Use of Internet Resources and Services by Marine Science Faculties in South India: A Study

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Abstract

Accessibility, usability, and usefulness are three concepts important to any research and development library information resources. This paper discuss about using electronic resources through Internet for marine science faculty members in south Indian universities, Internet information sources accessed and frequently utilized for varies purposes such as preparing research project reports, lesson plans, training programmes, conferences/ seminars, placements, useful current information, effective communication etc., in higher education, in addition to that search strategy, ranking of search engines and ease of accessibility of the information through Internet.

Keywords: Internet, Information Resources, Marine Science faculties, South India.

1. Introduction

The advent of the Internet, as some skeptics predicted, has not ment the end of libraries and traditional library information resources. The library catalogues, books, journals, reference works, periodical indexes, and so forth, are all here, just available in somewhat different forms; and they are on the Internet has increased vitality of and accessibility to library information resources. The format- paper vs e-format- is not as important as the information contained by the sources and how useful and usable that source is.

The marine science library resources on the internet are available in a variety of ways, including telnet, gopher, FTP, and world wild web (WWW), and their utility is apparent in all formats. The prevalence and usefulness of information resources on the Internet is clear after looking at the resources available in the categories of e-journals, e-books, periodical indexes, reference resources. Several marine science resources also exist to help marine science research faculty members to keep current with new resources and changes to existing ones.

2. Scope and Limitation of the Study

This research study is confined to the study of electronic resources and services with special reference to Marine science faculty members. Geographically it is bounded to the departments of Marine Science, Fisheries Colleges and Marine Science Research Institutions affiliated to Central Institute of Fisheries Education (CIFE) and Indian Council of Agricultural Research

Institute (ICARI) Mumbai, India with special reference to South India. The study covers four states that include Karnataka, Andhra Pradesh, Tamil Nadu and Kerala.

3. Objectives of the Study

The following are the major objectives of the present study:
1. To study in detail about the Internet facilities available in Marine Science Libraries.
2. To find out the most preferred access point for searching the e-resources.
3. To determine the purpose and utilization of the e-resources by faculty members.
4. To find out rank the importance of electronic resources.
5. To identify the level of user's satisfaction with e-resources.
6. To trace out the difficulties of teachers/ scholars/ in obtaining information.
7. To suggest the suitable measures to develop the collection of e-resources.

4. Methodology

This study is confined to the Marine science departments in Universities/Fishery colleges in south India. The questionnaire method has been adopted. Further primary and secondary sources also have been used to collect the necessary information. The research schedule was designed in two phases; the first schedule meant for users comprising faculty members, and the second schedule for librarians of marine science research institutes in south India.

4.1 Method of data collection

A structural questionnaire was developed for the purpose of data collection and distributed. Some are distributed personally, some are by post and some are through e-mail among the university departments of marine science and fishery college faculty members in south India. 197 questionnaires were distributed, out of which 126 questionnaires were received back with the response rate being 64%. Received sample questionnaires were analyzed statistically.

5. Data Analysis and Interpretation of Results

5.1 Distribution of library users by Gender/Designation

Users were asked to indicate their gender/designation. The distribution of the users by gender/designation can be seen in table-5.1. The user designations of some organizations vary. But comparison and uniformity of the designations were recorded according to the status, scale of pay and nature of duties in Universities/Fisheries colleges were recorded into the common pattern of designations like Professors, Associate Professors, Readers, Assistant Professors, Senior Scale Lecturers and Lecturers.

Table 5.1. Institution and Gender wise distribution of Respondents: Faculty members

