Usage of Science Electronic Resources in the Affiliated Institutions of Madras University

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Abstract - **This study is aimed to analyze the use of electronic resources and services in the Library System of the Affiliated institutions of University of Madras. Under graduate students, Post graduate students, Research scholars, faculties were selected for this study. Questionnaire method was adopted to collect the data. Out of 1030 questionnaires 935 (90.77%) were received from respondents. There are about 161 Educational Institution affiliated to University of Madras, of which 15 are Government Colleges, 2 University Constituent Colleges, 24 Aided Colleges, 68 Self Finance Colleges and 52 Research Institutes. Out of these 161 Educational Institutions 136 offer Science courses. Apart from this the university itself has 31 departments catering to Science subjects spread over 3 different campuses. Altogether 167 Institutions affiliated to University of Madras are offering courses in science subjects. Out of these, 45 (8 Govt. Colleges, 12 Aided Colleges, and 25 Self Finance Colleges), Institutions Affiliated to University of Madras have been selected for the study.**
Keywords: **Electronic Resources and Services, University of Madras, Affiliated Institutions, Library System**

I. INTRODUCTION

Today, Libraries from being a granary of information resources have emerged as a provider of knowledge, using technology based systems and applications to serve different information seeker. The Librarians have now become Information Managers and Knowledge Honers. Adundant Electronic Information resources on all fields are accessible and it has become an integral part of libraries. They need to equip themselves with necessary tools to guide the users to get their information swiftly. We need to study the present usage, impact and future requirements in affliated institution of theses e-resourses and need to compare them to suggest future strategies to be adopted to improve the same.

II. REVIEW OF LITERATURE

Joshi (2001) [3] found that the book collection was found inadequate to meet information needs of the users and its growth was very slow. Journal subscription was not satisfactory, libraries were understaffed. Author recommended that Indian Council for Agricultural Research and Agricultural Universities should regularly organize orientation programmes for librarians

Sangam & Hadimani (2004) [6] examined the use of Online Public Access Catalogue by research scholars in Dharwad. The authors examined the users frequency of use and

purpose of consulting OPAC, difficulties in locating books, OPAC for periodicals and other reading material, time spent in using it, approaches followed to locate material, assistance from library staff in using OPAC, etc. Some users suggested for up to date library guides explaining how to use catalogue.

Lohar & Kumbar (2007) [5] evaluated the use of libraries by teachers. The results of the study revealed that 52.25% users spent less than an hour and more than half an hour only in libraries per week. Only a small fraction of users was familiar with inter library loan service. Accessibility of the reading material, its adequacy, users' opinion about library services such as lending service, pattern of search for latest literature, inter-library-loan, photocopy service, orientation, computerization of libraries, the Internet, etc. were also examined.

III. STATEMENT OF THE PROBLEM

The present study aims to analysis the Use of Electronic Information Resources and Services in Science subjects in the Library System of institutions affliated to University of Madras.

IV. OBJECTIVES OF THE STUDY

To evaluate the study, following objectives are framed in accordance with the scope of this investigation
1. To know the availability of electronic resources in Science subjects in the Institutions affliated to University of Madras.
2. To study the Frequently used electronic resources and their ranking in the libraries under study
3. To study the electronic services offered for Science subjects in the Institutions affliated to University of Madras.
4. To study the frequency of using library by the respondents under this study
5. To Identify the purpose of using library by users is institutions under study
6. To evaluate the library electronic resources and services offered by the libraries under study with the perception of the respondents.
7. To know the suggestions given by the respondents to improve the electronic resources and services of the libraries under the study.

V. METHODOLOGY

This compartive study examines the Use of electronic Resources and Services related Science subjects in the Institutions affliated to University of Madras. This study was carried over in the Library System of three types of institutions namely Government colleges, Aided colleges, and Self Finance Colleges. The data were collected, organized and tabulated according to the objectives of the study and analysed by using statistical tools, such as percentage and ranking analysis.

VI. DATA ANALYSIS AND INTERPRETATION

1030 questionnaires were distributed to the UG Students, PG students, Research scholars and Faculties. Among 1030 distributed 935(90.77%) Questionnaires were received back and the data were analysed.

