
Information Seeking and Searching Behaviour of Faculty Members in Web Environment: A Study of Engineering Colleges in Mysuru Region

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Abstract

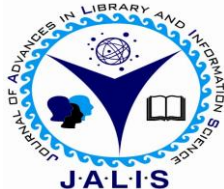
The present study examines the purpose of use web resources, nature and type of information required, use of web based information resources, time spent and place of access to web based information resources, methods preferred for information seeking, opinion about ways to gather immediate need of information, use of meta search engines for accessing e-resources, information gathered about whether users obtain the relevant information while searching the web resources, search option preferred for accessing web based information resources and need for orientation/ training programs for better use of web-resources by the faculty members of Engineering Colleges in Mysore Region. The article concludes with appropriate suggestions to improve Information Seeking and Searching Behaviour in web environment by the faculty members of engineering colleges in Mysuru region.

Keywords

Information Seeking and Searching Behaviour; Web Environment; Electronic Resources; Search Strategies.

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1. Introduction

The rapid advancement of Information and Communication Technology has brought an evolutionary change in information scenario giving rise to a number of options to the users' community to handle various information sources conveniently and effortlessly as a result of which web based electronic resources have become the lively substance to the modern library reserves in satisfying varied needs of faculty members with minimum risk and time. Behavioral studies are carried out to find out the overall pattern of interaction of the user community with the communication system, without reference to any specific information receiving event. The basic assumption behind behavior studies is that the library and information system and its services need improvement from time to time as per the changing information needs of its community. The behavior studies help us in filling up the gap between the kind of information services available in the library and those required for reading community. The new technology has made information easily available to them in different formats. The electronic library is considered a gift to the faculty members as it provides an easy and quick access to more and better updated information. The faculty members of the engineering colleges are gradually adopting new technologies for satisfying their information needs while carrying out teaching, research and academic activities. The present study was conducted to know the Information Seeking and Searching Behaviour in web environment by the faculty members of engineering colleges in Mysuru region.

2. Review of Literature

Many similar studies related to the topic have been reviewed, and the literature review gives a broader outlook. Some of the important reviews are presented below.

Balaji and Ragavan (2016) discussed the Information seeking behavior of faculty members and research scholars of Bangalore University. The study gives the information of the faculty members and research scholars seeking the information for research, writing papers and to update the general awareness. Internet, online journals, print journals and books are the main formal sources for seeking information. The authors suggested the library staff must be aware of how the faculty and research scholar will seek the information and their needs. The reference librarian should help the users in locating the information and thereby help the

faculty and scholars to improve the seeking behavior and find the needs of the users of the library. Savolainen (2016) has elaborated the picture of strategies for information searching and seeking by reviewing the conceptualizations in the field of library and information science. The author gives an idea of Mintzberg's strategy and actions. It involved 57 LIS surveys to search the required information. The work clearly explains using the various steps involved searching in the web. Kumar and Kumbar (2015) conducted a study on autonomous engineering institutions affiliated to Visvesvaraya Technological University in Karnataka to examine the factors that affect the optimum utilization of electronic information resources and search pattern. The study mainly focused on the use of different types of electronic information resources by the faculty, source of awareness, learn to use, problems faced, purpose of use, preferred search engines and search methods for effective retrieval of electronic information resources. The members of faculty are well aware of existing resources and library services. But they need training in the area of information search and retrieval in the web environment. Thanuskodi (2009) has addressed about the information needs and information seeking behavior of law faculty members at the Central Law College, Salem. The study says that users use a variety of information sources for teaching and research, books and law reports are the most important resources. The study exposed that the users use IT-based library sources and facilities less frequently compared with printed sources. The study noted that email is the most popular Internet application and the Internet are considered extremely important tools for effective teaching and research. Fourie (2006) has discussed the web information seeking studies of practices, and their potential attention towards library and information science practitioners. In this study show the how LIS practitioners can incorporate findings from web information seeking studies and include improved self-knowledge and self-efficacy of practitioners and users, adapted approaches to information literacy and user empowerment programs, improved access to the full spectrum of the information infrastructure, a stronger emphasis on the link between information-seeking and information infrastructure and information use and knowledge generation.