Sl No	Institutions	Lecturers =17			Sr. SL/ Asst. Prof =40			Reader/ Asso. Prof =20			Professors =49			Total=126		
		M	F	T	M	F	T	M	F	T	M	F	T	M	F	T
1	Andhra University	02 (11.8)	00 (0.0)	02 (11.8)	12 (30.0)	06 (15.0)	18 (45.0)	00 (0.0)	00 (0.0)	00 (0.0)	30 (61.2)	02 (4.1)	32 (65.3)	44 (34.9)	08 (6.3)	52 (41.3)
2	Cochin University	03 (17.6)	05 (29.4)	08 (47.1)	01 (2.5)	02 (5.0)	03 (7.5)	12 (60.0)	02 (10.0)	14 (70.0)	04 (8.2)	01 (2.0)	05 (10.2)	20 (15.9)	10 (7.9)	30 (23.8)
3	CFS Mangalore	00 (0.0)	00 (0.0)	00 (0.0)	08 (20.0)	03 (7.5)	11 (27.5)	00 (0.0)	00 (0.0)	00 (0.0)	07 (14.3)	02 (4.1)	09 (18.4)	15 (11.9)	05 (4.0)	20 (15.9)
4	CFS Nellore	01 (5.9)	01 (5.9)	02 (11.8)	04 (10.0)	03 (7.5)	07 (17.5)	00 (0.0)	00 (0.0)	00 (0.0)	00 (0.0)	00 (0.0)	00 (0.0)	05 (4.0)	04 (3.2)	09 (7.1)
5	Kerala University	00 (0.0)	01 (5.9)	01 (5.9)	00 (0.0)	01 (2.5)	01 (2.5)	02 (10.0)	00 (0.0)	02 (10.0)	01 (2.0)	00 (0.0)	01 (2.0)	03 (2.4)	02 (1.6)	05 (4.0)
6	Mangalore University	02 (11.8)	02 (11.8)	04 (23.5)	00 (0.0)	00 (0.0)	00 (0.0)	04 (20.0)	00 (0.0)	04 (20.0)	02 (4.1)	00 (0.0)	02 (4.1)	08 (6.3)	02 (1.6)	10 (7.9)
	Total	08 (47.1)	09 (52.9)	17 (100.0)	25 (62.5)	15 (37.5)	40 (100.0)	18 (90.0)	02 (10.0)	20 (100.0)	44 (89.8)	05 (10.2)	49 (100.0)	95 (75.4)	31 (24.6)	126 (100.0)

Note 1:   1 - L-Lecturer,   2 - SSL-Lecturer (Senior Scale),   3 - AP- Assistant Professor,   4 - R-Reader, 5 - Asso. Pro-Associate Professor, 6 - P- Professor

Table 5.1 and Figure 5.1 clearly show the institution wise and gender wise distribution of faculties. The sample population used in the present study contains more number of male faculties (75.4%) than female faculties (24.6%).
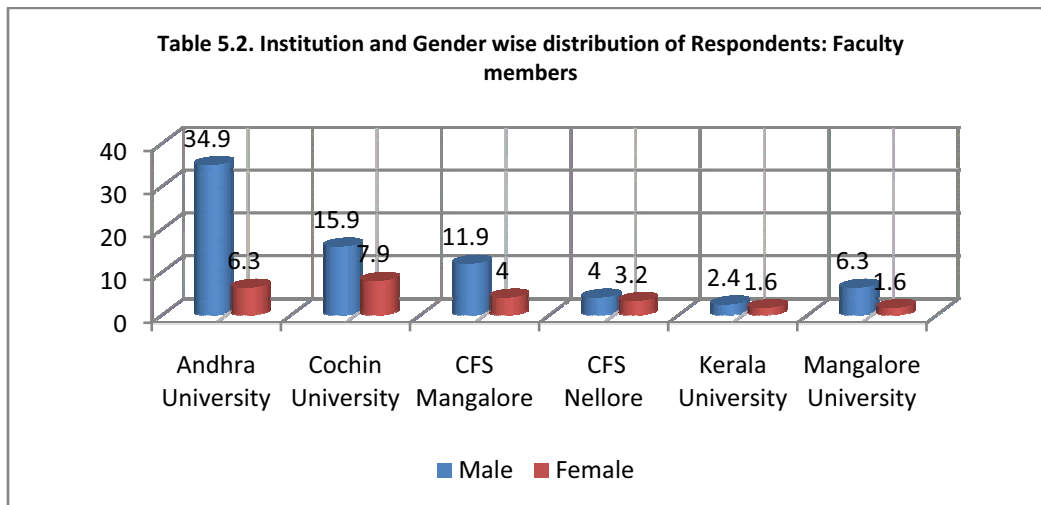

Table 5.2. Institution and Gender wise distribution of Respondents: Faculty members

