

Use of Scholarly Information by Science Faculty Members of Southern Universities in Tamil Nadu: A Case Study

S. VENKATESHWARAN¹ , Dr. C. RANGANATHAN²

¹Research Scholar, Department of Library and Information Science, Bharathidasan University, Tiruchirappalli, 620 024, Tamilnadu, India.

²Associate Professor, Department of Library and Information Science, Bharathidasan University, Tiruchirappalli-24, Tamilnadu.

Abstract

Resources of information available via the Internet are increasing exponentially, leading to steady increase in the use of Internet for education and research. Since past few years, free online information sources like e journals, e-books, e-databases have increased considerably. Earlier, information and knowledge were passed by word of mouth or through manuscripts, and communication was a slow process. Today, it is passed from one individual to an infinite number of other users through a number of media and formats which makes rapid and widespread dissemination of information possible. This article discusses Use of Scholarly Information by Science faculty members of Southern Universities in Tamil Nadu: A Case Study. A questionnaire survey was used for data collection, 180 well structured questionnaires were distributed for collecting the data, out of which, 112 were returned duly filled in with the response rate of 62%. The analysis of data collected covered awareness of electronic resources, Adequacy of E-Resource, Method of learning to access e-Resources, Place of Accessing Electronic Information, Approaching Method in Web for Retrieving relevant Information, impact of use of electronic resources on the academic productivity of respondents and problems faced by researchers while using electronic resources. The study found that the Internet are the most used of the e-resources. Results show that 87 per cent of the faculty is familiar with the use of Scholarly Information, and majority of these members are using Scholarly Information for research and teaching purpose. Study also reveals that majority of the faculty members are learning the required skills for the usage of Scholarly Information through self-study. There was a general indication that respondents did not receive adequate training in the use of electronic resources. Inadequate infrastructure is a major factor that hinders users from using electronic resources. The article provides suggestions for further improvement of use of scholarly information in order reap the benefits of the innovation in the Universities.

Keyword: Scholarly Information, Electronic Resources, Accessing, Retrieval, Information, Web Resources.

1. Introduction

Information has been identified as one of the vital resources needed for the success in almost every major human endeavor. Academic and research libraries face numerous challenges in managing their information resources in the digital age due to impact of information technology application. Unprecedented desktop access to scholarly information has been made possible by the introduction of digital libraries [1]. The powerful combination of digital publications, specialist and generalist databases, sophisticated search systems and portals enables scholars and students to rapidly examine a great variety of information.

Academic Research community demand information, which should be timely, accurate, valuable, up to date and quickly available for pursuing their academic and research work. They are much more web focused and Internet oriented. On the issues of changing information needs of the users, George et al. emphasize that the academic libraries need to know more about the information that students use and value and what influences their information searching, obtaining and use [2]. Hence assessment of reading habits of the users is an important task of any efficient information retrieved system so that the information needs of the users may be identified and information available in different types of formats and through a variety of channels may be provided to the users [3]. The primary goal of the survey questionnaires is to collect data on the relevance of existing and possible future services as well as on student and faculty perceptions of the library's value in the context of the scholarly information environment [4]. To address these questions, this study explores academic and research communities' information use pattern as they pursue for scholarly activities – the role of the people, the internet, the academic library and other influence.

1. Scholarly Information

According to Cambridge International Dictionary of English “Scholarly means containing a serious detailed study of the subject concerned. Someone who is scholarly studies a lot and knows a lot about what they study [5]. There are volumes of information are available like primary, secondary, tertiary information and web information. All these information may not be relevant to scholars. Reading habits of scholars in any field depend both on their personal characteristics as well as characteristics of specialty in which they work. Though personal characteristics of scholars is one of the important factors which contributes towards reading habits, but subject characteristics also have definite impact on reading habit of scholars in any field. The net provides an open global networked environment for seamless publishing and access to information. The powerful combination of digital publications, specialist and general databases, sophisticated search systems and portals enables scholars and students to rapidly examine a great variety of information [6]. They demand information i.e. timely, accurate, valuable, up to date and quickly available for pursuing their academic and research work. The information, which has peer-reviewed and high quality, is called scholarly information.

