Access and Use of Electronic Information Resources by Faculties of RGUKT, Andra Pradesh: A Study

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Abstract - The research paper intends to determine the usefulness of e-resources to the faculties of Rajiv Gandhi University of Knowledge Technologies (RGUKT), and their skills in using various search methods and techniques to access and utilize these resources. The study further aims to investigate the level of satisfaction with the information accessed by the faculties through the available e-resources and various challenges faced by them in their field. The survey was conducted with the help of a questionnaire and personal interview. Questionnaire was distributed to a random sample of 88faculties from different fields of Science and Technology available at the time of study and the response rate was 75%. The responses received from the available faculties are presented in tables and figures and data is analyzed by using simple calculation of percentage method. The findings reveal that access and use of e-information is an important component of research activities for faculties, also qualitative and quantitative developed e-collections overcome conventional resources with the characteristic of fast accessibility.
Keywords: E-resources, Search techniques, Search skills.

I. INTRODUCTION

The application of ICTs in science research has given new avenues and constructive changes in every aspects of human life. Today the novel application of ICT in knowledge generation and communication have brought the users and knowledge closer, the way information is gathered, stored, organized, accessed, retrieved, and consumed are productive and more user friendly. The application of computers in information processing has brought several products and services to the users and that made libraries more competitive to meet the complex and ever-changing needs of user community with most effectively and economically. Universities are the highest learning centers and intellectual hubs of every nation and university libraries are the driving force behind all the intellectual activities of universities. Universities libraries are today moving towards having access to more and more E-resources in their collection as they form major intellectual research output of the world. To support teaching, learning and research activities of the academic community of Rajiv Gandhi University of Knowledge Technologies (RGUKT) having access to huge number of E-resources and this study is to realize its usage pattern and Impact to further enhance the utilization of E-resources at the University.

II. NEED OF THE STUDY

Exponential growth of electronic information in the science and technology has proved to be more value added in nature and time saving for an individual. The access to, use of and awareness about the e-information resources are very essential for users as well as for libraries. E-resources are quick to access, save time and keep up to date with the current happenings in the specific fields and related areas. Further, electronic information plays a pivotal role in enhancing the research& development activities and improving the productivity of an individual.

There are various search and retrieval techniques to access the required e-resources, so gaining knowledge of those is very important. No specific study having been conducted so far, and keeping in view all the prime aspects and current information trends, the following study focuses on the faculty's perspectives about the e-resources which they prefer to access and use through various modes and medium in support of their work requirement and related activities. Study also indicates search fields and techniques used to locate and access e-information and the methods they adopt to learn about different types e-resources are studied. This paper also identifies several purposes of using and accessing the available e-resources.

In addition, the study shows which services are used and what is the impact of e-resources on faculties. The study also states various issues and challenges which faculties of RGUKT face related to electronic information resources. Library automation and the digitization of important collections are taken into consideration.

III. BRIEF NOTE ON RAJIV GANDHI UNIVERSITY OF KNOWLEDGE TECHNOLOGIES (RGUKT)

The Rajiv Gandhi University of Knowledge Technologies (RGUKT) was established in March 2008 at the request of the Chief Minister of Andhra Pradesh. He was dissatisfied with the opportunities available to the rural youth and wanted to set up at least three IIITs in the three regions of Andhra Pradesh which would ensure better opportunities for rural students. At present, most universities in India and in Andhra Pradesh follow the affiliated college structure model where the main role of the university is to set the curriculum

and conduct examinations to ensure that the students have indeed learned the material prescribed in the curriculum. Most colleges have an entering class of 100-300. Having an entry class of 6,000 student's leads to issues of scale. This is unique to RGUKT and is being attempted for the first time in India. In the US, several of the larger universities do have enrolments of 20,000 to 30,000. However not all of them tend to be residential universities. Thus RGUKT, as a green field university, represents a unique experiment in the educational arena.