Figure 5.1. Institution and Gender wise distribution of Respondents: Faculty members

Table 5.2. Types of Information Sources Accessed on Internet: Faculty Members

Sl No	Sources accessed on Internet	Lecturers=17			SSL/Asst.Pro=40			Reader/Asso prof=20			Professors=49			Total=126			W.A	Std. Dev	F Test	Rank
		1	2	3	1	2	3	1	2	3	1	2	3	1	2	3				
1	Bibliographical information	04 (23.5)	03 (17.6)	10 (58.8)	17 (42.5)	09 (22.5)	14 (35.0)	06 (30.0)	08 (40.0)	06 (30.0)	20 (40.8)	13 (26.5)	16 (32.7)	47 (37.3)	33 (26.2)	46 (36.5)	1.99	0.86		6
2	Research abstracts	17 (100.0)	00 (0.0)	00 (0.0)	37 (92.5)	03 (7.5)	00 (0.0)	19 (95.0)	01 (5.0)	00 (0.0)	46 (93.9)	03 (6.1)	00 (0.0)	119 (94.4)	07 (5.6)	00 (0.0)	1.06	0.23		1
3	Patents and Standards	04 (23.5)	05 (29.4)	08 (47.1)	15 (37.5)	20 (50.0)	05 (12.5)	10 (50.0)	06 (30.0)	04 (20.0)	20 (40.8)	17 (34.7)	12 (24.5)	49 (38.9)	48 (38.1)	29 (3.0)	1.85	0.79		5
4	Research articles	17 (100.0)	00 (0.0)	00 (0.0)	35 (87.5)	03 (7.5)	02 (5.0)	17 (85.0)	03 (15.0)	00 (0.0)	45 (91.8)	04 (8.2)	00 (0.0)	114 (90.5)	10 (7.9)	02 (1.6)	1.11	0.36		2
5	Research Reports s	15 (88.2)	00 (0.0)	02 (11.8)	33 (82.5)	06 (15.0)	01 (2.5)	17 (85.0)	02 (10.0)	01 (5.0)	44 (89.8)	02 (4.1)	03 (6.1)	109 (86.5)	10 (7.9)	07 (5.6)	1.23	0.67		3
6	Software based information	05 (29.4)	06 (35.3)	06 (35.3)	09 (22.5)	08 (20.0)	23 (57.5)	08 (40.0)	05 (25.0)	07 (35.0)	11 (22.4)	17 (34.7)	21 (42.9)	33 (26.2)	36 (28.6)	57 (45.2)	2.23	0.89	82.675* Significant at 1% level	7
7	Placements/ Job opportunities	03 (17.6)	01 (5.9)	13 (76.5)	08 (20.0)	05 (12.5)	27 (67.5)	08 (40.0)	01 (5.0)	11 (55.0)	11 (22.4)	03 (6.1)	35 (71.4)	30 (23.8)	10 (7.9)	86 (68.3)	2.45	0.86		8
8	Career Planning / Higher education	05 (29.4)	00 (0.0)	12 (70.6)	09 (22.5)	03 (7.5)	28 (70.0)	07 (35.0)	01 (5.0)	12 (60.0)	08 (16.3)	03 (6.1)	38 (77.6)	29 (23.0)	07 (5.6)	90 (71.4)	2.49	0.86		9
9	Training/ Conferences/ Seminars	11 (64.7)	06 (35.3)	00 (0.0)	29 (72.5)	09 (22.5)	02 (5.0)	13 (65.0)	07 (35.0)	00 (0.0)	28 (57.1)	21 (42.9)	00 (0.00)	81 (64.3)	43 (34.1)	02 (1.6)	1.37	0.52		4

Note: 1. To full extent, 2. To some extent, 3. To little extent
F-Value 82.675* Significant at 1% level

The tabulated data is given in Table 5.2, and Figure 5.2. It is found from Table 5.2 that a large number of faculty members accessed research abstracts (94.4%) and research articles (90.5%). It is interesting to note that both scientists and faculty members placed training/ conferences/seminars and patents/standards in the fourth and fifth ranks respectively.

It may be summarized after looking at Table 5.2 that information sources on bibliographical information, career planning/ higher education, placement and job opportunities and software based information are less used information sources by faculty members.

