Information Seeking Behaviour of Faculty, Research Scholars and Postgraduate Students of the University of Mysore towards Electronic Based Resources and Services: A Study

G. Kiran Kumar, Chikkamanju and Y. L. Somashekara

The present study was carried out at University of Mysore, Mysore to examine the Information Seeking Behaviour of Faculty, Research Scholars and Postgraduate Students towards Electronic Based Resources and Services. The study mainly focused on the use of various types of electronic information resources, location of access, learn to access, experience of using e-resources, preferred search engines, awareness about new e-resources subscribed by the library, purpose, benefits and problems of accessing e-resources. For this purpose the researchers prepared a well structured questionnaire as a tool for data collection and same analyzed and presented with useful percentage analysis and suitable table for presentation of data. The article concluded with summarizes the results highlighting the major findings and suggestions

Keywords: Electronic resources, Library services, University libraries, e-journals, Open Access journals, User studies, ISB.

Introduction

Latest advances in computer applications during the past few decades have brought radical changes in the way information is generated, stored, organized, accessed and consumed. The vast speed at which different operations are carried out in an automated environment has attracted information professionals towards a computer-based system. It has opened floodgates to people to access information through many different ways. The information could be located even at far-off locations and could be in different languages and formats. These capabilities were unheard in the library world before computerization in the field of information Science. With the advent of computer age, the Information Technology is developing at a very fast and the information is being explored largely to the multi dimensional in the form of print media as well as in the electronic form. The infrastructure of Information Technology in the routine work of the library services and operations are to be modernized and updated to cater the present needs of the users.

For any academic research and development institutions, information is the basic resources for carrying out an extensive research leading to better standard for living and prosperous development of the country. Hence, the library and the electronic based information facilities available in the parent institutions will play significant role in disseminating the information to the users at the right time and at the right place. The information and communication technology has to be effectively utilized in library activities and services by building a network. This will enhance efficiency of libraries in extending electronic based information resources and services to the users and to satisfy the Faculty members, Research Scholars and Post Graduate Students of the institution. The Mysore University is carrying out research in different disciplines, for which the library needs an

extended electronic based information resources and services to the users. The major intentions of this study to know and understand the attitudes and feelings and opinion towards available electronic resources, infrastructure facilities which are available at the institution to access e-resources, the purpose of use these resources and use of search strategies to access all type of e-resources and service among the faculty, research scholars and postgraduate students of the university.

Literature review

Numerous studies have been undertaken to explore the information need and information seeking behaviour of users belonging to academic faculty. A study by Ramlogan and Tedd (2006) also studied use and non-use of electronic information sources by undergraduates at the University of the West Indies. The Findings reveal that over half of the total respondents had not accessed any of the Electronic Information Services (EIS). Lack of awareness of the services' availability was revealed as the overriding factor for non-use. It is concluded that undergraduates' make infrequent or no use at all of certain EIS largely from lack of awareness. Fidzani (1998) surveyed Information needs and information-seeking behaviour of 144 graduate students at the University of Botswana. Findings indicate that guidance in the use of library resources and services is necessary to help students meet some of their information need. The most popular sources of information for course work and research seems to be journals, library books and textbooks. The study recommended that a more aggressive information marketing strategy should be developed for creating awareness about available resources. Majid and Tan (2002) investigated Information needs and information-seeking behavior of 102 computer engineering undergraduate students at Nanyang Technological University (NTU), Singapore. The study showed that the topmost five preferred information sources are books, lectures, the Internet, friends and manuals Unexpectedly, the use of databases and electronic sources were quite low among computer engineering students. The study recommended promotional campaign for introducing electronic information resources to library users. Callinan (2005) conducted a study or Information-seeking behaviour of undergraduate biology students in University College Dublin. The findings showed that, apart from web sites and web-based lecture notes, lack of awareness is the primary reason why undergraduate biology students did not use the library's electronic databases. Asemi and Riyahiniya (2007) conducted a survey to investigate the awareness and use of digital resources by 250 students in the libraries of Isfahan University of Medical Sciences, Iran. The results were that 70 percent of students were aware of digita resources, but only 69 percent of them have used them; 62 percent were aware of offline databases, whereas only about 19 percent used them through the Central Library LAN network. In total 87 percent of students felt that the available data resources met their information needs. Users are faced with problems like low speed connectivity and shortage o hardware facilities. An exploratory study by Vezzosi (2009) at the University of Parma (Italy on information behaviour of doctoral students showed that, doctoral students rely heavily of the internet for their research work. Students demonstrated progress throughout the years o their doctorate course in terms of awareness and information competence.