A. Institutions and Distrubution of Questionnaire

TABLE I DISTRIBUTION OF QUESTIONAIRE

Institutions	Total No. of Affliated Colleges	Total No. of Selected colleges	Distributed Questionaire	Collected Questionaire	%
Govt. Colleges	15	8	230	204	88.6
Aided Colleges	24	12	270	248	94.8
Self Finance Colleges	68	25	530	483	91.1
Total	107	45	1030	935	90.77

B. Personal Information

1. Genderwise Distribution: The table II below indicates the gender wise distribution. From the 935 responses received, 522 (55.8%) were from the Female respondents and 413 (44.1%) were from the Male respondents. In Govt. Colleges female respondents were 58.82% male respondents 41.17%. In Aided Colleges female respondents were 54.43% from male respondents 45.56% . Self Finance Colleges accounted for female respondents 55.27% and male respondents 44.72%.

2. Age Wise Distribution of Respondents: A look at the age wise analysis shows that majority of respondents are of the age group 18 to 30 accounting to 773 (82.67%) out of 935 respondents, justifying the fact that most of the respondents are Post Graduate students, followed by Research Scholars and faculty.

TABLE II GENDERWISE DISTRIBUTION

Institutions	No. of Respondents Female	No. of Respondents Male
Govt. Colleges	120 (58.82%)	84 (41.17%)
Aided Colleges	135 (54.43%)	113 (45.56%)
Self Finance Colleges	267 (55.27%)	216 (44.72%)
Total	522 (55.8%)	413 (44.1%)

TABLE III AGEWISE DISTRIBUTION OF RESPONDENTS

Institution	No. of Respondent in Age wise Distrubtions			
	18 -30	31 – 40	41- 50	Above 51
Govt. Colleges	167 (81.86%)	32 (15.68%)	3 (1.47%)	2 (0.98%)
Aided Colleges	193 (77.82%)	46 (18.54%)	5 (2.01%)	4 (1.61%)
Self Finance College	413 (85.50%)	57 (11.80%)	8 (1.65%)	5 (1.03%)
Total	773 (82.67%)	135(14.43%)	16 (1.7%)	11(1.1%)

3. Category Wise Respondents Under Study: Table IV below shows the category wise distrubtion. From the table IV it is observed that the Number of respondents were highest in the PG student's category 605(64.7%). Next was Under Graduate student's category 196 (20.96%), followed by Research scholars 76 (8.12%), M. Phil students 36 (3.85%) and Faculties 22 (2.35%) respectively.

TABLE IV CATEGORY WISE RESPONDENTS

Institution	No. of Respondent in Category wise Distrubtions				
	UG	PG	M.Phil.	Ph.D.	Faculty
Govt. Colleges	48 (23.52%)	106 (51.96%)	12 (5.88%)	33 (16.17%)	5 (2.45%)
Aided Colleges	52(20.96%)	143(57.66%)	6 (2.41%)	41 (16.53%)	6 (2.41%)
Self Finance College	96 (19.87%)	356 (73.70%)	18 (3.72%)	2 (0.41%)	11(2.27%)
Total	196 (20.96%)	605(64.7%)	36 (3.85%)	76 (8.12%)	22 (2.35%)

4. Frequency of Access to Library: We also notice a positive trend in the frequency of visit to the Library with 648 (69.3%) admitting that they visit the Library every day.

Being components of departments with advanced research concern, visiting the Library has become an integral part of their career.

TABLE V FREQUENCY OF ACCESS TO LIBRARY

Institution	No. of Respondent in Frequency of Access to Library				
	Every day	Once in a Week	Twice in a week	Once in a month	Occassionally
Govt. Colleges	123 (60.29%)	32 (15.68%)	41 (20.09%)	1 (0.49%)	7 (3.43%)
Aided Colleges	169 (82.84%)	34 (16.66%)	43 (21.07%)	0	2 (0.80%)
Self Finance College	356 (73.70%)	51 (10.55%)	66 (13.66%)	3 (0.62%)	7 (1.44%)
Total	648 (69.3%)	117 (12.5%)	150 (16%)	4 (0.4%)	16 (1.7%)

C. Usage of E-Resources

1. Types of E-Resources and Services: From the table VI below, the resources frequently used by the respondents were tabulated and their ranking were analyzed. From the table highest number 542 (57.96%) of the respondents frequently used E-Journals because the libraries are research oriented. The updated information is an important one for their research progress.

It was followed by E-Books 284 (30.37%), E- Thesis 66 (7.05%), E-Database 33 (3.52%), and E-learning with just 10 (1.06%).