Figure 5.2 Types of Information Sources Accessed on Internet: Faculty Members

Sl No	Internet services	Lecturers=17				SSL/Asst.Pro=40				Reader/Asso prof=20				Professors=49				Total=126				W.A	Std. Dev	F. Test	Rank
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4				
1	WWW	17 (100.0)	00 (0.0)	00 (0.0)	00 (0.0)	37 (92.5)	03 (7.5)	00 (0.0)	00 (0.0)	19 (95.0)	01 (5.0)	00 (0.0)	00 (0.0)	42 (85.7)	06 (12.2)	00 (0.0)	01 (2.0)	115 (91.3)	10 (7.9)	00 (0.0)	01 (0.8)	1.10	0.38		1
2	E-Mail	12 (70.6)	03 (17.6)	02 (11.8)	00 (0.0)	33 (82.5)	06 (15.0)	01 (2.5)	00 (0.0)	15 (75.0)	04 (20.0)	01 (5.0)	00 (0.0)	34 (69.4)	12 (24.5)	03 (6.1)	00 (0.0)	94 (74.6)	25 (19.8)	07 (5.6)	00 (0.0)	1.31	0.57	142.167*Significant at 1% probability level	2
3	Newsgroups	01 (5.9)	05 (29.4)	07 (41.2)	04 (23.5)	05 (12.5)	13 (32.5)	05 (12.5)	17 (35.0)	03 (15.0)	03 (15.0)	04 (20.0)	10 (50.0)	05 (10.2)	12 (24.5)	11 (22.4)	21 (42.9)	14 (11.1)	33 (26.2)	27 (21.4)	52 (41.3)	2.93	1.06		6
4	Discussion Forum	03 (17.6)	07 (41.2)	01 (5.9)	06 (35.3)	15 (37.5)	14 (35.0)	03 (7.5)	08 (20.0)	11 (55.0)	06 (30.0)	00 (0.0)	03 (15.0)	23 (46.9)	14 (28.6)	03 (6.1)	09 (18.4)	52 (41.3)	41 (32.5)	07 (5.6)	26 (20.6)	2.06	1.14		4
5	FTP	01 (5.9)	02 (11.8)	01 (5.9)	13 (76.5)	03 (7.5)	05 (12.5)	04 (10.0)	28 (70.0)	05 (25.0)	02 (10.0)	04 (20.0)	09 (45.0)	06 (12.2)	11 (22.4)	06 (12.2)	26 (53.1)	15 (11.9)	20 (15.9)	15 (11.9)	76 (60.3)	3.21	1.10		7
6	TELNET	00 (0.0)	01 (5.9)	00 (0.0)	16 (94.1)	00 (0.0)	03 (7.5)	02 (5.0)	35 (87.5)	00 (0.0)	02 (10.0)	02 (10.0)	16 (80.0)	00 (0.0)	06 (12.2)	02 (4.1)	41 (83.7)	00 (0.0)	12 (9.5)	06 (4.8)	108 (85.7)	3.76	0.61		9
7	Chatting	02 (11.8)	01 (5.9)	05 (29.4)	09 (52.9)	11 (27.5)	01 (2.5)	10 (25.0)	18 (45.0)	05 (25.0)	01 (5.0)	01 (5.0)	13 (65.0)	17 (34.7)	03 (6.1)	06 (12.2)	23 (46.9)	35 (27.8)	06 (4.8)	22 (17.5)	63 (50.0)	2.90	1.29		5
8	Online databases	09 (52.9)	02 (11.8)	00 (0.0)	06 (35.3)	26 (65.0)	04 (10.0)	02 (5.0)	08 (20.0)	15 (75.0)	03 (15.0)	01 (5.0)	01 (5.0)	30 (61.2)	09 (18.4)	06 (12.2)	04 (8.2)	80 (63.5)	18 (14.3)	09 (7.1)	19 (15.1)	1.74	1.12		3
9	Gopher	01 (5.9)	00 (0.0)	00 (0.0)	16 (94.1)	01 (2.5)	01 (2.5)	00 (0.0)	38 (95.0)	01 (5.0)	01 (5.0)	00 (0.0)	18 (90.0)	03 (6.1)	03 (6.1)	00 (0.0)	43 (87.8)	06 (4.8)	05 (4.0)	00 (0.0)	115 (91.3)	3.78	0.74		10
10	Freeware/ Shareware	01 (5.9)	00 (0.0)	00 (0.0)	16 (94.1)	05 (12.5)	00 (0.0)	00 (0.0)	35 (87.5)	04 (20.0)	00 (0.0)	00 (0.0)	16 (80.0)	08 (16.3)	00 (0.0)	00 (0.0)	41 (83.7)	18 (14.3)	00 (0.0)	00 (0.0)	108 (85.7)	3.57	1.05		8