The central library of RGUKT is fully automated and it has huge collection of 1,18,000 volumes which include 10156 bound volumes. It currently subscribes to 75 national and foreign Journals, 8 online databases (IEEE, Science Direct, ASCE and ASME, J-Gate, Springer journals). The library also has vast collection of non-book materials, viz, 1500 CD/DVDs on several subjects and 675 Audio/Video Sources.

IV. OBJECTIVES OF THE STUDY

1. To know the search techniques and common search fields used among faculties to access e-resources.
2. To know the purpose of accessing and using e-resources among faculties.
3. To determine the types of electronic information resources preferred in support of work.
4. To know the methods adopted to learn and format to receive the training about e-resources.
5. To identify the impact of e-resources and general information services preferred and
6. To state the problems faced and suggestions for effective use of e-information resources.

V. METHODOLOGY AND ANALYSIS

The survey method was adopted for the present study and a questionnaire was used as a data collection tool. A total number of 88 questionnaires were distributed to the random sample of faculties working at various designations in different departments at RGUKT, out of which a 75% response rate was received. Faculties were also personally assisted and interviewed to receive more clear, accurate and pin-pointed responses to the listed questions. The data gathered is organized in tabular form and simple calculations (%percentage) are used to achieve the qualitative and quantitative results in the study.

While all respondents were aware of the e-resources in science and technology, most of them prefer to use and access the e-resources from their workplace through the medium of the internet. Home was the least preferred place and CD-ROM was least used medium to access and utilize the e-resources in their respective fields of subjects. During the one to one interaction, faculties have mentioned various reasons for using and accessing the e-resources such as time saving, access to current up-to-date information, easier and

faster access to information, access to a less expensive, more pinpointed, useful and wider range of information.

TABLE I DISTRIBUTION OF QUESTIONNAIRESVS FACULTIES

SL. No.	Name of the Department	No. of Faculties	Distribution of Questionnaires	No. of Respondents
1	English	6	6	5
2	Mathematics	5	5	5
3	Physics	6	5	3
4	Chemistry	6	5	3
5	Management	6	5	2
6	Civil Engineering	13	10	8
7	Computer Science Engineering	15	12	9
8	Electronics and Communication Engineering	15	13	10
9	Mechanical Engineering	12	9	7
10	Chemical Engineering	12	9	6
11	Material Science Engineering	11	9	8
	Total (Percentage)	107	88 (82.24)	66 (75.00)

Table I indicates the total number of faculty members in RGUKT and the number of faculties who have responded to the questionnaire. A total 66 out of 88 faculty members of RGUKT, they were taken for the study and responded with the response rate is 75.00%.

TABLE II LEVEL OF SATISFACTION OF ELECTRONIC INFORMATION ACCESSED AND USED

Sl. No.	Level of satisfaction	Respondents	Percentage
1	Very highly satisfied	48	72.73
2	Highly satisfied	11	16.67
3	Somewhat satisfied	7	10.61
4	Least satisfied	0	0.00
5	Not at all satisfied	0	0.00
	Total	66	100

In performing the process of searching and accessing the electronic information, the faculties evaluate the usefulness and quality of retrieved information as per their satisfaction level. Table 2 indicates the satisfaction level of accessing and using the required e-information where about 72.73 % of the faculties are very highly satisfied with the quality of e-information accessed and used, 16.67% are highly satisfied, 10.61% are somewhat satisfied. It is found from Table III that 95.45% of faculties search the e-resources through title of the required information, followed by journal title (84.85%) and author (80.30%)). Faculties prefer

to search the resources by subject classification (50%), followed by date/year of publication (40.91%), and by type of publication (33.33%). Only 16.67% of faculties use other common methods such as abstract/title, affiliation, abstract, keywords to search the resources. Further, 60.61% of faculties prefer simple search in field's technique, followed by Boolean operators (31.82%) and selectable truncation (6.06%). Only 1.52% of faculties use wild cards to search the e- resources.