TABLE VI TYPES OF E- RESOURCES FREQUENTLY USED

Institution	No. of Respondent in Types of E- resources frequently used				
	E Journals	E Book	E Theses	E Database	E Learning
Govt. Colleges	106 (51.96%)	64 (31.37%)	28 (5.79%)	5 (2.45%)	1(0.49%)
Aided Colleges	128 (51.61%)	72 (29.03%)	36 (14.51%)	8 (3.22%)	4 (1.61%)
Self Finance College	308 (63.76%)	148 (30.64%)	2 (0.41%)	20 (4.14%)	5 (1.03%)
Total	542 (57.96%)	284 (30.37%)	66(7.05%)	33 (3.52%)	10(1.06%)

Usage of e-Periodicals/journals was the most used e-resource evidently because, the sample under study are basically PG and research departments which are more dependent on the latest information. It was followed by E-Books which are now abundantly available online both through Publishers portals as well as other free portals. E-Database and E-Theses follow suit with 108 and 56 respectively because of their importance to the Research Departments. Usage of E-Learning, ie. for Massive Online courses is very low, suggesting that even though the respondents are aware of the availability, they are yet to enroll themselves in those courses, which may happen very soon.

2. Purpose of Visiting Library: When a specific question was put regarding purpose of their visit to the Library, 358 (38.28%) have stated they mainly use the Library for E-resources, their second selection was borrowing books, 252 (26.95%). People visiting the library for Reference Materials, 193 (20.64%), which was the prime use some years ago, has evidently reduced after availability of e-resources.

TABLE VII PURPOSE OF VISITING LIBRARY

Institution	Purpose of visiting Library				
	Use E Resource	References	Borrow Books	Search / Browsing	Photocopy
Govt. Colleges	44 (21.56%)	57 (27.94%)	86 (42.15%)	12 (5.88%)	05 (1.03%)
Aided Colleges	61 (24.59%)	47 (18.95%)	92 (37.09%)	30 (12.09%)	18 (7.25%)
Self Finance College	253 (52.38%)	89 (18.42%)	74 (15.32%)	42 (8.69%)	25 (5.17%)
Total	358 (38.28%)	193 (20.64%)	252 (26.95%)	84 (8.98%)	48 (5.13%)

3. Time Spent in Library: The study highlights a better usage of the library with 278 (29.73%) respondents affirming that they use the Library for 10 -15 hours per week. Expected best usage of 15 to 20 hours and more than 20 hours a week comes only in the second and fifth position with only 198 (21.17%) and 57 (6.09%) respondents selecting them respectively. The researcher could infer this phenomenon is because of the science students' commitment for spending time in their laboratories also for conducting experiments for their studies. It is felt that spending 10 to 15 hours per week in the library is fairly good for Science students.

TABLE VIII SHOWING TIME SPENT IN LIBRARY

Institution	No. of Respondent in Table showing Time Spent in Library/per week					
	Less than 1 hrs	2-5 hours per week	6-10 hours per week	10-15 hrs per week	15-20hrs per week	More than 20 hrs per week
Govt. Colleges	12 (5.88%)	36 (14.70%)	41(20.09%)	64(31.37%)	37(18.13%)	14(6.86%)
Aided Colleges	13 (5.24%)	47 (18.95%)	53(21.37%)	68(27.41%)	49(19.75%)	18(7.25%)
Self Finance College	19 (3.93%)	89 (18.42%)	92(19.04%)	146(30.22%)	112(23.18%)	25(5.17%)
Total	44(4.70%)	172(18.39%)	186(19.89%)	278(29.73%)	198(21.17%)	57(6.09%)

4. Subscription to E-Resources by the Library: To a question if their library subscribes to E-resources, 702 (96.9%), of the respondents have stated in the affirmative, suggesting that almost all institutions under study are subscribing to the e-resources thus knowing the importance of the same.

5. Problems Faced While Using the E-Resources: Most of the respondents have stated 'slow internet speed' as the main problem they come across while using the e-Resources. 387 (41.39%) of them have stated this as their main trouble factor. 185(19.78%), Less availability of terminals as the second reason. 170 (18.18%). Another problem faced while using the e-resources is restricting the availability only to the campus as the third reason. The

findings suggest that the institutions should pay more attention to the infrastructure and computer peripherals and also provide maximum internet speed.