1.1. Statement of the problem

The study will help the library to measure the usage of e-resources, to plan for a better promotion and e-resources delivery model to achieve the goal of investing in e-resources. The major components for the successful implementation of e-resources service are the uses, adequate resources, infrastructure, promotional campaigns, user training and staff support. The present research highlights all the aspects of the use of scholarly information by faculty members as the three selected Universities of Southern region of Tamil Nadu besides serving as an indicator for strengthening the existing system, Hence it was felt to select the problem as a strong point to conduct research and to report the outcomes.

2. Objectives of the Study

The research objectives of the study are listed below:

1. To find out the level of a usage of electronic information by faculty members of the selected three Universities of Southern region of Tamil Nadu.
2. To analyze the awareness on digital resources among the respondents
3. To ascertain the extent of use of e-resources among the respondents
4. To find out the usage of various online database among the respondents
5. To identify the electronic information services offered by the library of the selected three Universities of Southern region of Tamil Nadu
6. To identify the electronic resources available for the respondents in pursuit of their research and developmental activities in the libraries.
7. To find out the barriers faced by the respondents in accessing electronic information sources.
8. To devise information user model based on the study.

2.1 Scope of the Study

The study is undertaken to explore the use pattern of electronic information, the infrastructure environment existed, access to Information Technology (IT) devices and E-Resources in the surveyed selected three Universities of Southern region of Tamil Nadu by the respondents and to find the ways and means to promote the existing system. The research covers the faculty members, who are working in permanent basis pursuing their practices in full time of the three Universities only, since their electronic information needs and quality varies.

2.2 Sample size

The total population comprises Science faculty members of 180. 180 well structured questionnaires were distributed for collecting the data, out of which, 112 were returned duly filled in with the response rate of 62%. Sample of 112 respondents of faculty members with different age groups, qualifications, gender, experience and specialization were taken for this study.

2.3 Analysis of Data

Data collected from the respondents were analyzed using Statistical Package for Social Science (SPSS). Mean, Standard Deviation, Percentile analysis, ANOVA (Analysis of Variance) test and Weighted Average Method were carried out for analyzing the data. Weighted Average Method followed based on the ratings assigned by respondents.

3. Analysis and Discussion

Assessment of Use of scholarly information is an important task of any efficient information retrieval system so that the information needs of the users may be identified and information available in different types of formats and through a variety of channels may be provided to the users.

3.1 Designation wise Respondents

Designation is an impact factor, which includes the level of accessing the quality of scholarly information in the electronic environment. Table-1 clearly shows that in Madurai Kamaraj University 62.96% of the respondents were Assistant professors and only 16.66% were Associate professors, while in Alagappa University, majority of them (48.48%) were Assistant professors and only 15.15% were Professors. Again in Manonmaniam Sundaranar University, 52% of the respondents were Associate professor and only 12% were professors. In over all opinion, majority of the respondents 52.67% were Assistant professor and only 16.93% were professor in all the three Universities surveyed.

Table-1 Designation wise Respondent

Designation	Madurai Kamaraj University	Alagappa University	Manonmaniam Sundaranar University	Total
Professor	11 (20.37)	5 (15.15)	3 (12.0)	19 (16.93)
Associate Professor	9 (16.66)	12 (36.36)	13 (52.0)	34 (30.36)
Assistant Professor	34 (62.96)	16 (48.48)	9 (36.0)	59 (52.67)
Total	54 (48.21)	33 (29.46)	25 (22.33)	112 (100.0)

3.2 Qualification wise Respondents

Level of Qualification plays a dominate role in identifying and accessing the Scholarly Information, which is relevant to their research and academic activities. Table-2 reveals that 37(68.52%) of the respondents from Madurai Kamaraj University have Ph.D qualification and 17(31.48%) have PDF, while in Alagappa University 26(78.78%) have Ph.D qualification and 7(21.21%) PDF again in Manonmaniam Sundaranar University, majority of them 21(84%) have Ph.D and 4(16%) have PDF qualification. To sum up, 84(75%) of the respondents from all the three Universities have Ph.D qualification and 28(25%) have PDF qualification.