3. Objectives of the Study

The objectives behind conducting the present study are:

1. To identify the purpose, nature and type of web based information resources required by the faculty members.
2. To assess the Use of Web Based Information Resources among faculty members.
3. To know preferences of searching desired information and information resources and the time spent and place of access to web resources.
4. To know the search strategies used by the faculty members in seeking and searching the information in web Environment.
5. To know the rating about the accessibility of web resources and services made available at the library and to assess the need of orientation/ training programs for use of web-resources by the faculty members.
6. To investigate, to what extent, library staff influence their information seeking and searching behaviour in a web environment.

4. Methodology

The study's scope is restricted to Information Seeking and Searching Behaviour in web environment by the faculty members of engineering colleges in Mysuru region. At present Mysore region has a total of 59 engineering colleges affiliated to VTU. A total of 59 engineering colleges are covered in this study, which are established before the year 2010. The colleges were also selected based on their good ICT infrastructure and also which provide a large amount of Web enabled information resources and services. The survey method was adopted using questionnaire as a tool for data collection. A structured questionnaire was designed and distributed among faculty members of engineering colleges in the Mysore region. Out of 1100 questionnaires distributed among faculty members, 913 filled-in questionnaires were received back, amounting to 83.00%. In addition to the questionnaire method, interview schedule and observation method were also used to collect required information.

5. Data Analysis

The data collected by different methods were analyzed and interpreted and the same is presented in the following tables.

5.1. Designation Wise Distribution

The Table-1 shows the designation wise distribution of faculty members in Engineering Colleges examined in Mysore.

Table 1: Designation Wise Distribution

Designation	Number (N=913)	Percentage
Assistant Professor	691	75.67
Associate Professor	154	16.88
Professor	68	07.45

The above Table-1 shows the designation wise distribution of the faculty members in Engineering Colleges in Mysore Region. The Table-1 depicts that a high number of faculty 691 (75.67%) are 'Assistant Professors', followed by 154 (16.88%) are 'Associate Professors' and 68 (07.45%) are 'Professors'.

5.2. Purpose of Use Web Resources

The purpose of use web resources by the faculty members has been summarized in Table-2. The Table-2 depicts that 398 (43.59%) faculty members

opine as they 'Most Frequently Use' web resources for teaching / learning purposes, followed by 361 (39.54%) faculty members opine as they 'Occasionally Use' web resources for research work, 384 (42.06%) faculty members opine as they 'Occasionally Use' web resources for Reading / Writing articles / books, 382 (41.84%) faculty members opine as they 'Most Frequently Use' web resources to keep up-to-date subject information, 466 (51.04%) faculty members opine as they 'Occasionally Use' web resources for accessing standards and patents, 352 (38.55%) faculty members opine as they 'Frequently Use' web resources for preparation for seminars, conference and workshop, 306 (33.52%) faculty members opine as they 'Frequently Use' web resources for basic scientific and technical information, 290 (31.76%) faculty members opine as they 'Occasionally Use' web resources for collecting general information, 324 (35.49%) faculty members opine as they 'Frequently Use' web resources to access audio/ visual materials and 243 (26.62%) faculty members opine as they 'Not Use' web resources for framing curriculum (syllabus).

Table 2: Purpose of Use Web Resources

Purpose	Number (N=913)				
	NU	RU	OU	FU	MFU
For teaching / Learning purposes	03 (00.33)	62 (06.79)	243 (26.62)	207 (22.67)	398 (43.59)
For research work	28 (03.07)	54 (05.91)	361 (39.54)	169 (18.51)	301 (32.97)
Reading / Writing articles / books	02 (00.22)	81 (08.87)	384 (42.06)	247 (27.05)	199 (21.80)
To keep up-to-date subject information	06 (00.66)	72 (07.89)	92 (10.08)	361 (39.54)	382 (41.84)
For accessing standards and patents	89 (09.75)	74 (08.11)	466 (51.04)	136 (14.90)	148 (16.21)
Preparation for Seminars, conference & workshop	21 (02.30)	108 (11.83)	231 (25.30)	352 (38.55)	201 (22.02)
For basic scientific and technical information	13 (01.42)	116 (12.71)	298 (32.64)	306 (33.52)	180 (19.72)
For collecting general information	07 (00.77)	120 (13.14)	290 (31.76)	252 (27.60)	244 (26.73)
To access audio / visual materials	24 (02.63)	81 (08.87)	178 (19.50)	324 (35.49)	306 (33.52)
Framing Curriculum (syllabus)	243 (26.62)	206 (22.56)	129 (14.13)	192 (21.03)	143 (15.66)
Codes: 1. Not use 2. Rarely use 3. Occasionally use 4. Frequently use 5. More frequently use					
$\chi^2=2315.84, df=36, P=0.00$					
Note: Figures in parentheses indicate percent age					