In case of faculty members, www (91.3%), E-mail (74.6%) and online databases (63.5%) are highly utilized Internet services and they are ranked first, second and third respectively.

One can also observe from table-5.3 that a large number of respondents i.e. in the range of 60% to 90% never used freeware/shareware, Gopher, Telnet and FTP. The reasons for under utilization of these services would be either a need does not arise or lack of knowledge about these services. So the result of the study demands to bring awareness about these sources and services to exploit for their information need.

Whereas Jagboro (2003), Ajuwon (2003), Honauer (2004) and Rajiv Kumar and Kaur. A's (2006) study reveals that e-mail is chosen as the most popular service and being used by nearly total population under study. Studies by Babu, Markwei, Ojedokun Owolabi, Mishra, Sathyanarayana (2001), Kaur (2002) and Biradar .B.S and Sampath Kumar (2005) confirm similar findings. Marginal difference could be found regarding the use of Internet by faculty members in comparison with the present study.[1-9]
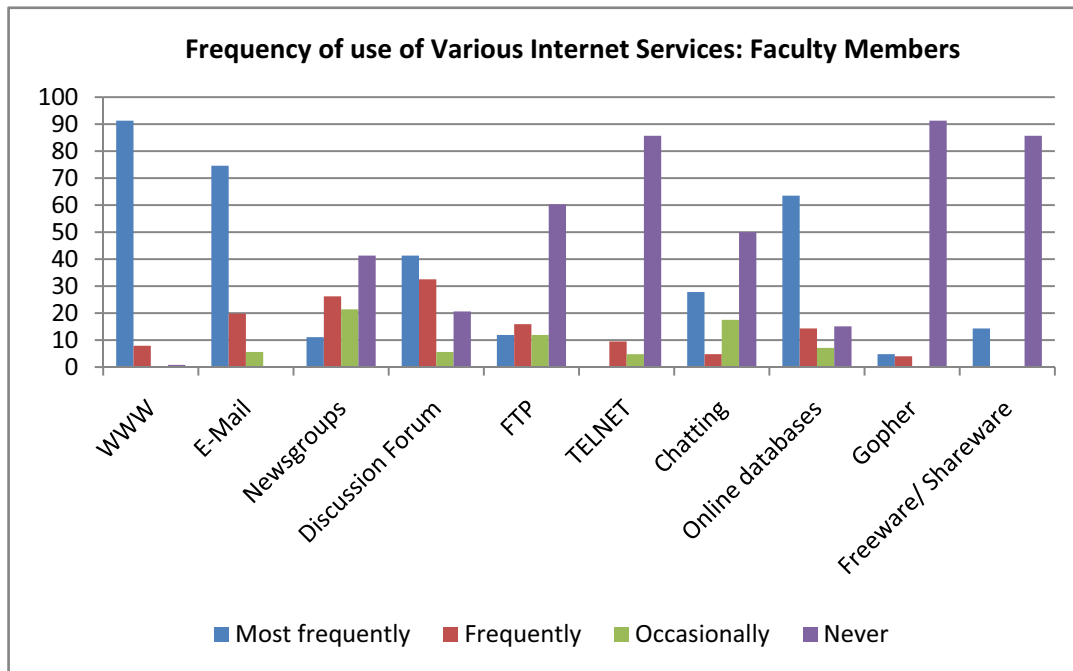