Table-2 Qualification Wise Respondents

Qualification	Madurai Kamaraj University	Alagappa University	Manonmaniam Sundaranar University	Total
Ph.D	37(68.52%)	26(78.78%)	21(84%)	84(75%)
PDF	17(31.48%)	7(21.21%)	4(16%)	28(25%)
Total	54	33	25	112

3.3 Teaching Experience

Years of teaching Experience will throw light on the respondents in seeking the Scholarly Information, It is evident from the table-3 that majority of the respondents (68.51%) from Madurai Kamaraj University have 1-10 years teaching experience and only 12.96% have 11-20 year teaching experience and 0.9% of them have more than above 30 years teaching experience, in case of Alagappa University, again majority of them (72.72%) have 1-10 years teaching experience and it is also found that none of the respondent have more than above 30 years experience, while in Manonmaniam Sundaranar University, majority of them (64%) have 1-10 years teaching experience and only 24% have 11-20 years teaching experience and none of the respondents have more than 30 years above.

Table-3 Teaching Experience

Teaching of Experience	Madurai Kamaraj University	Alagappa University	Manonmaniam Sundaranar University	Total
1-10 Years	37 (68.51)	24 (72.72)	16 (64.0)	77 (68.75)
11-20 Years	7 (12.96)	6 (18.18)	6 (24.0)	19 (16.96)
21-30 Years	9 (16.66)	3 (9.09)	3 (12.0)	15 (13.39)
Above 30 Years	01 (0.90)	0 (0.0)	0 (0.0)	01 (0.90)
Total	54 (48.21)	33 (29.46)	25 (22.33)	112(100.0)

3.4 Adequacy of E-Resource in the Central Library

The researcher intended to find out the availability level of electronic information sources in the central library. It is revealed from the table-4 that majority of the respondents (98.15%) in Madurai Kamaraj University have expressed that their library have adequate e-resources, again majority of the respondents (66.7%) in Alagappa University and (92%) in Manonmaniam Sundaranar University also have expressed the same opinion. It may be concluded from the overall responses that majority of the respondents (87.5%) from all the surveyed Universities expressed that their library have adequate e-resource and only 12.5% have stated that e-resources in the library was not adequate. When the overall average (87.5%) compared with Madurai Kamaraj University (98.15%) and Manonmaniam Sundaranar University (92%), both the Universities were above the total average and Madurai Kamaraj University was below the total average from the analysis, it

may be concluded that Alagappa University library has much collection on e-resource when compared with the other two surveyed Universities.

Table-4 Adequacy of E-Resource in the Central Library

E-Resources	Madurai Kamaraj University	Alagappa University	Manonmaniam Sundaranar University	Total
Yes	53 (98.15)	22 (66.7)	23 (92.11)	98 (87.5)
No	01 (1.85)	11 (33.3)	02 (8.17)	14 (12.5)
Total	54 (48.21)	33 (29.46)	25 (22.33)	112 (100.0)

3.5 Preference of Electronic Information Resources

The researcher tried to find out the preference of various electronic information sources by asking the opinion from the respondents. It may be observed from table-5 that in Madurai Kamaraj University, e-journal have seemed the highest weight age of 4.38 searching first rank, followed by e-databases seemed the weight age of 3.2 has secured the second rank, e-thesis and dissertations got the weight age of 2.5 securing the third rank and e-conferences/seminars and e-book seemed 2.2 securing the last rank for fourth rank and in the same way, Again in Alagappa University, e-journal seemed that highest weight age of 4.36 of followed by e-databases seemed 3.51, e-books and e-seminars/conference for the third highest weight age of 2.6 e- books forth higher weight age 2.5 and electronic these and dissertation secured the least weight age of 2.2. in Manonmaniam Sundaranar University, e-journals recurred the weight age of 4.2 securing first rank, followed by e-databases seemed 3.4 weight age secured 2.5 securing third rank, e-book secured 2.4 securing fourth ranked electronic thesis and dissertation secured 2.2 securing last rank.

In the overall opinions from all the three Universities, e-journal securing 4.35 seemed first rank, e-databases got 3.53 securing second rank, e-seminars/conferences seemed 2.5 possessed third rank, e-book secured 2.4 occupying fourth rank and e-thesis and dissertations secured 2.3 securing last rank i.e fifth ranks. It is also found that all the three Universities respondents were top priority to e-journals.

