	12 (2.1%)
Total		236 (41.3%)	160 (28%)	116 (20.3%)	60 (10.4%)	572 (100%)

From Table 15, it could be revealed that most of the respondents (41.3%) belonging to various age groups prefer ‘authenticity’, followed by ‘usability’ (28%) as the parameters to evaluate the information, except the respondents belonging to ’46 to 55 years’ and ’56 years and above’ age groups. Most of the respondents (34.6%) belonging to ’46 to 55 years’ age group prefer ‘usability’ as the parameter to evaluate the information, followed by ‘authenticity’ (30.8%). Most of the respondents (66.7%) belonging to ‘56 years and above’ age group prefer ‘coverage’ as the parameter to evaluate the information, followed by ‘authenticity’ (33.3%). ‘Consistency’ is the least (10.4%) preferred parameter to evaluate the information among all categories of respondents.

Table 16. Most preferred parameter to evaluate the information with reference to various designations

S. No	Designations	Most preferred parameter to evaluate the information (Percentage within designations)				Total (%)
		Authenticity	Usability	Coverage	Consistency	
1.	Librarian	143 (45.3%)	71 (22.5%)	80 (25.3%)	22 (7%)	316 (55.2%)
2.	Deputy Librarian	0	8 (40%)	8 (40%)	4 (20%)	20 (3.5%)
3.	Assistant Librarian	36 (31%)	36 (31%)	16 (13.8%)	28 (24.2%)	116 (20.3%)
4.	Library Technical Staff	44 (57.9%)	20 (26.3%)	8 (10.5%)	4 (5.3%)	76 (13.3%)
5.	Professor	0	8 (100%)	0	0	8 (1.4%)
6.	Associate Professor	0	12 (100%)	0	0	12 (2.1%)
7.	Assistant Professor	13 (54.2%)	5 (20.8%)	4 (16.7%)	2 (8.3%)	24 (4.2%)

It could be found from the Table 16 that most of the respondents belonging to various designations prefer 'authenticity' as the parameter to evaluate information, except the respondents belonging to 'deputy librarian', 'professor' and 'associate professor' designations. Most of the respondents belonging to 'deputy librarian' designation prefer 'usability' and 'coverage' equally (40%), followed by 'consistency' (20%). The respondents belonging to 'professors' and 'associate professor' designations prefer 'usability' (100%) to evaluate information. It could be also referred that most of the respondents (45.3%) belonging to 'librarian' designation prefer 'authenticity', followed by 'coverage' (25.3%). Most of the respondents belonging to 'assistant librarian' designation prefer 'authenticity' and 'usability' equally (31%), followed by 'consistency' (24.2%). Most of the respondents belonging to 'library technical staff' prefer 'authenticity' (57.9%), followed by 'usability' (26.3%). Most of the respondents belonging to 'assistant professor' prefer 'authenticity' (54.2%) to evaluate information, followed by 'usability' (20.8%).

Table 17. Most preferred parameter to evaluate the information with reference to various educational qualifications

S. No	Educational Qualifications	Most preferred parameter to evaluate the information (Percentage within educational qualifications)				Total (%)
		Authenticity	Usability	Coverage	Consistency	
1.	PhD in LIS	56 (29.8%)	64 (34%)	48 (25.5%)	20 (10.6%)	188 (32.9%)
2.	UGC NET/SET	48 (41.4%)	12 (10.3%)	32 (27.6%)	24 (20.7%)	116 (20.3%)
3.	MPhil in LIS	56 (58.3%)	32 (33.3%)	8 (8.3%)	0	96 (16.8%)
4.	PG in LIS	64 (47.1%)	44 (32.4%)	12 (8.8%)	16 (11.8%)	136 (23.8%)
5.	UG in LIS	12 (33.3%)	8 (22.2%)	16 (44.4%)	0	36 (6.3%)

From Table 17, it could be found that most of the respondents belonging to various educational qualifications prefer 'authenticity' as the parameter to evaluate the information, except the respondents belonging to 'PhD in LIS' and 'UG in LIS' qualifications. Most of the respondents (34%) belonging to 'PhD in LIS' qualification prefer 'usability' to evaluate the information, followed by 'authenticity' (29.8%). Most of the respondents (44.4%) belonging to 'UG in LIS' qualification prefer 'coverage' to evaluate the information, followed by 'authenticity' (33.3%). It could be also found that most of the respondents belonging to 'UGC NET/SET' qualification prefer 'authenticity' (41.4%), followed by 'coverage' (27.6%). Most of the respondents belonging to 'MPhil in LIS' (58.3%) and 'PG in LIS' (47.1%) prefer 'authenticity' to evaluate information, followed by 'usability' (respectively 33.3% and 32.4%).