University of Mysore

The University of Mysore is among the foremost institutions of its kind, and is a enduring symbol in the sphere of higher education in India. It was founded by the the Maharaja of Mysore, His Highness Sri Krishnaraja Wodeyar IV and his Dewan, the renowned engineer - statesman, Sir M. Visvesvaraya, on July 27, 1916. The Maharaja of Mysor became its first Chancellor. The University now encompasses 122 affiliated colleges and

constituent colleges (with an aggregate of 53,000 students). In addition, the University has 37 postgraduate departments, 8 specialised research & training centres and 3 postgraduate centres that together offer about 55 regular academic programmes to 3,500 students. The university has 18 social science departments, 21 science departments and 08 commerce and professional department. The Mysore University Library is fully automated and fully fledged with latest IT infrastructure. It has created portal which contains access to UGC-INFONET consortium, Open Source resources, other institutional repositories, portals, gateways etc. All the resources available at library can be accessed from outside the campus also.

Objectives of the study

The objectives behind conducting present study are following:

- To understand the purpose for which the faculty, research scholars and post graduate students use electronic information resources and services.
- To know the different types of electronic information resources and services used by the faculty, research scholar, post graduate students.
- To identify their need for improving skills in the use of electronic resources.
- To know the existing technological infrastructures of the Mysore University library.
- To find out the problems faced by them while accessing the electronic resources and services.
- To suggest the administrator of the library for improving electronic based resources and services at University of Mysore library for better use of electronic resources.

Methodology

A survey research method was adopted and study was conducted with the help of questionnaire consisting of both the open-ended and closed-ended questions. Researchers surveyed faculty members, research scholars and postgraduate students of University of Mysore in 21 science (natural science and life science) departments. Total 330 questionnaires were randomly distributed among faculty, research scholars and postgraduate students belonging to Natural and Life Sciences departments of the university and 295 completed questionnaires were successfully received. In addition to questionnaire method interview schedule and observation method were also used to collect required information to supplement to the questionnaire method to bring more clarity to the data which are essential and use for analysis and interpretation of data.

Data Analysis

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

Demographic characteristics of the study population

Demographic characteristics consists of gender characteristics of the data (male 63.00% & female 37.00%), age wise distribution of the respondents (highest number of respondents falls between 21-26 years of age). Designation of the respondents have been categorized and presents in the table-1. Since the science domain consists of different branches of subject, respondents are divided on the basis of their subject of studies. The table-1 clearly indicates the categories of different users, Total of 330 questionnaires were distributed among Faculty, Research Scholars and Postgraduate students. Out of 330 questionnaires, 85 questionnaires to Faculty, 115 questionnaires to Research Scholars and 130

to Post Graduate students were administered respectively. The total 295 (89.39%) filled-in questionnaire were received.

Table-1: Demographic characteristics of the study population

Types of Users	Questionnaire distributed	Questionnaire received	Percentage
Postgraduate Students	130	125	96.15%
Research Scholars	115	100	86.95%
Faculty Members	85	70	82.35%
Total	330	295	89.39%

Use of various types of electronic information resources

The respondents were asked about types of electronic information resources used by them. Table-2 depicts that 221 (74.91%) respondents use e-journals, Followed by 204 e-teaching materials, 175 (59.32%) e-conference proceedings, 166 (56.27%) open sources literature, 164 (55.59%) electronic thesis and dissertations, 151 (51.18%) e-tutorials, 130 (44.06%) e-books, 126 (42.71%) e-databases, 116 (39.32%) blogs, wikis, RSS feeds, 108 (36.61%) e-reference resources, 99 (33.55%) subject gateway and e-portals and 68 (23.05%) respondents use project reports, assignments, records etc.