Table-5 Preference of Electronic Information Resources

Preferred Electronic Source	Universities	AR-1	AR-2	AR-3	AR-4	AR-5	Weighted Average	Total
e-books	Madurai Kamaraj University	3 (5.55)	11(20.37)	8(14.8)	12(22.22)	20(37.03)	126/54=2.3	54
	Alagappa University	2 (6.06)	7(21.2)	9(27.2)	3(9.09)	12(36.36)	84/33=2.5	33

	Manonmaniam Sundaranar University	1 (4)	3(12)	5(20)	7(28)	9(36)	54/25=2.16	25
	Total	6 (5.35)	21(18.75)	22(19.6)	22(19.6)	41(36.6)	264/112=2.35	112
e-Journals	Madurai Kamaraj University	39 (72.22)	7(12.96)	6(11.11)	2(3.70)	0	237/54=4.38	54
	Alagappa University	18 (54.5)	10(30.3)	3(9.09)	2(6.06)	0	144/33=4.36	33
	Manonmaniam Sundaranar University	14 (56)	5(20)	5(20)	1(4)	0	106/25=4.24	25
	Total	71 (63.39)	22(19.6)	14(12.5)	5(4.46)		487/112=4.35	112
e-Databases	Madurai Kamaraj University	6 (11.11)	26(48.14)	8(14.8)	9(16.6)	5(9.2)	174/54=3.22	54
	Alagappa University	9 (27.27)	11(33.3)	5(15.15)	5(15.15)	3(9.09)	116/33=3.51	33
	Manonmaniam Sundaranar University	4 (16)	12(48)	4(16)	3(12)	2(8)	106/25=4.24	25
	Total	19 (16.96)	49(43.75)	17(15.17)	17(15.17)	10(8.9)	396/112=3.53	112
e-conference / seminar	Madurai Kamaraj University	3 (5.55)	7(12.96)	11(20.37)	21(38.8)	12(22.22)	127/54=2.35	54
	Alagappa University	2 (6.06)	4(12.12)	8(24.24)	13(39.39)	6(18.18)	89/33=2.69	33
	Manonmaniam Sundaranar University	4 (16)	4(16)	7(28)	7(28)	3(12)	74/25=2.96	25
	Total	9 (8.03)	15(13.39)	26(23.2)	41(36.6)	21(18.75)	290/112=2.58	112
e-Theses and Dissertation	Madurai Kamaraj University	5 (9.25)	5(9.25)	19(35.18)	10(18.5)	15(27.77)	134/54=2.48	54
	Alagappa University	2 (6.06)	3(9.09)	7(21.21)	10(30.3)	11(33.33)	73/33=2.21	33

	Manonmaniam Sundaranar University	3 (12)	1(4)	4(16)	7(28)	10(40)	54/25=2.16	25
	Total	10 (8.92)	9(8.03)	30(26.7)	27(24.10)	36(32)	261/112=2.33	112

***AR-Assigned Rank**

3.6 Method of Learning to Access E-Resources

The electronic information sources are used by the respondents in various occasions such as for academic and research, assignments, writing articles and so on. It is evident from the table-6 that majority of the respondents (79%) from Madurai Kamaraj University have stated that they have accessed e-resources by self followed by (72%) respondent colleague and friends and only 24% of the respondents have all used the e-resources through user Education programmer and 16% have used through Seminar / Workshop and 7% have learned course attended . In case of Alagappa University, majority of the respondent (85%) have expressed that they have learned by through Colleague and Friends followed by (69%) respondents through themselves and only (3.03%) respondents have stated that they have learned through computer centre staff and User education provided by library, while in Manonmaniam Sundaranar University,(84%) opined that they have learned by themselves followed by colleagues and friends (80%) and only(4%) respondents have stated that they have learned through user education programmer provided by the library.