5.3. Nature and Type of Information Required

The nature and type of information required by the faculty members has been shown in Table-3. The Table-3 depicts that 234 (25.63%) faculty members opine as they ‘Rarely Required’ the Review of Literature, followed by 364 (39.87%) faculty members opine as they ‘Occasionally Required’ the Basic Scientific and Technical Information, 331 (36.25%) faculty members opine as they ‘Frequently Required’ the Experimental design, results and applications, 306 (33.52%) faculty members opine as they ‘Occasionally Required’ the Information about previous work done in the interested field, 402

(44.03%) faculty members opine as they ‘Frequently Required’ the Information about current development in your field, 357 (39.10%) faculty members opine as they ‘Frequently Required’ the Information Scientific and technical news, 307 (33.63%) faculty members opine as they ‘Occasionally Required’ the Computer programs and mathematical models, 468 (51.26%) faculty members opine as they ‘Occasionally Required’ the Information about international organizations and their activities and 244 (26.73%) faculty members opine as they ‘Occasionally Required’ the Information about government decisions on science and technology policy of funding.

Table 3: Nature and Type of Information Required

Nature and Type	Number (N=913)				
	NR	RR	OR	FR	MR
Review of Literature	108 (11.83)	234 (25.63)	221 (24.21)	188 (20.59)	162 (17.74)
Basic scientific and technical information	72 (07.89)	103 (11.28)	364 (39.87)	226 (24.75)	148 (16.21)
Experimental design, results and applications	36 (03.94)	172 (18.84)	148 (16.21)	331 (36.25)	226 (24.75)
Information about previous work done in the interested field.	18 (01.97)	201 (22.02)	306 (33.52)	104 (11.39)	284 (31.11)
Information about current development in your field	05 (00.55)	39 (04.27)	131 (14.35)	402 (44.03)	336 (36.80)
Scientific and technical news	02 (00.22)	84 (09.20)	229 (25.08)	357 (39.10)	241 (26.40)
Computer programs and mathematical models	88 (09.64)	73 (08.00)	307 (33.63)	209 (22.89)	236 (25.85)
Information about international organizations and their activities	16 (01.75)	82 (08.98)	468 (51.26)	149 (16.32)	198 (21.69)
Information about government decisions on science and technology policy of funding	22 (02.41)	206 (22.56)	244 (26.73)	232 (25.41)	209 (22.89)
Codes: 1: Not Required, 2. Rarely Required 3. Occasionally Required 4. Frequently Required 5. Most Required					
$\chi^2=1371.71, df=32, P=0.00$					
Note: Figures in parentheses indicate percentage					

5.4. Use of Web Based Information Resources

The use of web based information resources by the faculty members has been shown in Table-4. The Table-4 depicts that 376 (41.18%) faculty members opine as they ‘Frequently’ use e-books, followed by 281 (30.78%) faculty members opine as they ‘Frequently’ use of e-journals, 327 (35.82%) faculty members opine as they ‘Frequently’ use of e-databases, 320 (35.05%) faculty members opine as

they ‘Daily’ use of e-magazines / news Papers, 384 (42.06%) faculty members opine as they

‘Occasionally’ use of e-theses and dissertations, 323 (35.38%) faculty members opine as they ‘Rarely’ use of e-conference proceedings, 448 (49.07%) faculty members opine as they ‘Occasionally’ use of e-reports, 301 (32.97%) faculty members opine as they ‘Frequently’ use of e-standards/patent, 388 (42.50%) faculty members opine as they ‘Occasionally’ use of e-tutorials, 306 (33.52%) faculty members opine as

they ‘Occasionally’ use of e-project reports, assignments etc.