Table-2: Use of various types of electronic information resources

F1 - 4		Respondent	S	
Electronic Information Resources	PG Students	Research Scholars	Faculty	Total
E-Journals	58 (46.40)	93 (93.00)	70 (100.00)	221 (74.91)
E-Books	23 (18.40)	56 (56.00)	51 (72.85)	130 (44.06)
E-Technical Reports	11 (08.80)	31 (31.00)	23 (32.85)	65 (22.03)
E-Conference Proceedings	31 (24.80)	88 (88.00)	56 (80.00)	175 (59.32)
E-Teaching Materials	66 (52.80)	74 (74.00)	64 (91.42)	204 (69.15)
E-Tutorials	49 (39.20)	63 (63.00)	39 (55.71)	151 (51.18)
E- Databases	39 (21.20)	61 (61.00)	26 (37.14)	126 (42.71)
E- Thesis and Dissertations	16 (12.80)	91 (91.00)	57 (81.42)	164 (55.59)
Subject Gateways/ E-portals	12 (09.60)	66 (66.00)	21 (30.00)	99 (33.55)
Blogs, Wikis, RSS feeds	52 (41.60)	49 (49.00)	15 (21.42)	116 (39.32)
Open Source Literature	41 (32.80)	76 (76.00)	49 (70.00)	166 (56.27)
E- Reference resources (Dictionaries, encyclopaedias etc.)	71 (56.80)	33 (33.00)	04 (05.71)	108 (36.61)
Others (Project reports, Assignments, Research papers, etc)	36 (28.80)	25 (25.00)	07 (10.00)	68 (23.05)

Location of access to electronic information resources

The data with respect to location of access to e-resources are presented in the table-3. The table reveals that, the majority of the users 256 (86.77%) access the e-information resources from their respective departments, followed by 120 (40.67%) access from computer lab, 91 (30.84%) library, 90 (30.50%) residence, 36 (12.20%) Cyber café and only 33 (11.18%) of respondents access e-resources form other places like hostels, friends place, office etc. Almost all respondents prefer to access e-resources from their departments.

Table-3 Places of access to electronic information resources

Place of Access	PG Students	Research Scholars	Faculty	Total
Computer Lab	31 (24.80)	46 (46.00)	43 (61.42)	120 (40.67)
Department	96 (76.80)	90 (90.00)	70 (100)	256 (86.77)
Residence	39 (31.20)	39 (39.00)	12 (17.14)	90 (30.50)
Cyber café	05 (04.00)	14 (14.00)	12 (17.14)	36 (12.20)
Library	48 (38.40)	27 (27.00)	16 (22.85)	91 (30.84)
Other places	19 (15.20)	08 (08.00)	06 (08.57)	33 (11.18)

Note: Figures in parentheses indicate percentage and because of multiple choice options the percentage is exceeded to more than 100%.

Learn to access electronic resources

The respondents were asked how they learn to access electronic resources. The table - 4 depicts that 185 (62.71%) of the respondents learned to access information by trial and error method, while 142 (48.13%) of respondents learn through self thought, 83 (28.13%) respondents taken guidance from other colleagues, 81 (27.45%) respondents have learned to use e-resources by attending courses, trainings, seminars etc., 66 (22.37%) respondents have taken guidance from computing staff and 52 (17.62%) respondents learned through guidance from library staff.

Table -4 Learn to access electronic resources

Learn to use resources	PG Students	Research Scholars	Faculty	Total
Trial and error	74 (59.20)	51 (51.00)	60 (85.71)	185(62.71)
Self learning	50 (40.00)	40 (40.00)	52 (74.28)	142 (48.13)
Guidance from other colleagues	30 (24.00)	28 (28.00)	25 (35.71)	83 (28.13)
Attending courses, trainings, workshops and seminars	35 (28.00)	38 (38.00)	08 (12.85)	81 (27.45)
Guidance from computing staff	28 (22.40)	26 (26.00)	12 (17.14)	66 (22.37)
Guidance from library staff	16 (12.80)	21 (21.00)	15 (21.42)	52 (17.62)

Note: Figures in parentheses indicate percentage and because of multiple choice options the percentage is exceeded to more than 100%.

Experience of using electronic resources

The respondents are asked regarding experience of using electronic information resources. The table-5 depicts that 118 (40.00%) of respondents are using electronic resources from more than four years, followed by 57 (19.32%) between two to three years, 47 (15.93%) between one to two year and 22 (74.57%) of respondents have less than one year experience of using electronic resources. It is clear from the table that almost all the faculty have more experience of using electronic information resources than students and research scholars.