Further, combining all the three Universities, majority of the respondent (77.67%) out of 112 respondents have stated that they have learned to access e-Resources by themselves and through colleague and friends. It is also evident from the analysis that, user Education program, which one of the important services to be offered in all the southern universities of Tamilnadu were lagging and particularly in Alagappa University and Manonmaniam Sundaranar University did not fare well and library professionals part in helping them to access the electronic resources in all the Universities were 9.8%.There fore, it is suggested that user education programmed has to be organized frequently to access the e-resources more effectively.

Table-6 Method of Learning to Access E-Resource

Access E-Resource	Madurai Kamaraj University	Alagappa University	Manonmaniam Sundaranar University	Total
Self	43(79.62)	23(69.69)	21(84)	87(77.67)
Through Colleague and Friends	39(72.22)	28(84.84)	20(80)	87(77.67)
Assistant from library staff	6(11.11)	3(9.09)	2(8)	11(9.82)
User education provided by library	13(24.07)	1(3.03)	1(4)	15(13.39)
At Seminar / Workshop	9(16.66)	6(18.18)	2(8)	17(15.17)
Course attended	4(7.40)	5(15.15)	3(12)	12(10.71)
Computer centre staff	2(3.70)	1(3.03)	0	03(2.67)

Total	54(48.21)	33(29.46)	25(22.32)	
--------------	------------------	------------------	------------------	--

(Since the respondents marked more than one option, the percentage exceeds 100)

3.7 Place of Accessing Electronic Information

It is quiet common that user may access the internet, wherever it is available and Internet speed also plays important role in accessing the same. It is clear inference from the table-7 that majority of the respondents (83%) in Madurai Kamaraj University were accessing the electronic information at department followed by library with (59.25%) and home with (29%) respectively and only 20% were accessing inter university in libraries, where as majority of the respondents (81%) in Alagappa University were accessing the electronic information in their library followed by department (57%) accessing electronic information while Manonmaniam Sundaranar University (80%) were accessing the electronic information in their departments followed by (76%) were accessing in library.

Table-7 Place of Accesses Electronic Information

Internet Access Place	Madurai Kamaraj University	Alagappa University	Manonmaniam Sundaranar University	Total
Library	32(59.25)	27(81.81)	19(76)	78(69.64)
Home	16(29.62)	8(24.24)	5(20)	29(25.89)
Dept	45(83.33)	19(57.57)	20(80)	84(75)
Inter University in library	11(20.37)	13(39.39)	6(24)	30(26.78)
Other Libraries	0	4(12.12)	0	04(3.57)
Total	54(48.21)	33(29.46)	25(22.32)	112(100.0)

(Since the respondents marked more than one option, the percentage exceeds 100)

3.8 Preferred Electronic file format

The electronic information is available in different formats like PDF, HTML, MS-word, and JPG so on. Though there are number of file formats are available, some formats are frequently used by the respondents all over the world.

Table-8 Preferred Electronic File Format

Electronic File Format	Madurai Kamaraj University	Alagappa University	Manonmaniam Sundaranar University	Total
PDF	33(61.11)	20(60.60)	13(52)	66(58.92)
HTML	6(11.11)	6(18.18)	4(16)	16(14.28)
WORD	15(27.77)	7(21.21)	8(32)	30(26.78)
Total	54(48.21)	33(2.67)	25(22.32)	112(100.0)

It is clear indication from the table-8 that majority of the respondents (61%) in Madurai Kamaraj University preferred portable document format (PDF) followed by word format (27%) and only 11% preferred Hypertext Markup Language(HTML) format, and the same trend was continuing in other Universities that in Alagappa University, (60%) preferred PDF and (21.1%) word, and 18.18% HTML format and in Manonmaniam Sundaranar University, (52%) preferred PDF format followed by word (32%) and 16% HTML format.

3.9 Time Spent for Accessing e-Resource Per week

Users in the present situation spend much of their time for searching information through web. The researcher intended to find out the respondents opinion on time spent for accessing e-resources.