Table 4: Use of Web Based Information Resources

Web Based Information Resources	Number (N=913)				
	Never	Rarely	Occasionally	Frequently	Daily
E- Books	21 (02.30)	183 (20.04)	288 (31.54)	376 (41.18)	116 (12.71)
E-Journals	07 (00.77)	208 (22.78)	225 (24.64)	281 (30.78)	192 (21.03)
E- Databases	09 (00.99)	144 (15.77)	302 (33.08)	327 (35.82)	131 (14.35)
E-Magazines / News Papers	16 (01.75)	182 (19.93)	247 (27.05)	148 (16.21)	320 (35.05)
E-Theses and Dissertations	22 (02.41)	196 (21.47)	384 (42.06)	137 (15.01)	174 (19.06)
E-Conference Proceedings	28 (03.07)	323 (35.38)	208 (22.78)	261 (28.59)	93 (10.19)
E-Reports	11 (01.20)	188 (20.59)	448 (49.07)	202 (22.12)	64 (07.01)
E-Standards/Patents	18 (01.97)	229 (25.08)	283 (31.00)	301 (32.97)	82 (08.98)
E-Tutorials	20 (02.19)	185 (20.26)	388 (42.50)	119 (13.03)	201 (22.02)
E-Project Reports, Assignments, etc.	09 (00.99)	202 (22.12)	306 (33.52)	216 (23.66)	180 (19.72)
$\chi^2=908.96, df=36, P=0.00$					
Note: Figures in parentheses indicate percentage					

5.5. Time Spent on Gathering Web Resources Per Week

The time spent on gathering web resources per week by the faculty members has been summarized in Table-5. The Table-5 depicts that 382 (41.84%) of faculty spent ‘11-15 Hours’ for gathering web resources per week, followed by 218 (23.88%) of

faculty spent ‘06-10 Hours’ for gathering web resources per week, 136 (14.90%) of faculty spent ‘More than 25 Hours’ for gathering web resources per week, 114 (12.49%) of faculty spent ‘16-20 Hours’ for gathering web resources per week and 63 (06.90%) of faculty spent ‘Up to 05 Hours’ for gathering web resources per week.

Table 5: Time Spent on Gathering Web Resources Per Week

Time	Civil Engg. (N=161)	Mech. Engg. (N=181)	Elect. Engg. (N=152)	Comp. Sci. Engg. (N=190)	Elec. & Com. Engg. (N=188)	Biotech. Engg. (N=41)	Total (N=913)
Upto5 hours	10 (06.21)	16 (08.84)	12 (07.89)	04 (02.11)	19 (10.11)	02 (04.88)	63 (06.90)
6-10 hours	93 (57.76)	55 (30.39)	29 (19.08)	09 (04.74)	25 (13.30)	07 (17.07)	218 (23.88)
11-15 hours	42 (26.09)	87 (48.07)	79 (51.97)	58 (30.53)	94 (50.00)	22 (53.66)	382 (41.84)
16-20 hours	07 (04.35)	18 (09.94)	21 (13.82)	36 (18.95)	28 (14.89)	04 (09.76)	114 (12.49)

More than 25 hours	09 (05.59)	05 (02.76)	11 (07.24)	83 (43.68)	22 (11.70)	06 (14.63)	136 (14.90)
$\chi^2=314.081, df=20, P=0.00$							
Note: Figures in parentheses indicate percentage							

5.6. Place of Access to Web Based Information Resources

The place of access to web based information resources by the faculty has been summarized in Table-6. The Table-6 indicates that 870 (95.29%) of faculty members access to web based information resources from 'Department' with 3.1989 and SD

1.5157, followed by 639 (69.99%) access from 'Home' with Mean 3.0532 and SD 1.4803, 255 (27.93%) access from 'Library' with Mean 3.1922 and SD 1.7417, 373 (40.85%) access from 'Laboratory' with Mean 3.3324 and SD1.3785, and 42 (04.60%) access from 'Cyber Café' with Mean 2.8571 and SD 1.6701.

