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Use and Impact of Electronic Journals on the Users of VIT University, Vellore, India

K.M.Santhi[1], S.Gopalakrishnan[2]
[1]*Research Scholar, Library Science, SCSVMV University, Kanchipuram-631561& Assistant Librarian, Periyar EVR Central Library, VIT University, Vellore-632014, INDIA*
[2]*Assistant University Librarian, MIT Campus, Anna University, Chennai-600044, INDIA*

ABSTRACT:*Today availability of e-resources in a university library is very common. They serve more than repositories for repositories for materials and knowledge and they are of an access point to acquiring knowledge and skills. But their proper and maximum use is a matter for discussion. Periyar EVR Central Library in VIT University subscribes to a number of electronic journals to satisfy the information needs of its users. The present study examines the existence of various e-resources and services are available at Periyar EVR Central Library in VIT University. The study also highlights different types of electronic resources used by students and faculty, the purposes and frequency of using electronic resources and the problems faced by the users while accessing and using the electronic resources in the library.*

KEYWORDS -*Digital library, electronic journals, use of electronic journals, user statistics*

I. INTRODUCTION

Over the last two decade many researchers have studied the information seeking behavior of users in the area of electronic journals and databases. Owing to the emergence of information technology and its application in libraries, traditional print journals are being replaced by electronic journals with benefits for libraries and users apparent in many ways. Users can access, download and print out papers quite easily. The problems of missing issues, binding, subscription and damage of papers have also been solved. Electronic journals consortiums are a boon to the libraries, as with this cooperation the cost of basic journals can be shared; and library budgets can be utilized in the right positive way.

II. REVIEW OF LITERATURE

The increased interest to user studies in the digital library (DL) domain is noticeable in the recent years. The number of publications reporting on such a work is growing; and user modeling and evaluation are standard tasks within most project developing or enhancing DLs. In the early 1990s, publishers and universities explored ways of creating electronic journals that could be retrieved on the users' desktop. There was a significant growth in the number of electronic journals in these days. Over the last decade, many researchers have studied the information seeking behavior of academic users in the area of electronic journals and article databases.

Rusch-Feja,D and Siebeky[1] carried out research at the Max Plank Society in Germany to study about the use and acceptance of electronic journals. Siebenberg *et al.*[2] reports that the print journals were being used more than they were prior to the advent of electronic journals. Generally, electronic journals were used heavily and the availability of electronic formats greatly enhances the total use of most titles. However, some electronic journals were used little or not at all, and there was a substantial increase in the use of some print titles. Cochenour D and Moothart T [3] surveyed the Colorado State University faculty, graduate students to determine their usage and acceptance of e-journals. The study conducted by Liew *et al.*[4] indicates significantly high acceptance of electronic journals by graduate students. There was strong acceptance, high expectation and enthusiasm for future electronic journals, although certain reservations remained. The number of e-journals in the library has increased from two hundred to more than three thousand [5]. The results of the study shows that 68.8 per cent of the respondents prefer to use online journals as compared to 31.2 per cent who prefer to use print journals, while 71.8 per cent of the respondents prefer to use printed books as compared to 28.27 per cent who prefer to use electronics books. Baljinder Kaur and Verma Ramu[6] found that usage of e – journals has increased due to awareness among the users about the library e – resources and services. Moghaddam, G and Talwar, V.G.[7] conducted a survey at IISc and found that, electronic journals were mostly used for research needs and PDF was the most preferred format. Sadanand Y.B. [8] reports the use of electronic journals by the users of University of Pune and stated that electronic journals are really helpful in finding out the appropriate references.

Veena A.P. and Sapana Tayade [9] found that in IIM libraries e-resources are available in different types and the study found that only e-journals, databases and CDs/DVDs with books were accessible in all studied libraries. They suggested that the libraries of IIMs should come on a common platform so that they could share common as well as unique e-resources held in each library through high performance library and information networks and the same should also be accessible via remote login. Rushmanasab Gurikar and Razaksab Gurikar [10] observed that in Karnatak libraries bibliography and reference services are most used and popular services among research scholars as compared to other services like book loan service and consultancy services. It was found out that almost all research scholar use and adopt search strategies are browsing through shelves.

In India the Ministry of Human Resource Development, has set-up the Indian National Digital Library in Engineering of Sciences and Technology (INDEST) Consortium. The INDEST Consortium commenced its operation from December 2002 through its headquarters at the Indian Institute of Technology (IIT) in Delhi. Access to resources is now considered more important than collection building, especially if the access is perpetual in nature. The consortium will, directly or indirectly, benefit most of the engineering and technical institutions in India. Already access to e-resources for the beneficiary institutions under the INDEST Consortium has increased from the present level of access to e-journals from 100 to 500 to more than 4,000 journals in the case of the Indian Institutes of Technology and the Indian Institute of Science which is comparable to world class institutions like MIT (Massachusetts Institute of Technology) [11].