TABLE III COMMON SEARCH AND RETRIEVAL FIELDS AND TECHNIQUES USED TO ACCESS ELECTRONIC INFORMATION RESOURCES

Sl. No.	Common search and retrieval fields	Respondents	Percentage
1	Author	53	80.30
2	Title	63	95.45
3	Journal Title	56	84.85
4	Date/Year of publication	27	40.91
5	Subject classification	33	50.00
6	Type of publication	22	33.33
7	Any other	11	16.67
Sl. No.	Common search and retrieval techniques	Respondents	Percentage
1	Wild cards	1	1.52
2	Selectable Truncation	4	6.06
3	Boolean operators	21	31.82
4	Proximity functions	0	0.00
5	Simple search fields	40	60.61

Note: %exceeds 100% as Faculties were allowed for multiple answers; n=66

TABLE IV USE OF DIFFERENT TYPES OF E-RESOURCES BY THE FACULTIES

Sl. No.	Level of satisfaction	Respondents	Percentage
1	Online databases	50	75.76
2	E-books	20	30.30
3	E-conference proceedings	19	28.79
4	E-data archives	43	65.15
5	E-journals	66	100.00
6	E-lecturer notes & PPTs	5	7.58
7	E-listserv, discussion groups	2	3.03
8	E-newspaper	4	6.06
9	E-Pre-Prints	29	43.94
10	E-projects and thesis	17	25.76
11	E-research reports	56	84.85
12	E-zines	32	48.48

Note: %exceeds 100% as Faculties were Allowed for Multiple Answers; n=66

The table IV indicates that 100% of faculties use e-journals, followed by e-research reports (85 %), online databases (75.76%), and e-data archives (65.15%). 48.48% of faculties have shown their preference for using e-zines and 43.94% for e-pre-prints. Only 30.30% uses e-books, followed by 28.79% uses e-conference proceedings and 25.76% prefer e-projects and thesis. E-lecture notes& PPTs (7.58%), e-newspaper (6.06%) and e-listserv &discussion groups (3.03%) are least used resources.

TABLE V METHODS ADOPTED TO LEARN ABOUT THE ELECTRONIC INFORMATION USE

Sl.No.	Level of satisfaction	Respondents	Percentage
1	External courses	1	1.52
2	Guidance from colleague	18	27.27
3	From library staff	30	45.45
4	Self taught	37	56.06
5	Courses from parent organisation	2	3.03
6	Trial and error	14	21.21

Note: %exceeds 100% as Faculties were allowed for multiple answers; n=66

From the indicated Table 5, it is found that 56.06% learned about electronic information through self-taught methods. Of the total faculties 45.45% have learnt the skills through guidance from the library staff, followed by guidance from colleague (27.27%), and trial and error (21.21%). 3.03% acquired the skills through courses from a parent organization and 1.52% of external courses.

Table VI indicates the percentage of faculties who prefer different methods to know about the electronic information use. 28.79% of the faculties prefer to attend the workshops to be trained about electronic resources, followed by tutorials (16.67%) and lectures (15.15%). Further, 13.64%prefer printed manuals to receive training, followed by one to one (3.03%) and also other methods (4.55%) includes online training programme which can be accessed, viewed anywhere, at any time and also demonstrations lab wise training should be imparted and short term training should be organized at conferences.

TABLE VI METHODS TO RECEIVE THE TRAINING

Sl.No.	Methods for Receiving Training	Respondents	Percentage
1	Lecturers	10	15.15
2	Workshops	19	28.79
3	Tutorials	11	16.67
4	Printed manual	9	13.64
5	One to one	2	3.03
6	Any other	3	4.55
7	Don't need training	12	18.18
	Total	66	100

TABLE VII PURPOSE TO USE ELECTRONIC INFORMATION RESOURCES

Sl.No.	Purpose	Respondents	Percentage
1	Literature searching in subject specialized	44	66.67
2	Relevant information in related fields	38	57.58
3	Study and updates in subject information	48	72.73
4	Research and development activities	56	84.85
5	Projects	17	25.76
6	Teaching/Lecturers	24	36.36
7	Electronic publishing	33	50.00
8	Any other	11	16.67