Table-9 Time Spent for Accesses E-Resource per Week

Time Spent Per Week	Madurai Kamaraj University	Alagappa University	Manonmaniam Sundaranar University	Total
1-5 Hours	20(37.03)	17(51.51)	12(48)	49(43.75)
6-10 Hours	11(20.37)	12(36.36)	8(32)	31(27.67)
11-15 Hours	14(25.92)	2(6.06)	3(12)	19(16.96)
More than 15 Hours	9(16.66)	2(6.06)	2(8)	13(11.60)
Total	54(48.21)	33(29.46)	25(22.32)	112(100.0)

The Table-9 depicts that majority of the respondents (37.03%) from Madurai Kamaraj University opined that they spent 1-5 hours per week followed by 25.92% stated 11-15 hours per week and only 16% stated that they spent more than 15 hours per week, while in Alagappa University 51.51 % stated that they spent 1-5 hours per week and 36.36% spent 6-10 hours per week, where as in Manonmaniam Sundaranar University, 48% stated that they spent 1-5 hours per week and only 8% stated that they spent more than 15 hours. Thus 43.75% of the respondents from all the three Universities stated that they spend 1-5 hours per week and 11.6% standard that they spent more than 15 hours. It is identified that 42% of the respondents in Madurai Kamaraj University were spending more than 10 hours, whereas the same was 12% at Alagappa University and 20% in Manonmaniam Sundaranar University.

3.10 Approaching Source for finding academic/research web sites

Web provides a lot of information for finding academic and research oriented information, they have to apply any one of the method mentioned below or combination of more than one. It is revealed from the table-10 that in Madurai Kamaraj University, majority of the respondents (85%) opined that they identified the academic and research related websites through search engines followed by colleague (44%) and only 14% opined that they approached library staff, while in

Alagappa University, majority of the respondents (75.%) expressed that they approached the search engines followed by through Colleagues 54.54% and only 9 % stated that they approached the library staff and in Manonmaniam Sundaranar University also the same trend was continuing as majority of the respondents (84%) and (64%) approached the search engine and colleagues – respectively and only 1.78% approached library staff.

Table-10 Methods of Finding Academic / Research Related Websites

Finding Academic/practice/Research Related	Madurai Kamaraj University	Alagappa University	Manonmaniam Sundaranar University	Total
Through search Engines	46(85.18)	25(75.75)	21(84)	92(82.14)
Through Colleagues	24(44.44)	18(54.54)	16(64)	58(51.78)
Through subject Gate ways/portal	14(25.92)	6(18.18)	5(20)	25(22.32)
Library Staff	8(14.18)	3(9.09)	2(8)	13(11.60)
Through Periodical/ Articles / Newspapers	13(24.07)	12(36.36)	8(32)	33(29.46)
Through Stack material	13(24.07)	8(24.24)	6(24)	27(24.10)
Total	54(48.21)	33(29.46)	25(22.32)	112(100.0)

(Since the respondents marked more than one option, the percentage exceeds 100)

3.11 Approaching method in Web for Retrieving Relevant Information

For obtaining relevant information from the web, some mechanism have to be followed like by specifying author's name, journal's name, website's address, key words and so on.

Table-11 Approach in Web for Referring Relevant Information

Referring Relevant Information	Madurai Kamaraj University	Alagappa University	Manonmaniam Sundaranar University	Total
Specifying Author Name in the Web	3(5.55)	9(27.27)	6(24)	18(16.07)
Specifying Journals Name in the web	3(61.11)	15(45.45)	11(44)	59(52.67)
Specifying Web Site Address	34(62.96)	18(54.54)	9(36)	61(54.46)
By Designing Key Words	27(50)	18(54.54)	19(76)	64(57.14)
Through Subject Gate Ways/ directories	5(9.25)	4(12.12)	3(12)	12(10.71)
Total User	54(48.21)	33(29.46)	25(22.32)	112(100.0)

(Since the respondents marked more than one option, the percentage exceeds 100)

From the table11- it is identified that in Madurai Kamaraj University majority of the respondents (62.96%) opined that they accessed relevant information by assigning website address followed by specifying journal name in the web (61%) and only 9% stated through subject gateways/directories, On the other hand, in Alagappa University, majority of them (54.54%) stated that they approach keywords and website's address followed by journals name (45.45%), and only 12% stated that they approached authors for retrieving relevant information through Subject Gate Ways/ directories and in Manonmaniam Sundaranar University, again majority of the respondents (76%) stated that they approached keyword followed by assigning journal's name by 44% and only 12% stated that they approached using subject gateways / directories.