Figure 5.3 Frequency of use of Various Internet Services: Faculty Members

Table 5.4 Usage of Internet by Faculty Members

Sl No	Internet	Lecturers=17				SSL/Asst.Pro=40				Reader/Asso prof=20				Professors=49				Total=126				W.A	Std. Dev	F. Test	Rank
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4				
1	Wealth of huge useful current information	15 (88.2)	01 (5.9)	00 (0.0)	01 (5.9)	34 (85.0)	04 (10.0)	01 (2.5)	01 (2.5)	17 (85.0)	03 (15.0)	00 (0.0)	00 (0.0)	41 (83.7)	06 (12.2)	00 (0.0)	02 (4.1)	107 (84.9)	14 (11.1)	01 (0.8)	04 (3.2)	1.22	0.62		1
2	Huge information but difficult to obtain	03 (17.6)	06 (35.3)	02 (11.8)	06 (35.3)	07 (17.5)	05 (12.5)	14 (35.0)	14 (35.0)	03 (15.0)	05 (25.0)	07 (35.0)	05 (25.0)	13 (26.5)	06 (25.5)	18 (36.7)	06 (12.2)	26 (20.6)	28 (22.2)	41 (32.5)	31 (24.6)	2.61	1.07	26.436* significant at 1% probability level	8
3	Effective communication tool	10 (58.8)	07 (41.2)	00 (0.0)	00 (0.0)	23 (57.5)	15 (37.5)	01 (2.5)	01 (2.5)	14 (70.0)	06 (30.0)	00 (0.0)	00 (0.0)	34 (69.4)	12 (30.6)	00 (0.0)	00 (0.0)	81 (64.3)	43 (34.1)	01 (0.8)	01 (0.8)	1.38	0.55		2
4	Supplement to library as online library	06 (35.3)	09 (52.9)	00 (0.0)	02 (11.8)	20 (50.0)	14 (35.0)	01 (2.5)	05 (12.5)	12 (60.0)	07 (35.0)	00 (0.0)	01 (5.0)	29 (59.2)	15 (30.6)	01 (2.0)	04 (8.2)	67 (53.2)	45 (35.7)	02 (1.6)	12 (9.5)	1.67	0.91		4
5	Substitute to library resources	04 (23.5)	04 (23.5)	02 (11.8)	07 (41.2)	18 (45.0)	06 (15.0)	03 (7.5)	13 (32.5)	10 (50.0)	07 (35.0)	01 (5.0)	02 (10.0)	23 (46.9)	15 (32.7)	04 (8.2)	06 (12.2)	55 (43.7)	33 (26.2)	10 (7.9)	28 (22.2)	2.09	1.19		7
6	Great Reference Value	05 (29.4)	06 (35.3)	00 (0.0)	06 (35.3)	20 (50.0)	06 (15.0)	02 (5.0)	12 (30.0)	11 (55.0)	07 (35.0)	01 (5.0)	01 (5.0)	26 (53.1)	16 (36.7)	03 (6.1)	02 (4.1)	62 (49.2)	37 (29.4)	06 (4.8)	21 (16.7)	1.89	1.10		6
7	Enhances knowledge	06 (35.3)	08 (47.1)	00 (0.0)	03 (17.6)	20 (50.0)	13 (32.5)	03 (7.5)	04 (10.0)	13 (65.0)	06 (30.0)	01 (5.0)	00 (0.0)	29 (59.2)	18 (34.7)	03 (6.1)	00 (0.0)	68 (54.0)	44 (34.9)	07 (5.6)	07 (5.6)	1.63	0.83		3
8	A mechanism to save time	05 (29.4)	06 (35.3)	00 (0.0)	06 (35.3)	20 (50.0)	08 (20.0)	02 (5.0)	10 (25.0)	11 (55.0)	07 (35.0)	01 (5.0)	01 (5.0)	26 (53.1)	17 (34.7)	03 (6.1)	03 (6.1)	62 (49.2)	38 (30.2)	06 (4.8)	20 (15.9)	1.87	1.08		5