Table-5 Experience of using electronic resources

Experience	PG Students	Research Scholars	Faculty	Total
Less than one year	16 (12.80)	06 (06.00)	00(00.00)	22 (07.45)
Between 1to 2 years	38 (30.40)	09 (09.00)	00(00.00)	47 (15.93)
Between 2-3 years	31 (24.80)	18 (18.00)	08(11.42)	57 (19.32)
Between3-4 years	16 (12.80)	21 (21.00)	14(20.00)	51 (17.28)
More than 4 years	24 (18.20)	46 (46.00)	48(68.57)	118(40.00)

Note: Figures in parentheses indicate percentage

Purposes of using the electronic information resources

The purpose of using electronic information resources by the respondents have been categorized into five groups. It is identified form the table-6 that the respondents have top priority 238 (80.67%) for the use of e-resources for reading/writing research articles. It is also reveals that they are using 218 (73.89%) for reading/writing reports and projects, followed by 160 (54.23) teaching resources, 111 (37.62%) for preparing for seminars, lectures etc. and 89 (30.16%) of respondents for use e-resources of general information.

Table-6 Purposes of using the electronic information resources

Purpose	PG Students	Research Scholars	Faculty	Total
Reading/Writing research articles	76 (60.80)	98 (98.00)	64 (91.42)	238 (80.67)
Reading/ writing Reports and projects	84 (67.20)	79 (79.00)	55 (78.57)	218 (73.89)
Teaching resources	55 (44.00)	46 (46.00)	59 (84.28)	160 (54.23)
Preparation for teaching/ seminars etc.	08 (64.00)	48 (48.00)	55 (78.57)	111 (37.62)
For collecting general information	06 (48.00)	43 (43.00)	40 (57.14)	89 (30.16)

Note: Figures in parentheses indicate percentage and because of multiple choice option the percentage is exceeded to more than 100%.

Benefits while accessing electronic information resources

The table below indicates the benefits that the respondents get due to access of electronic information resources. It is identified from the table-7 that the use of electronic resources gives better access of information 250 (84.74%). It also reveals that 227 (76.94%) saves the time. Similarly, 157 (53.22%) access to up to date information, 119 (40.33%) improvement in the quality of professional work, 115 (38.98%) easily portability of eresources and 93 (31.52%) information available in various formats as per the need.

Table-7 Respondents benefit while accessing electronic information resources

Benefits	PG Students	Research Scholars	Faculty	Total
Time saving	90 (72.00)	79 (79.00)	58 (82.85)	227 (76.94)
Better access to information	101 (80.80)	89 (89.00)	60 (85.71)	250 (84.74)
Access to up to date information	41 (32.80)	64 (64.00)	52 (74.28)	157 (53.22)
Improvement in the quality of professional work	27 (21.60)	51 (51.00)	41 (58.57)	119 (40.33)
Information available in various formats as per the need	21 (16.80)	42 (42.00)	30 (42.85)	93 (31.52)
Easily portability of e- resources	21 (16.80)	46 (46.00)	48 (65.57)	115 (38.98)

Note: Figures in parentheses indicate percentage and because of multiple choice options the percentage is exceeded to more than 100%.

Hindrance of accessing electronic resources

During accessing electronic information resources the hindrance faced by the respondents has been summarized in the form of table-8.

The table depicts that 206 (69.83%) respondents stated that too much junk information is retrieved it is the main barrier to access electronic resources, 166 (56.27%) stated time consuming to use, 93 (31.52%) opined Server down/ System problem is the hindered to access electronic resources, 61 (20.67%) stated that using electronic resources have often distracted from doing work, 49 (16.61%) users responded that lack of IT knowledge to effectively utilize the services and 59 (20.00%) respondents stated that lack of assistance form library staff.