User preferences and satisfaction tend to be highly transient and specific. User search focus can shift from one scientific domain to another between, or even within retrieval sessions. Analysis of user preferences and user satisfaction therefore needs to focus on more stable characteristics of a given user community such as the community's perspective on general document impact and the relationships between documents in a collection.

III. PROFILE OF THE PERIYAR EVR CENTRAL LIBRARY

The Periyar EVR Central Library of VIT University has been built to International Standards, Spreads over to Ground plus Six Floors with an area of 7,770 sq.m. It is centrally air-conditioned, well-protected with fire alarm, CCTV surveillance. Central Library is using LIBSYS ver7 software for Library Management and Information System Purpose and it has WEB-OPAC (Online Public Access Catalogue facility) to consult the Library Information. Also implemented the Radio Frequency Identification Technology (RFID) and self-issue and return kiosk's.

Specialized collections of Books, Journals & Non-book materials are available in Basic Sciences, Engineering and Technology, Biotechnology, Humanities and Social Sciences. The Collection replete with2,20,200 Volumes of Books 27,796 Back volumes, 14,887 CDs\ DVDs. 561 video cassettes and 317 Audio Cassettes. Central library subscribes to 760 National and International journals and access to 13,250+ e-journals and 1,19,792 e-books.The Library has a Video Conferencing facility and NPTEL video courses in the different fields of education. Apart from central library each school having a separate library with good collection. Central Library has a video conferencing facility and also provides classroom teaching through EDUSAT Programmes in the different fields of Engineering. As a part of digital information, ACADO a digital repository provides course materials and lectures of reputed professors accessible through online by the user community of the university.

IV. SERVICES PROVIDED BY THE CENTRAL LIBRARY

With the help of the e – resources Central library is in a position to render the services to its users which they have not able to provide with its print journals. The central library provides the following services to the users.

1. The central library is subscribing to more than 760 national and international printed journals which also contain the journals published by IEEE & IET and as per the policy of the publisher the users are getting free access to the electronic version of the printed one.
2. The subscribed e-resources are ASCE Journals, ASME Journals, ASTM Journals and Standards, IEL online (IEEE & IET), Science Direct , EBSCO Business Source Complete, EMERALD Management 200 Journals, SCIFINDER Scholar, SAE Technical Papers, Indian Standards Codes, British Standards Euro Codes, ACM, ProQuest ABI/Inform Complete, ProQuest Dissertation and Thesis (ETD), Springer link 1600+ Journals, Math Scinet, Nature Publishing Group Journals, Scopus (e–bibliographic database with 15,100 peer reviewed journals indexing and abstracts).
3. Also central library subscribes Engineering Village - Referex subject collections e-books and e-brary e-book collections.

V. OBJECTIVES OF THE STUDY

Many studies have been conducted in India and abroad which gives information on use of electronic resources by the users of library. This will be helpful to the library staff and authorities of the university to decide whether they have to invest more on the development of electronic collection or to go for some other format of journals. The following objectives were framed for the study.

1. To know the existence of various e-resources and services are available at Periyar EVR Central Library in VIT University.
2. To study the different types of electronic resources used by students and faculty.
3. To find out whether the user are making use of the electronic resources.
4. To know the purposes and frequency of using electronic resources.
5. To identify the problems faced by the users while accessing and using the electronic resources in the library.
6. To know the connection between the usage of e-resources and publications by scholars.

VI. e-RESOURCES – ANALYSIS AND INTERPRETATION OF DATA COLLECTION

In VIT University Library, the center of attraction for the users is the digital library with 130 clients providing enormous information by subscribing to various e-resources. The IEL article downloading is tremendously high when compared between the 2011 and 2015 as shown in *Table I.*

Table I: User Statistics for IEL Online for the year 2011-2015

year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
2011	7564	6869	5432	4431	3321	3643	8965	9864	16453	12087	9532	11203	99364
2012	9876	8674	7743	5643	3890	4323	9854	10987	17896	16789	9986	14398	120059
2013	10109	6756	11125	5768	3099	4895	10769	11858	24601	22040	10417	19179	140556
2014	16259	10030	8084	11289	4956	7248	14125	17761	23260	16799	9152	12194	151157
2015	20217	13274	13629	9234	5615	9330	12621	17896	21371	16162	22429	15397	177175

It is noticed that the total number of articles downloaded from IEL online was 99364 in 2011 and has increased to 177175 in 2015. In other words, the number of articles downloaded has increased by two times during the period between 2011 and 2015. The year-wise analysis indicates that every year, the usage and/or downloading of articles have increased year after year. It is also noted from the monthly statistics that during the beginning of the fall semester that is between June and November, the usage of articles are more compared to the winter semester i.e. December to May. For instance, the usage of IEL online during the month between June and November, 2015 was 99809 compared to that of 77366 during the month between December and May, 2015.