3.12 Limitations in Accessing Electronic Information

User may access the electronic information by applying any one of the method in which they are familiar. There are number of limitations that have been mentioned will affect their information searching behavior. If it is identified properly, necessary steps can be taken to improve their searching skill.

Table-12 Limitation in Accessing Electronic Information

Limitations	Madurai Kamaraj University	Alagappa University	Manonmaniam Sundaranar University	Total
Lack of Technical Know How	13(24.07)	9(27.27)	9(36)	31(27.67)
Lack of Training	11(20.37)	11(33.33)	9(36)	31(27.67)
Lack of Computer Facility	13(24.07)	11(33.33)	6(24)	30(26.78)
Lack of Time	20(37.03)	7(21.21)	6(24)	33(29.46)
Time Consuming	27(50)	12(36.36)	6(24)	45(40.17)
Redundant Information	16(29.62)	8(24.24)	7(28)	31(27.67)
Total	54(48.21)	33(29.46)	25(22.32)	112(100.0)

It is identified from the table12- that in Madurai Kamaraj University, 50% them stated that "time Consuming" was the major limitation in accessing electronic information followed by 37% stated "lack of time" and each 24% stated "lack of Technical know How " and "lack of computer facility" was the major limitations and followed by 20% stated "lack of training", while in Alagappa University, majority of them (36.36%) stated 'time consuming' was the major reason, while 33.33% of the respondents opined that "lack of training" and "lack of computer facility" were the limitation and it is quiet contradictory than Manonmaniam Sundaranar University significantly differ with Alagappa University and Madurai Kamaraj University rating that 36% of them stated "lack of training" was the major problem for accessing electronic information and 24% stated "lack of time", lack of computer facility and "time consuming" as limitation and it was also contradicting with Alagappa University and Madurai Kamaraj University. It is also found that Alagappa University and Madurai Kamaraj University were coinciding with the rating of

“time consuming” as limitation by the more number of respondents while 24% only rated in Manonmaniam Sundaranar University “Lack of training” was considered by 36% of the respondents from Manonmaniam Sundaranar University, while 20% of Madurai Kamaraj University and 33% of Alagappa University respondents rated this factor as limitations.

3.13 Satisfaction on Electronic Information:

In order to find out their satisfaction, the researcher collected the opinion from respondents and the collected opinion is presented in the Table-13. It is understood from the table-13 that majority of the respondents (85%) from Madurai Kamaraj University (87%) from Alagappa University and (84%) from Manonmaniam Sundaranar University have state that they were satisfied with electronic information. It can be observed from the overall opinion that majority of the respondents (85.7%) from all the Universities were satisfied with electronic information and only 14.3% stated that they were not satisfied. It is also observed that respondent’s opinion from each University and overall opinion was more or less coinciding.

Table-13 Satisfaction of Electronic Information

Satisfaction on Electronic Information	Madurai Kamaraj University	Alagappa University	Manonmaniam Sundaranar University	Total
Not Satisfied	8(14.81)	4(12.12)	4(16)	16(14.28)
Satisfied	46(85.18)	29(87.87)	21(84)	96(85.71)
Total	54(48.21)	33(29.46)	25(22.32)	112(100.0)

4. Major Findings

1. It is found that 63% of the respondents in were Assistant Professors and only 16.66% were Associate professors. To sum up majority of the respondents (52.67%) were Assistant professor and only 16.93% were professor in all the three Universities surveyed.
2. It is identified that majority of the respondents (72%) belong to Alagappa University were having 1-10 years teaching experience, (68%) in Madurai Kamaraj University were also having (1-10) experience. Again, the respondents of Manonmaniam Sundaranar University also depict the same scene with a majority of (64%). Combining all the Universities, 1-10 years of Teaching experience from the majority (68.75%) and only 0.90% was having above 30 years teaching experience.
3. .It may be concluded from the overall responses that majority of the respondents (87.5%) from all the three Universities expressed that their library have adequate E-Resource. Again, adequate e- resources was the response by majority (98.5%) in Madurai Kamaraj University. It was again same opinion by majority (92%) in Manonmaniam Sundaranar University also. From the analysis, it may be concluded that Madurai Kamaraj University library has much collection on E-Resource when compared with the other two Universities.