Note: 1. Strongly Agree 2. Agree 3. Partially Agree 4. Never

The perception of Internet as described by university faculties is presented in Figure 5.4. A large number of faculty members strongly agreed that Internet is a wealth of huge useful current information (84.9%). It is an effective communication tool (64.3%), it enhances knowledge (54%) and these are ranked first, second and third and fourth respectively.
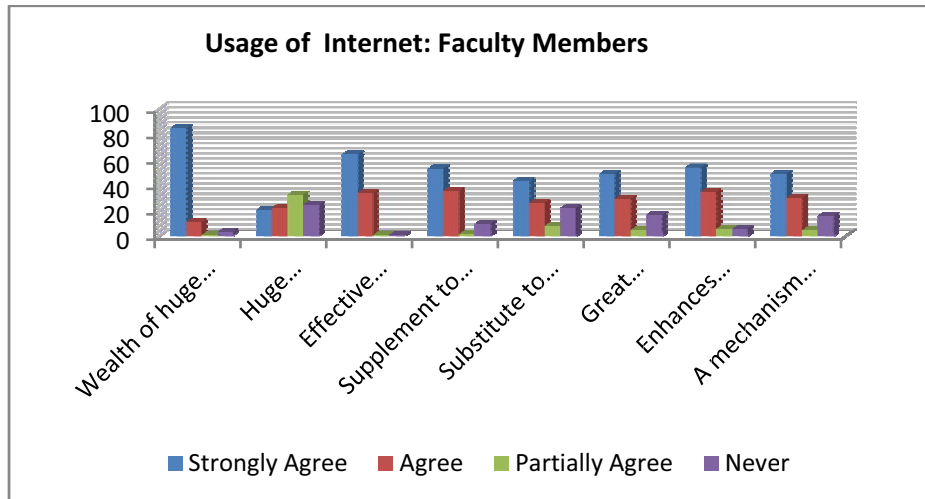
Usage of Internet: Faculty Members

Figure 5.4 Usage of Internet: Faculty Members

On the other hand, more than half per cent of faculty members, most often, used publications/magazines (57.9%) and search engines (56.3%) as a source for searching information. Besides, users learnt Internet search by participating in seminars/conferences (44.4%) and browsing websites regularly (42.1%), (Figure 5.5).
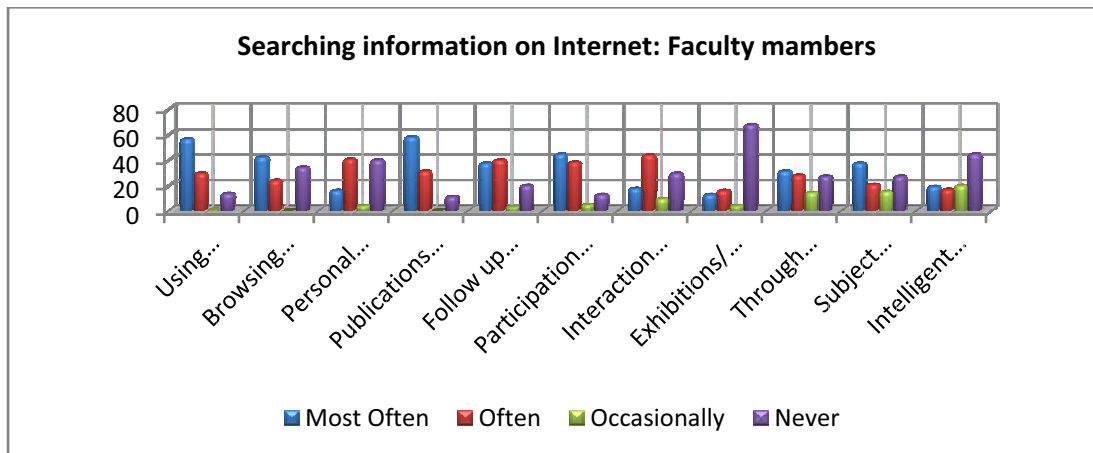
Searching information on Internet: Faculty mambers

Figure 5.5 Source used for Searching Information on Internet: Faculty Members

*Author for Correspondence

In earlier paper we described meaning, need, advantages and disadvantages of cloud computing.