Table 6: Place of Access to Web Based Information Resources

Access Place	Civil Engg. (N=161)	Mech. Engg. (N=181)	Elect. Engg. (N=152)	Comp. Sci. Engg. (N=190)	Elec. & Com. Engg. (N=188)	Biotech. Engg. (N=41)	Total (N=913)	Mean	SD
Library	62 (38.51)	46 (25.41)	33 (21.71)	39 (20.53)	45 (23.94)	30 (73.17)	255 (27.93)	3.1922	1.7417
Department	156 (96.89)	173 (95.58)	136 (89.47)	188 (98.95)	181 (96.28)	36 (87.80)	870 (95.29)	3.1989	1.5157
Home	124 (77.02)	137 (75.69)	122 (80.26)	105 (55.26)	139 (73.94)	12 (29.27)	639 (69.99)	3.0532	1.4803
Laboratory	48 (29.81)	73 (40.33)	38 (25.00)	152 (80.00)	45 (23.94)	17 (41.46)	373 (40.85)	3.3324	1.3785
Cyber Café	13 (08.07)	06 (03.31)	09 (05.92)	07 (03.68)	02 (01.06)	05 (12.20)	42 (04.60)	2.8571	1.6701
Note: Figures in parentheses indicate percentage									
$\chi^2= 165.845, df=20, P=0.00$									

5.7. Methods Preferred for Information Seeking

The methods preferred for information seeking by the faculty members has been shown in Table-7. The Table-7 depicts that 295 (32.31%) faculty members opine as they 'Occasionally' preferred communication with colleagues and subject experts, followed by 272 (29.79%) faculty members opine as they 'Rarely' preferred e-mail discussion, 302 (33.08%) faculty members opine as they 'Frequently' preferred follow up the references, 296 (32.42%) faculty members opine as they 'Rarely' preferred

subject specific bibliographic services, 308 (33.73%) faculty members opine as they 'Not' preferred book reviews, 383 (41.95%) faculty members opine as they 'Rarely' preferred discussion forum, 408 (44.69%) faculty members opine as they 'Most Frequently' preferred searching electronic resources, 362 (39.65%) faculty members opine as they 'Occasionally' preferred following hyperlinks, 224 (24.53%) faculty members opine as they 'Not' preferred consulting library staff, 509 (55.75%) faculty members opine as they 'Not' preferred others like browsing online catalogue, e-mail alert service etc.

Table7: Methods Preferred for Information Seeking

Methods	Number (N=913)				
	MFP	FP	OP	RP	NP
Communication with colleagues and subject experts	182 (19.93)	143 (15.66)	295 (32.31)	224 (24.53)	69 (07.56)

E-mail discussion	97 (10.62)	100 (10.95)	266 (29.13)	272 (29.79)	178 (19.50)
Follow up the references	228 (24.97)	302 (33.08)	143 (15.66)	204 (22.34)	36 (03.94)
Subject specific bibliographic services	104 (11.39)	126 (13.80)	208 (22.78)	296 (32.42)	179 (19.61)
Book reviews	96 (10.51)	202 (22.12)	106 (11.61)	201 (22.02)	308 (33.73)
Discussion forum	89 (09.75)	76 (08.32)	209 (22.89)	383 (41.95)	156 (17.09)
Searching electronic resources	408 (44.69)	223 (24.42)	165 (18.07)	79 (08.65)	38 (04.16)
Follow hyperlinks	330 (36.14)	106 (11.61)	362 (39.65)	103 (11.28)	12 (01.31)
Consulting Library staff	139 (15.22)	201 (22.02)	159 (17.42)	190 (20.81)	224 (24.53)
Others like browsing online catalogue, e-mail alert service etc.	82 (08.98)	54 (05.91)	110 (12.05)	158 (17.31)	509 (55.75)
Codes: 1. More frequently Preferred 2. Frequently Preferred 3. Occasionally Preferred 4. Rarely Preferred 5. Not Preferred					
$\chi^2=2881.483, df=36, P=0.00$					
Note: Figures in parentheses indicate percentage					

5.8. Opinion about Ways to Gather Immediate Need of Information

The opinion about ways to gather immediate need of information by the faculty members has been shown in Table-8. The Table-8 depicts that 233 (25.52%) faculty members ‘Strongly Disagree’ that they visit to the library to gather immediate need of information, followed by 342 (37.46%) faculty members ‘Strongly Disagree’ that they consulting librarian to gather immediate need of information, 389 (42.61%)

faculty members ‘Strongly Agree’ that they interacting with senior colleagues to gather immediate need of information, 580 (63.53%) faculty members ‘Strongly Agree’ that they searching Google to gather immediate need of information, 301 (32.97%) faculty members have given ‘No opinion’ on Referring dictionary, encyclopedia, etc. to gather immediate need of information, 298 (32.64%) faculty members ‘Strongly Agree’ that they access subject full text database journals to gather immediate need of information.