Table-8 Hindrance of accessing electronic resources

Hindrances	PG Students n= 125	Research Scholars n= 100	Faculty n= 70	Total n= 295
Retrieval of Junk information	92 (73.60)	59 (59.00)	55 (78.57)	206 (69.83)
Time consuming	75 (60.00)	45 (45.00)	46 (65.71)	166 (56.27)
Server down/ System problem	27 (21.60)	37 (37.00)	29 (41.42)	93 (31.52)
Lack of IT knowledge to effectively utilize e-resources	15 (12.00)	16 (16.00)	18 (25.71)	49 (16.61)
Using e-resources often distract from doing work	16 (12.80)	23 (23.00)	22 (31.42)	61 (20.67)
Lack of assistance from library staff	36 (28.80)	19 (19.00)	04 (08.71)	59 (20.00)

Note: Figures in parentheses indicate percentage and because of multiple choice options the percentage is exceeded to more than 100%.

Extent of Satisfaction towards services provided by Mysore University Library towards e-journals and databases.

The respondents were asked to extent their satisfaction towards services provided by Mysore University library towards e-journals and databases.

The data collected has been presented in the table -9. The table depicts that, 107 (36.27%) of respondents, 56 (44.80%) PG students, 30 (30.00%) Research Scholars, 21 (30.00%) Faculties are moderately satisfied towards services provided to access e-journals and databases by Mysore University Library, followed by 83 (28.13%) of respondents, 31 (24.80%) PG students, 27 (27.00%) Research Scholars, 25 (35.71 %) Faculties are somewhat satisfied, 42 (14.23%) of respondents, 10 (08.00%) PG students, 21 (21.00%) Research Scholars, 11 (15.71%) Faculties are not satisfied, 40 (13.55%) of respondents, 25 (20.00%) PG students, 06 (69.00%) Research Scholars, 09 (12.85%) Faculties are highly satisfied, Only 23 (07.79%) of respondents, 03 (02.40%) PG students, 16 (16.00%) Research Scholars, 04 (05.71%) Faculties have no opinion about services provided to access e-journals and databases by Mysore University Library.

Table-9 Extent of Satisfaction towards services provided by Mysore University library towards e-journals and databases

Extent	PG Students	Research Scholars	Faculty	Total
Highly satisfied	25 (20.00)	06 (69.00)	09 (12.85)	40 (13.55)
Moderately satisfied	56 (44.80)	30 (30.00)	21 (30.00)	107 (36.27)
Somewhat satisfied	31 (24.80)	27 (27.00)	25 (35.71)	83 (28.13)
Not satisfied	10 (08.00)	21 (21.00)	11 (15.71)	42 (14.23)
No opinion	03 (02.40)	16 (16.00)	04 (05.71)	23 (07.79)

Note: Figures in parentheses indicate percentage

Preference of using search engines for accessing e-resources

The respondents are asked regarding which search engine they prefer to search electronic information resources. The data collected has been presented in the form of table. Table-10 depicts that 260 (88.13%) respondents, 101 (80.80%) PG students, 97 (97.00%) Research Scholars and 62 (88.57%) Faculty members are using Google search engine, followed by 124 (42.03%) respondents, 16 (12.80%) PG Students, 53 (53.00%) Research Scholars and 55 (78.57%) Faculties are use Yahoo, 24 (08.13%) respondents, 11 (08.80%) PG students, 08 (08.00%) Research Scholars and 05 (07.14%) faculty prefer to use AltaVista, 77 (26.10%) respondents, 29 (23.20%) PG Students, 36 (36.00%) research scholar, 12 (17.14%) faculty prefer to use Bing, 33 (11.18%) of respondents, 13 (10.40%) PG students, 12 (12.00%) Research Scholars, 08 (11.42%) faculty use MSN to fulfil their needs and 04 (01.35%) of respondents use other search engines for accessing required information resources through internet.

Table-10 Preference of using search engine

Search Engines	PG Students	Research Scholars	Faculty	Total
Google	101 (80.80)	97(97.00)	62 (88.57)	260 (88.13)
Yahoo	16 (12.80)	53 (53.00)	55 (78.57)	124 (42.03)
Alta vista	11 (08.80)	08 (08.00)	05 (07.14)	24 (08.13)
Bing	29 (23.20)	36 (36.00)	12 (17.14)	77 (26.10)
MSN	13 (10.40)	12 (12.00)	08(11.42)	33 (11.18)
Others	04 (03.20)	00 (00.00)	00 (00.00)	04 (01.35)

Note: Figures in parentheses indicate percentage

Print vs. Electronic Resources Referred

The respondents were requested regarding the versions they prefer to use. Table-11 depicts that 49 (16.61%) respondents prefer print resources, 53 (17.96%) prefer electronic resources and 202 (68.47%) respondents prefer both print and electronic version.