4. It is evident from the analysis that majority of the respondents (77.67%) out of 112 respondents have stated that they have learned to access e-Resources by themselves and through colleague and friends. Other methods of learning were computer center staff (2.67%), assistance from library staff (9.82%), courses attended (10.71%) were the least prepared method for accessing the e-resources.
5. It is found that Madurai Kamaraj University and Manonmaniam Sundaranar University departments have more facilities than Alagappa University for accessing electronic information and also it is observed that 25.3% of the respondents were accessing electronic information from home.
6. It is observed that majority of the respondents 43.75% of the respondents from all the three Universities stated that they spend 1-5 hours per week and 11.6% stated that they spent more than 15 hours. It is identified that 42% of the respondents in Madurai Kamaraj University were spending more than 10 hours, whereas the same was 12% at Alagappa University 20% in Manonmaniam Sundaranar University.
7. It is revealed that the majority of the respondents (82%) and (51.78%) approached the search engines and colleagues respectively for also training academic/research related websites and only 11.6% stated library staff. also that approaching method for obtaining academic/research related websites in each university and overall average were coinciding.
8. It is identified that the majority of the respondents from all the three Universities have approached key words 7.14%), website address (54.46%) and journals name (52.67%) respectively and only 10.71% stated that they approached subject gateways / directories.
9. It is found that the Alagappa University and Madurai Kamaraj University were coinciding with the rating of “time consuming” as limitation by the more number of respondents while 24% only rated in Manonmaniam Sundaranar University “Lack of training” was considered by 36% of the respondents from Manonmaniam Sundaranar University, while 20.37% of Madurai Kamaraj University and 33% of Alagappa University respondents rated this factor as limitations.
10. It is understood that majority of the respondents (87%) from Alagappa University (85%) from Madurai Kamaraj University and (84%) are stratified with accessing of electronic information. Sources. It can be observed from the overall opinion that majority of the respondents (85.7%) from all the Universities were satisfied with electronic information and only 14.3% stated that they were not satisfied.

References

1. Byrne, Alex.(2003). Digital Libraries: barriers or gateways to scholarly information? *ElectronicLibrary*,21(5):414-21..Retrieved from <http://www.emeraldinsight.com/10.1114/02640470310499777>
2. George, C. et al.(2006) .Scholarly use of information: graduate students information seeking behavior. *Information Research*, 11(4). Retrieved from [http://information .net/ir/11-4/paper272.html](http://information.net/ir/11-4/paper272.html).

3. Srivastava, Rochna,(2002). Information use in gender and development: a study of behavioural patter”, 68th IFLA Council and General Conference, Glasgow, pp.18-24.
4. Friedlander, Amy (2002).Dimension and use of scholarly information environment: introduction to a data set assembled by Digital Library Federation and outsell, Inc”, Washington D.C.: digital Library Federation and Council on Library and information Resources Retrieved from <http://www.clir.org/PUBS/reports/pub110/introduction.html>.
5. Archana S.N. and Padmakumar, P.K. (2011). Use of Online Information Resources for Knowledge Organisation in Library and Information Centres: A Case Study of CUSAT. DESIDOC Journal of Library & Information Technology,31(1):19-24
6. Senthil Kumar, P., and Vadivel, V., March (2003) .Use pattern of information channels by the scientists and engineers: a case study, SRELS Journal of Information Management, 40(1):29-40.
7. Lohar, M.S and Roopashree, T.N(2006) “Use of electronic resources by faculty members in BIET, Davanagere: A study”, SRELS Journal of Information Management, 43(1):101-12.
8. Baljinder Kaur and Rama Verma.(2009). Use of Electronic Information Resources: A Case Study of Thapar University. DESIDOC Journal of Library & Information Technology, 29(2):67-73.
9. Ranganathan, C (2019). Use of Information Sources by the Personal attributes Science Faculty Members and Research Scholars in a University Environment: a Case Study of Bharathidasan University, Tiruchirappalli, Tamilnadu. Library Philosophy and Practice (e-Journal).Winter2-18-2019.MayPaper1205.