Table 8: Opinion about Ways to Gather Immediate Need of Information

Options	Number (N=913)				
	SA	A	NO	D	SD
Visit to the library	219 (23.99)	203 (22.23)	86 (09.42)	172 (18.84)	233 (25.52)
Consulting Librarian	104 (11.39)	78 (08.54)	114 (12.49)	275 (30.12)	342 (37.46)
Interacting with senior colleagues	389 (42.61)	246 (26.94)	51 (05.59)	88 (09.64)	139 (15.22)
Searching Google	580 (63.53)	209 (22.89)	96 (10.51)	16 (01.75)	12 (01.31)
Referring dictionary, encyclopedia, etc.	206 (22.56)	129 (14.13)	301 (32.97)	132 (14.46)	145 (15.88)
Subject Full text database journals	298 (32.64)	266 (29.13)	53 (05.81)	144 (15.77)	152 (16.65)
Codes: 1. Strongly Agree 2. Agree 3. No Opinion 4. Disagree 5. Strongly Disagree					
$\chi^2=1604.266, df=20, P=0.00$					
Note: Figures in parentheses indicate percentage					

5.9. Opinion about User Satisfaction towards Speed of the Internet at the college

The opinion gathered from the faculty members about user satisfaction towards speed of the internet at the

colleges has been shown in Table-9. The Table-9 depicts that 771 (84.44%) of faculty members opine as 'Yes' i.e. Satisfied with the Speed of the Internet available at the college and 142 (15.55%) opine as 'No' i.e. Not satisfied with the Speed of the Internet available at the college.

Table 9: Opinion about User Satisfaction towards Speed of the Internet at the College

Opinion	Civil Engg. (N=161)	Mech. Engg. (N=181)	Elect. Engg. (N=152)	Comp. Sci. Engg. (N=190)	Elec. & Com. Engg. (N=188)	Biotech. Engg. (N=41)	Total (N=913)
Yes	140 (86.95)	138 (76.24)	142 (93.42)	166 (87.36)	153 (81.38)	32 (78.04)	771 (84.44)
No	21 (13.04)	43 (23.75)	10 (06.57)	24 (12.63)	35 (18.61)	09 (21.95)	142 (15.55)
$\chi^2=23.224, df=05, P=0.00030585$							
Note: Figures in parentheses indicate percent age							

5.10. Use of Meta Search Engines for Accessing E-Resources

The use of meta search engines for accessing e-resources by the faculty members has been shown in Table-10. The Table-10 depicts that 296 (32.42%) faculty members use 'Dogpile' meta search engines for accessing e-resources 'To great extent', followed by 304 (33.30%) faculty members use 'Excite' meta search engines for accessing e-resources 'To great extent', 263 (28.81%) faculty members use 'Info.com' meta search engines for accessing e-resources 'To great extent', 301 (32.97%) faculty members use 'Kayak.com' meta search engines for accessing e-resources 'To moderate extent', 314 (34.39%) faculty members use 'Sky scanner' meta search engines for accessing e-resources 'To great extent', 401 (43.92%) faculty members use 'Metacrawler' meta search engines for accessing e-resources 'To great extent', 293 (32.09%) faculty members use 'Mobissimo' meta search engines for accessing e-resources 'To great extent', 386 (42.28%) faculty members use 'Otal.com' meta search engines for accessing e-resources 'To moderate extent' and 307 (33.63%) faculty members use 'Publisher's clearing house Search and Win' meta search engines for accessing e-resources 'To little extent'.