Table:-11 Print vs. electronic resources

Version	PG Students	Research Scholars	Faculty	Total
Print versions	35 (28.00)	09 (09.00)	05 (07.14)	49 (16.61)
Electronic version	25 (20.00)	07 (07.00)	21 (30.00)	53 (17.96)
Both print and electronic version	70 (100)	85 (85.00)	47 (67.14)	202 (68.47)

Note: Figures in parentheses indicate percentage

Awareness of New E-Resources subscribed by Library

The respondents were asked how they come to know about new electronic resources subscribed by the library. The table-12 depicts that, 206 (69.83%) of respondents, 84 (67.20%) PG Students, 74 (74.00%) Research Scholars, 48 (68.57%) faculties come to know about new electronic resources subscribed by their library through library web page, followed by 90 (30.50%) of respondents, 47 (37.60%) PG students, 20 (20.00%) Research Scholars, 23 (32.85%) faculties come to know about new resources subscribed through library users, 59 (20.00%) of respondents, 27 (21.60%) PG students, 13 (13.00%) Research Scholars, 19 (27.14%) Faculties get information about new resources subscribed through library bulletin board, 36 (12.20%) of respondents, 12 (09.60%) PG students, 15 (15.00%) /research Scholars, 09 (12.85%) Faculties come to know about new e-resources subscribed by library through e-mail services and only 04 (01.35%) of respondents get information regarding new e-resources subscribed by the library through other services.

Table-12 Awareness of new e-resources subscribed in library

Awareness	PG Students	Research Scholars	Faculty	Total
Through library users	47 (37.60)	20 (20.00)	23 (32.85)	90 (30.50)
Through library web page	84 (67.20)	74 (74.00)	48 (68.57)	206 (69.83)
Through e-mail services	12 (09.60)	15 (15.00)	09 (12.85)	36 (12.20)
Library bulletin board	27 (21.60)	13 (13.00)	19 (27.14)	59 (20.00)
Through library orientation programmers	31 (24.80)	15 (15.00)	04 (05.70)	50 (16.94)
Through library staffs	36 (28.80)	29 (29.00)	09 (12.85)	74 (25.08)
Others	00 (00.00)	04 (04.00)	00 (00.00)	04 (01.35)

Note: Figures in parentheses indicate percentage and because of multiple choice options the percentage is exceeded to more than 100%.

Findings, Suggestions and Conclusion

The study revealed that most of the users are completely aware of the availability of electronic information resources and services at University of Mysore.

The present study examine the Information Seeking Behaviour of Faculty, Research Scholars and Postgraduate Students towards Electronic Based Resources and Services.

Major Findings of the study reveals that 221 (74.91%) majority of respondents use e-journals, 256 (86.77%) respondents access electronic information resources from their department, 185(62.71%) respondents learn to access e-resources form by trial and error method. 118 (40.00%) of respondents have experience of using electronic information resources form more than four years, 250 (84.74%) of respondents have opinioned that use of e-information resources has benefited to better access information resources. 206 (69.83%) respondents are facing problem of retrieving of junk/ irrelevant information while accessing electronic information resources. 107 (36.27%) of respondents are moderately satisfied towards services provided by Mysore University Library towards e-based resources and services.

Majority of 260 (88.13%) respondents prefer Google search engine to access e-resources, 202(68.47%) of respondents prefer both electronic as well as print version of information resources, Majority 206 (69.20%) of respondents become aware about new information resources through library web site. Search methods and strategies are very important and merely using search engines haphazardly should be avoided. They should know how to narrow down a search by filtering unwanted information using the best search terms.

The users should be made more aware of the latest available web-based information resources that can benefit them academically. The library should create awareness to its users towards open source resources available through portals, gateways, database etc. in addition to fee based resources. In order to promote the utilization of web resources effectively, the library on behalf of university should conduct user training programme, provide reliable connectivity, link the web resources to the library homepage.

The library homepage should provide detailed instructions about search strategy to user community to locate pin pointed information.

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