Table 5.6. Ranking of search engines in the order of preference

Sl.No	Ranking	Faculty Members			Rank
		Yes	No	Total	
1	Yahoo	120 (95.2)	06(4.8)	126(100.0)	2
2	AltaVista	96 (76.2)	30(23.8)	126(100.0)	6
3	Google	126 (100.0)	00(00.0)	126(100.0)	1
4	MSN	76 (60.3)	50(39.7)	126(100.0)	8
5	Rediff	118 (93.7)	08(6.3)	126(100.0)	3
6	Khoj	61 (48.4)	65(51.6)	126(100.0)	11
7	123 India	63 (50.0)	63(50.0)	126(100.0)	10
8	Lycos	72 (57.1)	54(42.9)	126(100.0)	9
9	WebCrawler	110 (87.3)	16(12.7)	126(100.0)	4
10	Hotbot	83 (65.9)	43(34.1)	126(100.0)	7
11	NLSEARCH	55 (43.7)	71(56.3)	126(100.0)	12
12	Subject Portals	105 (83.3)	21(16.7)	126(100.0)	5

Table 5.6 and Figure 5.6 shows that perhaps not unexpectedly a large number of faculty members (100%), used Google and ranked it as first. Yahoo is the second highly preferred search engine by faculty members (95.2%) and it is placed at second rank. This is followed by rediff (90.4%) and WebCrawler (86.6%).

This result is substantiated by the study conducted by Biradar B.S and others (2008) at Kuvempu University, which reveals that only Google and Yahoo are the most popular and widely used search engines. To full extent faculties (80.85%) and students used Google while 57.89% of students and 40.42% of faculty used Yahoo. Besides, it is also supported by another study conducted by Biradar B.S and Sampath Kumar B.T (2008). Whereas the study of Amritpal (2002) conducted at Guru Nanak Dev University, Amritsar, reveals that 72.50% of scientists used Yahoo search engines followed by Rediff (35%).[10-12]

Findings and Suggestions:

1. A large number of faculty members accessed research abstracts (94.4%) and research articles (90.5%). It is interesting to note that both scientists and faculty members placed training/conferences/seminars and patents/standards in fourth and fifth ranks respectively.(Table 5.2)

2. Faculty members, www (91.3%), e-mail (74.6%) and online databases (63.5%) are highly utilized. Internet services and they are ranked first, second and third respectively. One can also observe from Table 5.3 that large number of respondents i.e. in the range of 60% to 90% never used freeware/shareware, Gopher, Telnet and FTP. (Table 5.3).

3. A large number of faculty members strongly agreed that Internet is a wealth of huge useful current information (84.9%). It is an effective communication tool (64.3%), it enhances knowledge (54%) and these are ranked first, second and third and fourth respectively (Table 5.4).

4. A half per cent of faculty members most often used publications/magazines (57.9%) and search engines (56.3%) as a source for searching information (Table 5.5).

5. The Cent percent of faculty members and 98.7% of scientists used Google and ranked it first. Yahoo is the second highly preferred search engine by faculty members (95.2%) and scientists (91.2%) and it is placed at second rank. This is followed by rediff (90.4%) and WebCrawler (86.6%) (Table 5.6).

Suggestions

It is found in this study that the university departments of marine sciences and fisheries colleges are poor facilities of Internet-resources and services.

1. It is suggested that fishery colleges should seek the support of NRI (Non-Residential Indians) facilities of whom and old students of that college for sponsoring electronic libraries with better Internet facility.

2. Man-power plays a pivotal role in information managements keeping in view of the present man power in marine science research institutions. Colleges, it is suggested to initiate the following HRD programmes for the management of information services:

   1. To initiate steps in filling up all the vacant posts in the library by suitable qualified persons.
   2. Provision of orientation and refresher course programmes to the marine science institutions/ college librarians to acquire more information handling techniques.
   3. Encouraging librarians/ information scientists for participating in international, national, regional seminars and workshops.

Conclusion

The study emphasizes that the existing, marine sciences departments of university libraries, fishery college libraries infrastructure in terms of Internet facilities are more to be strengthened. Fishery colleges are suffering from financial constraints and the limited man power resources under the provision of effective information services. This study can help the librarians to identify the areas, the current trends in the electronic environment indicates revolution of e-collection. As information and communication technology emphasizes on electronic resources which have very high popularity that continues to increase with time. Marine science research

libraries can provide new and innovative document delivery services in accommodating the needs of their marine science faculties in electronic environment.

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