Table 10: Use of Meta Search Engines for Accessing E-Resources

Meta Search Engines	Number (N=913)				
	To great extent	To moderate extent	To some extent	To little extent	Not at all
Dogpile	296 (32.42)	143 (15.66)	168 (18.40)	204 (22.34)	102 (11.17)
Excite	304 (33.30)	262 (28.70)	119 (13.03)	86 (09.42)	142 (15.55)
Info.com	263 (28.81)	207 (22.67)	260 (28.48)	74 (08.11)	109 (11.94)
Kayak.com	203 (22.23)	301 (32.97)	66 (07.23)	142 (15.55)	201 (22.02)
Skyscanner	314 (34.39)	202 (22.12)	153 (16.76)	98 (10.73)	146 (15.99)
Metacrawler	401 (43.92)	147 (16.10)	115 (12.60)	163 (17.85)	87 (09.53)
Mobissimo	293 (32.09)	219 (23.99)	206 (22.56)	82 (08.98)	113 (12.38)
Otal.com	88 (09.64)	386 (42.28)	151 (16.54)	230 (25.19)	58 (06.35)
Publisher's clearing house Search and Win	139 (15.22)	89 (09.75)	95 (10.41)	307 (33.63)	283 (31.00)
$\chi^2= 1376.664, df=32, P=0.00$					
Note: Figures in parentheses indicate percentage					

5.11. Information Gathered about whether users obtain the Relevant Information While Searching the Web Resources

The information gathered about whether users obtain the relevant information while searching the web

resources by the faculty members has been shown in Table-11. The Table-11 indicates that 427 (46.77%) of faculty members opine as they 'Always get the relevant' information while searching the web resources, followed by 277 (30.34%) of faculty members opine as they 'Sometimes get the relevant'

information while searching the web resources, 115 (12.60%) of faculty members opine as they 'Always get the irrelevant' information while searching the web resources and 94 (10.30%) of faculty members opine that they 'Cannot say' what sort of information they get while searching the web resources.

Table 11: Information Gathered about whether users obtain the Relevant Information While Searching the Web Resources

Opinion	Civil Engg. (N=161)	Mech. Engg. (N=181)	Elect. Engg. (N=152)	Comp. Sci. Engg. (N=190)	Elec. & Com. Engg. (N=188)	Biotech. Engg. (N=41)	Total (N=913)
Always relevant	71 (44.10)	57 (31.49)	62 (40.79)	126 (66.32)	91 (48.40)	20 (48.78)	427 (46.77)
Sometimes relevant	43 (26.71)	79 (43.65)	67 (44.08)	53 (27.89)	28 (14.89)	07 (17.07)	277 (30.34)
Always irrelevant	28 (17.39)	24 (13.26)	09 (05.92)	03 (01.58)	42 (22.34)	09 (21.95)	115 (12.60)
Cannot say	19 (11.80)	21 (11.60)	14 (09.21)	08 (04.21)	27 (14.36)	05 (12.20)	94 (10.30)
$\chi^2=118.896, df=15, P=0.00$							
Note: Figures in parentheses indicate percentage							

5.12. Search Option Preferred for Accessing / Searching Web Based Information Resources

The search option preferred for accessing / searching web based information resources by the faculty members has been summarized in Table-12. The Table-12 depicts that 397 (43.48%) of faculty

members prefer 'Basic Search' for accessing / searching web based information resources, followed by 270 (29.57%) of faculty members prefer 'Advance Search' and 246 (26.94%) of faculty members prefer 'Both' i.e. Basic and Advance Search for accessing / searching web based information resources.

Table 12: Search Option Preferred for Accessing / Searching Web Based Information Resources

Search option	Civil Engg. (N=161)	Mech. Engg. (N=181)	Elect. Engg. (N=152)	Comp. Sci. Engg. (N=190)	Elec. & Com. Engg. (N=188)	Biotech. Engg. (N=41)	Total (N=913)
Basic Search	95 (59.00)	116 (64.08)	36 (23.68)	27 (14.21)	107 (56.91)	16 (39.02)	397 (43.48)
Advance Search	37 (22.98)	48 (26.51)	82 (53.94)	39 (20.52)	58 (30.85)	06 (14.63)	270 (29.57)
Both	29 (18.01)	17 (09.39)	34 (22.36)	124 (65.26)	23 (12.23)	19 (46.34)	246 (26.94)
$\chi^2=278.665, df=10, P=0.00$							
Note: Figures in parentheses indicate percentage							

5.13. Need of Orientation/ Training Programs for Use of Web-Resources

The need of orientation/ training programs for use of web-resources by the faculty members has been shown in Table-13. The Table-13 depicts that 348 (38.12%) of faculty members opine as 'Least

Required' towards need of orientation/ training programs for use of web-resources, followed by 345 (37.79%) of faculty members opine as 'Intensely Required' towards need of orientation/ training programs for use of web-resources and 220 (24.10%)

of faculty members opine as 'Not Required' towards need of orientation/ training programs for use of web-resources.