Note: %Exceeds 100% as Faculties Were Allowed for Multiple Answers; n=66

There are different purposes amongst users in using e-resources. Faculties were asked about their purpose to access and use the e-resources. In this question, many purposes were listed, out of which most important are detailed in the given Table 7. 84.85% of the faculties use e-resources for research and development activities, followed by study and updates in subject information (72.73%), and literature searching in subject specialized (66.67%). Relevant information in related fields (57.58%) is another useful purpose, followed by purpose of electronic publishing (50%) and teaching/lectures (36.36%), which they deliver to their junior staff, fellow colleagues, and students under them. Only 25.76% of faculties stated their purpose was to fulfill their projects efficiently and 16.67% have various other purposes such as creating and designing various online technical databases, graphical presentations.

Table VIII clearly indicates that 86.36% faculty's uses internet services in general, followed by the www (80.30%), search engines (65.15%) and in-house databases (62.12%). 57.58% of faculties use the web pages of professional organizations & associations, 50% use mailing list services and then web pages of conference & congresses (24.24%) are used by the faculties of RGUKT. Bibliographic/ online databases (18.18%) are next used service, followed by Individual (personal) webpages (16.67%), ask-a-librarian (12.12%) and reference services (10.61%). Library online catalogues (7.58%) Listserv, Discussion groups (6.06%), Web conferencing (4.55%) are equally used. Subject gateways (1.6 %) are least used by the faculties. And none of the faculties use Inter Library Loan services.

TABLE VIII GENERAL ELECTRONIC INFORMATION SERVICES USED

Sl.No.	Level of satisfaction	Respondents	Percentage
1	Search Engine	43	65.15
2	Library online catalogues	5	7.58
3	Listserv, Discussion groups	4	6.06
4	Internet Services in general	57	86.36
5	World Wide Web	53	80.30
6	Ask-a Librarian	8	12.12
7	Bibliographic/ online databases	12	18.18
8	In-house databases	41	62.12
9	Reference service	7	10.61
10	Inter Library Loan	0	0.00
11	Individual (personal) webpage	11	16.67
12	Portals (Subject Specific)	6	9.09
13	Subject gateways	4	6.06
14	Web conferencing	3	4.55
15	Web pages of Professional organizations & associations	38	57.58
16	Web pages of conferences & congresses	16	24.24
17	Mailing Lists	33	50.00

Note: %Exceeds 100% as Faculties Were Allowed for Multiple Answers; n=66

TABLE IX IMPACT OF USING ELECTRONIC INFORMATION RESOURCES

Sl. No.	Various Impacts	Respondents	Percentage
1	Design and development of E-resources	14	21.21
2	Substitute conventional information	33	50.00
3	Improved teaching and research quality	25	37.88
4	Increase in research papers	24	36.36
5	Developed research competence	22	33.33

Note: %Exceeds 100% as Faculties Were Allowed for Multiple Answers; n=66

The Table IX shows the impact of e-information in the research environment. 50% of faculties responded that using e-information resources have been substituted for conventional resources, followed by 37.88% have improved teaching and research quality and 36.36% have impact on

their e-publishing as they have an increase in the number if research papers produced. Further, 33.33% of faculties have developed their research competence but only 21.21% have developed various e-resources in the form of CD-ROMs and have uploaded various PPTs and lectures.

There are various problems to access and to use e-information for research & development activities. The faculties were requested to clearly provide details regarding the challenges and issues faced by them whenever and wherever they access and use the e-resources.