The utilization and appreciation among users for the Science Direct are explicitly shown in *Table II*. Except for the vacation period the usages are on the ascending order.

Table II: User Statistics for Science Direct for the year 2011 – 2015

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
2011	16522	13939	15163	10818	8697	10313	16356	26123	42994	20740	14969	26406	223040
2012	40722	35556	37139	36905	24317	20866	27870	33856	37613	35052	19659	27237	376792
2013	54698	43256	52356	48570	32412	26943	34251	40139	42784	51008	32897	34213	493527
2014	71407	71204	71259	81124	65821	41124	51215	61721	85868	88773	82948	63553	836017
2015	142080	126923	132017	111048	74574	54344	73005	96776	134309	103503	88169	79587	1216335

User statistics for Science direct for the year between 2011 and 2015 reveals that there is five times increase in the usage of the Science Direct online resources by the students and faculty members in VIT University. That is, usage and download has increased to 1216335 in 2015 from 223040 in 2011. It is noticed from the monthly statistics during the beginning of the winter semester that is between December and May, the usages of articles are more compared to the fall semester that is., June to November during the year 2015. For instance, the usage of Science Direct online during the month between June and November, 2015 was 550106 compared to that of 666229 during the month between December and May, 2015.

Table III: User Statistics for Scopus (Elsevier) - year 2011 – 2015

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
2011	703	693	932	739	542	854	643	943	3277	4539	1983	1298	17146
2012	985	998	1076	873	654	954	983	1239	3765	5631	2562	2398	22118
2013	1290	1189	976	1298	762	1048	1139	1548	4390	6548	3021	3397	26606
2014	1407	1204	1259	1124	821	1124	1215	1721	5868	8773	2948	3553	31017
2015	5231	4891	3191	2719	2558	3394	4272	4601	4634	4455	4078	3616	47640

From *Table III*, it is noticed that the total number of articles downloaded from Scopus was 17146 in 2011 and has increased to 47640 in 2015. In other words, the number of articles downloaded has increased approximately by three times during the period between 2011 and 2015. The year-wise analysis indicates that every year, the usage and/or downloading of articles have increased year after year. It is also noted from the monthly statistics that during the beginning of the fall semester that is between June and November, the usage of articles are slightly more compared to the winter semester i.e. December to May. For instance, the usage of Scopus during the month between June and November, 2015 was 25434 compared to that of 22206 during the month between December and May, 2015.

In the year 2011 total download articles were 884. More than thousand four hundred articles were downloaded in the year 2015. In the year 2015 the ASME usage is increased by 50% when compared to previous years. From *Table IV*, the utility of the ASME online which has steady growth can be better understood.

Table IV: User Statistics for ASME Online from 2011 - 2015

Year	2011	2012	2013	2014	2015
Total	884	989	1183	1469	2285

In the year 2011 total download articles were 352. More than seven hundred and fifty articles were downloaded in the year 2015. In the year 2015 the ASCE usage is more than four times when compared to the year 2011. The utility of the ASCE online which has steady growth can be better understood by the following *Table V*.

Table V: User Statistics for ASCE Online from 2011 - 2015

Year	2011	2012	2013	2014	2015
Total	352	542	776	973	1453

VII. IMPACT ON PUBLICATIONS

Details of research papers published by VIT University faculty members and scholars from the year 2011 to 2015 as obtained from Scopus database are presented *Table VI.*

Table VI: Publication details of VIT University (Scopus Database as on 05.02.2016)

Year	2011	2012	2013	2014	2015
Publications	618	893	1661	1967	2056

It is observed that the total number of Scopus indexed articles published by VIT faculty and students was 618 in 2011 and has increased to 2056 in 2015. In other words, the number of articles published by VIT has increased approximately by more than three times during the period between 2011 and 2015. The year-wise analysis indicates that every year, the publication of articles have increased year after year. Comparing with usage of e-resources and Scopus indexed publication by scholars, we can conclude that there is a perfect correlation between the usage and publications.

VIII. CONCLUSION

The VIT University had initiated higher education in the field of Engineering from 1984. From the inception of the University, the Periyar EVR Central Library is working tirelessly towards growth of the institution and also constantly introducing new technologies in the library. This paper reports on a survey of users at the Periyar EVR central library as to their awareness and use of electronic resources, notably e-journals. In particular, it provides the e-resources access by the Faculty, Research Scholars and PG, UG Students. Further, the results showed that the usage of E-Resources access from 2011 onwards. It has been found that awareness among the users motivates them to use e-resources and services of the library. The publication details of VIT faculty and scholars shows that the user community is satisfied with the approach of the VIT University Library. Therefore, the situation demands that necessary steps should be taken by the library authorities to increase the usage of present library e-resources.

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