Table 13: Need of Orientation/ Training Programs for Use of Web-Resources

Opinion	Civil Engg. (N=161)	Mech. Engg. (N=181)	Elect. Engg. (N=152)	Comp. Sci. Engg. (N=190)	Elec. & Com. Engg. (N=188)	Biotech. Engg. (N=41)	Total (N=913)
Intensely Required	58 (36.02)	70 (38.67)	81 (53.29)	43 (22.63)	76 (40.43)	17 (41.46)	345 (37.79)
Least Required	82 (50.93)	76 (41.99)	45 (29.61)	48 (25.26)	84 (44.68)	13 (31.71)	348 (38.12)
Not required	21 (13.04)	35 (19.34)	26 (17.11)	99 (52.11)	28 (14.89)	11 (26.83)	220 (24.10)
$\chi^2=124.759, df=10, P=0.00$							
Note: Figures in parentheses indicate percentage							

6. Suggestions

Based on the above results the following suggestions are made for further improvement in information seeking and searching behavior in web environment by the faculty members of engineering colleges in Mysuru region.

- The faculty members should be trained in using various ICT enabled tools, techniques and software relate to it.
- The members of faculty should be trained in using advance search options for retrieval of relevant information.
- The faculty members should further improve their information searching skills to make better use of largely available web information resources.
- The speed of the internet should be increased to save user valuable time and to speed up information search and retrieval process.
- The library and information centers should organize training, seminars and workshops for the users at regular interval of time to keep users in tune with latest Information and Communication Technology enabled technologies.
- The library staff should create a database of e-mail of all faculties and as soon as new

resources is available or subscribed it should be intimated immediately via e-mail.

- Need of well-equipped classrooms/laboratory with PC's, LCD projector, with dedicated Wi-Fi connectivity should be made available in the department and campus.
- The web designers/ publishers/ distributors should provide online help menu in the search page for better utilization of their information resources.
- The web search engines retrieve information based on the metadata. It is strongly suggested that the search engine should have content based information search facilities for effective information retrieval.

7. Conclusion

This study provided an insight into the information seeking and searching behavior in web environment by the faculty members of engineering colleges in Mysuru region. The ICT enables resources and services made available via internet has become an inseparable part of today's educational system. Due to rapid development in the area of Internet and Information Technology, large amount of educational resources are being produced, distributed and accessed in the electronic format. The dependency on internet based services is increasing everyday and users of engineering institutions are depending more on information resources available through internet to

meet their academic and research needs. The faculty members should become familiar with latest search strategies and techniques for better utilization of available web resources. The library should organize seminars, workshops and orientation programmes for faculty members at regular intervals of time to keep them up to date with latest technologies.

References

- [1.] Balaji, N. G. and Ragavan, S. S. (2016). Information seeking behavior of faculty members and research scholars of Bangalore University : A Case Study. *International Journal of Research in Library Science*, 2(2), 38–43.
- [2.] Savolainen, R. (2016). Information seeking and searching strategies as plans and patterns of action: A conceptual analysis. *Journal of Documentation*, 72(6), 1154–1180. <https://doi.org/10.1108/JD-03-2016-0033>
- [3.] Kiran Kumar, G and Kumbar, Mallinath (2015). Use of Electronic Information Resources and Search Pattern by the Faculty of Autonomous Engineering Colleges in Karnataka: A Survey. *SRELS journal of Information Management*, 52(4), 259-266.
- [4.] Thanuskodi, S. (2009). Information-Seeking Behavior of Law Faculty at Central Law College, Salem. *Library Philosophy and Practice*, 2009(June), 1–7. Retrieved from <http://digitalcommons.unl.edu/cgi/viewcontent.cgi?article=1285&context=libphilprac>
- [5.] Fourie, I. (2006). Learning from web information seeking studies : some suggestions for LIS practitioners. *The Electronic Library*, 24(1), 20–37.