Table X identifies various problems faced by the faculties of RGUKT. It is shown in totality that the majority of users (63.64%) face the common problem of poor network connectivity, followed by improper orientation & lack of awareness (62.12%) poor archive access (59.09%) and slow downloading (50%) of e-information. Of the faculties, 57.58% are facing problem of in-sufficient e-resources and 48.48% state the problem of limited access to the paid resources which are very relevant and important for them, followed by the need for advanced search techniques (12.12%) and incompatible user interfaces to the library website (9.09%). And 37.88% of the faculties faced the problem of lack of management of information and 33.33% of users don't have any problems regarding the access and use of electronic resources provided by RGUKT.

TABLE X PROBLEMS TO ACCESS AND TO USE E-INFORMATION

Sl.No.	Problems	Respondents	Percentage
1	In-sufficient electronic resources	38	57.58
2	Limited access	32	48.48
3	Advanced searching techniques	8	12.12
4	Poor network connectivity	42	63.64
5	Improper orientation & lack of awareness	41	62.12
6	Poor archive access	39	59.09
7	Lack of management of information	25	37.88
8	Incompatible user interface to library website	6	9.09
9	Slow downloading	33	50.00
10	No challenges	22	33.33

Note: %Exceeds 100% as Faculties Were Allowed for Multiple Answers; n=66

VI. FINDINGS AND SUGGESTIONS

1. Electronic resources play an important role in the changing nature of information access and dissemination for the users. Accessibility and usability of electronic information is more valuable when it is readily available in the required electronic formats at the time of work. Electronic information provides a wide range of options in highlighting the importance of libraries to their users.

2. In present trends of information needs, libraries should take the essential pre-requisite steps to keep pace with developed technological aspects. Libraries should be automated, digitized, and self-sufficient to enhance the access approach of users towards electronic information. They should develop qualitative and quantitative electronic collections for their successful future.

3. The use of e-resources is expanding its boundaries to a greater extent to fulfill the research objectives of an individual. The faculties who responded in the survey were aware of the e-resources. Most faculties as per their need for information, time feasibility and ease of use prefer to access the e-resources from their workplace. This clearly shows that e-resources are essential component of the scientific and research community.

4. Many faculties access electronic information through the medium of internet which is very easy to learn and can be practically worked upon. So, it is necessary for the library to provide high bandwidth internet connectivity.

5. Most faculties prefer to use title as a common field to search the required e-information resources and many uses the simple search in fields as a retrieval technique. This shows that faculties make use of very simple concepts in support of searching their e-documents.

6. The majorities of faculties access the multilingual feature in the user-interface to read learn and use e-resources. Large numbers of faculties are very highly satisfied with the retrieved information from e-resources. Most faculties prefer to use e-journals for updating of knowledge and to learn about the current literature published in their fields and also in support of their research work. Faculties use their own self-taught skills to access and use the e-resources. They state they would like to attend workshops to enrich their knowledge and skills about e-resources. So, it is necessary that the library should work actively to organize workshops and training programs to enhance the skills of faculties more efficiently.

7. Many faculties access and use the e-resources in support of their research and development activities and many accesses and use them because e-information is time saving, so that much time can be saved in their professional work. The internet in general is the most used service by the largest number of faculties. Also, the faculties found greater impact of e-resources over conventional resources. Many faculties face the common problem of poor network connectivity. So, it is the responsibility of the library staff to personally visit the faculties to know their information requirements and resources in support of their daily research activities and take necessary steps to build a strong network with various other research organizations to develop a wider range of e-resources

8. and improve their quality of services to boost the productivity of the faculties.

9. The opinions and suggestions for developing an automated library system should be brought to reality by the RGUKT library; so that linking to more e-information can increase exponentially. The library should improve the internet connection and should participate in several consortia.

VII. CONCLUSION

It is very important for any academic and research library to develop itself with a high technological infrastructure and build a solid collection of e-resources to help its users and provide high quality services to the user's desktop. Libraries should organize various teaching and learning programs, either general training or subject specific training to impart and encourage education about all aspects of e-resources to its users. Libraries should develop their own subject gateways, portals, and data archives to provide access to back volumes to know the past research done and to focus on present research trends to move towards a brighter future.

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