Table 18. Most preferred parameter to evaluate the information with reference to various types of libraries

S. No	Type of Library	Most preferred parameter to evaluate the information (Percentage within types of libraries)				Total (%)
		Authenticity	Usability	Coverage	Consistency	
1.	Academic	140 (39.8%)	104 (29.5%)	64 (18.2%)	44 (12.5%)	352 (61.5%)
2.	Special	16	20	8	0	44

		(36.4%)	(45.5%)	(18.2%)		(7.7%)
3.	Public	80 (45.5%)	36 (20.5%)	44 (25%)	16 (9.1%)	176 (30.8%)

It could be found from the Table 18 that most of the respondents belonging to various types of libraries prefer 'authenticity', except 'special library'. Most of the respondents (45.5%) belonging to 'special libraries' prefer 'usability' to evaluate information, followed by 'authenticity' (36.4%). Most of the respondents (39.8%) belonging to 'academic libraries' prefer 'authenticity', followed by 'usability' (29.5%). Most of the respondents belonging to 'public libraries' prefer 'authenticity' (45.5%), followed by 'coverage' to evaluate the information.

Table 19. Most preferred parameter to evaluate the information with reference to various types of institutions

S. No	Type of Institution	Most preferred parameter to evaluate the information (Percentage within types of institutions)				Total (%)
		Authenticity	Usability	Coverage	Consistency	
1.	Government	140 (45.5%)	84 (27.3%)	60 (19.5%)	24 (7.8%)	308 (53.8%)
2.	Aided	12 (21.4%)	12 (21.4%)	16 (28.6%)	16 (28.6%)	56 (9.8%)
3.	Self-Financing	84 (40.4%)	64 (30.8%)	40 (19.2%)	20 (9.6%)	208 (36.4%)

From the Table 19, it could be inferred that most of the respondents belonging to various types of institutions prefer 'authenticity' as the parameter to evaluate information, except 'aided' institutions. Most of the respondents (28.6%) belonging to 'aided' institutions prefer 'coverage' and 'consistency', followed by 'authenticity' and 'usability' (21.4%). Most of the respondents (45.5%) belonging to 'government' institutions prefer 'authenticity', followed by 'usability' (27.3%). Most of the respondents (40.4%) belonging to 'self-financing' institutions prefer 'authenticity', followed by 'usability' (30.8%).

6. Suggestions

In the light of the findings, the researchers recommend the following:

- Library and Information Science professionals should be trained on the information Search Strategies which will in turn enhance their research on the Internet.

- The LIS professionals should developed their searching skills in terms of the concept identification by adoption of different search techniques. They must be aware about the search query formulations, search techniques and apply it while conducting search.

- There is need to include computer based programme in the curriculum to enable LIS students acquire basic and specific Internet skills necessary to operate computer.

- LIS professionals should develop their search strategies and carry out search through academic hubs and subject gateways, federated based search engine to narrow down the topic for getting better relevant result.

- The server/system should be up graded regularly to make faster for information retrieval with the available ICT resources by the institution administration.

- The institution should plan to set up web infrastructure and facilities within the campus.

- Academic institution should conduct training program specifically focusing on the improvement of user's internet skills.

7. Conclusion

The Internet is a new technological way to disseminate information to a larger population of people in a more speedy and accurate way. Therefore, the findings of the study revealed that LIS professionals use the Internet to search for materials for writing research papers. Searching on web is an important skill needed to obtain information, thus understanding information searching process is a relevant research issue. Internet searching is usually part of an ongoing quest for more and better information on the topic of interest. The information searching practices need a methodical training to gain the quality in information searching. Also, the results from this study show that searching and locating information on the Internet requires not only literacy skills but problem solving skills as well. Also, the study revealed that the inadequate power supply, slow Internet connection, and lack of skills in the use of computers were problems militating against the use of Internet for research in institution. However, more research is needed in this area to better understand the complexities of searching materials from the Internet.

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