TABLE IX SUBSCRIPTION TO E-RESOURCES BY THE LIBRARY

Institutions	No. of Respondent Subscription to E-Resources by the Library	
	Yes	No
Govt. Colleges	128 (62.74%)	76 (37.25%)
Aided Colleges	182 (73.38%)	66 (26.61%)
Self Finance Colleges	386 (79.91%)	97 (20.08%)
Total	696 (74.4%)	239 (25.56%)

TABLE X PROBLEMS FACED WHILE USING THE E- RESOURCES

Institution	Problems faced while using the e-Resources				
	Slow Internet Speed	Less availaity of Terminals	Non-availablity of relevant Information	Lack of Guidance	Access is restriced
Govt. Colleges	82 (40.19%)	74 (36.27%)	15 (7.35%)	8 (3.92%)	25 (12.25%)
Aided Colleges	96 (38.70%)	28 (11.29%)	29 (11.69%)	41 (16.53%)	54 (21.77%)
Self Finance College	209 (43.27%)	83 (17.18%)	24 (4.96%)	76 (15.73%)	91 (18.84%)
Total	387 (41.39%)	185 (19.78%)	68 (7.27%)	125 (13.36%)	170 (18.18%)

6. Methods Followed to Browse the Required Information from the E-Resources: 517 (55.29%) of the respondents are in the habit of directly typing the concerned link to browse the required information from the e-Resources. This only shows that most of them are more knowledgeable in using the internet to harvest relevant information. Only 273 (29.19%) are using search engines to identify the link where

their required information could be found and make use of it. The remaining 67 (7.16%) of them use their Institutions' web portal for browsing the information. Other 48 (5.13%) and 30 (3.20%) are understood to be using the publisher websites and subscribed resource link respectively for their need. This shows that the present-day users are well aware of directly going to the links to get their information.

TABLE XI METHODS FOLLOWED TO BROWSE THE REQUIRED INFORMATION FROM THE E- RESOURCES

Institution	Methods followed to browse the required information				
	Typing the Concerned Link	Using search engines	Using Institutional Web Portal	Publisher websites	Using e-Resources subscribed
Govt. Colleges	93(45.58%)	74 (36.27%)	17 (8.33%)	13 (6.37%)	7 (3.43%)
Aided Colleges	118 (47.58%)	81 (32.66%)	24 (9.67%)	14 (5.64%)	11 (4.43%)
Self Finance College	306 (63.35%)	118 (24.43%)	26 (5.38%)	21 (4.34%)	12 (2.48%)
Total	517 (55.29%)	273 (29.19%)	67 (7.16%)	48 (5.13%)	30 (3.20%)

7. Satisfaction on Available Collection of E-Resources: User perception about the available collection of e-resources were analyzed and tabulated. In the perception of the

respondents the opinion about collection of e-resources are as shown in the table XII.

TABLE XII SATISFACTION ON AVAILABLE COLLECTION OF E- RESOURCES

Institution	Satisfaction on available Collection of e-Resources				
	Very Satisfied	Satisfied	Neutral	Dissatisfied	Total
Govt. Colleges	62 (30.39%)	105(51.47%)	29(14.21%)	8(3.92%)	204
Aided Colleges	71(28.62%)	124(50.00%)	38(15.32%)	15(6.04%)	248
Self Finance College	112(23.18%)	304(62.93%)	39(8.07%)	28(5.79%)	483
Total	245 (26.20%)	533 (57.00%)	106 (11.33%)	51 (5.45%)	935

To sum up, of the 935 respondents 245 (26.20%) were very satisfied with the e-resources collections, 533 (57.00%) have stated they were satisfied with the e-collections. Whilest 106 (11.33%) of the users remained neutral on the availability of e-resources, 51 (5.45%) have stated that they were dissatisfied with the available e- resources.

8. Purpose of Using the E-Resources: Users perception on the purpose of using the e-resources was analyzed and tabulated. The respondents have answered that they make use of the e-resources for various purposes. Higher among the uses are mentioned hereunder. Majority of the Respondents have stated that they mainly use the e-resources for Study & Research Work and for Updating Knowledge in their fields. Whilest the above happens to be their main use, Writing Books/ Research Articles, Preparing to Seminar /Conference, Preparing for Competitive Exams and Teaching Preparations were also supplemented by using the e-resources.

VII. CONCLUSION

The University of Madras is one of the oldest Higher Education Centres, with very reputed faculty and very rich academic contribution to the Nation. Similarlly Institutions affiliated to this great University also needs to be on par with the University in all aspects. This study has given satisfying results to the usage of e-resources by the Libraries of Institutions affiliated to the University of Madras. The various usage of e-resources in the Library system was also evaluated and the problems analyzed. In the present scenario, with the continued development in ICT, the findings from the study and suggestions received from the respondents need to be considered and suitable remedial actions would be recommended in order to provide more conducive environment to the users,in order to retain its significance in the Higher Education System of the Nation.

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