

Use of Electronic Information Resources: A Case Study of SASTRA University

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ABSTRACT

Today, the advent of information technology has resulted in reducing the size of libraries. In fact, these smaller modern libraries are rich potential of information. It has been possible due to the digitization of information. This paper is an attempt to study issues like use of electronic information resources, its impact on the collection of print and electronic journals, its awareness among the users, and the places where the users are accessing these resources. A survey was conducted in the academic year 2009-10 at the SASTRA University, Thanjavur. A total number of 450 users from the undergraduate, postgraduate, research scholars and faculty members were selected and their response was obtained with the help of questionnaires. The findings showed that 79.13 % of the male users were aware about the electronic information resources whereas only 73.23 % of female respondents were aware about the availability of electronic information resources. The results showed that 55.23 % of respondents wanted to access only electronic resources whereas only 20.00 % users want to read the printed resources. The paper highlights that majority of respondents are not satisfied with the availability of enough electronic information resources in their respective subject.

Keywords: Electronic journals; Electronic information resources; e-resources; Printed journals.

INTRODUCTION

Information technology has thrown a new challenge to the libraries and had a great impact on the services of the libraries. Access to information through Internet has changed the role of libraries. Libraries now have both printed document as well as electronic information resources in their collection. The electronic documents can be stored, accessed, and delivered as and when required; therefore, the services of the libraries are not confined within the four walls but are integrated into local, regional, national, and international networks. Academic libraries too are now

becoming hybrid libraries. In the fast-emerging and ever-growing information explosion, it is very difficult to retrieve particular information without wasting time. Recent advances in the field of information technology contribute significantly to improving the services of libraries. Nowadays, libraries are not only seen with printed document and non-print document but also with computers. The impact of technologies such as CD-ROMs, multimedia, computer networks, Internet, etc. has led to a paperless society. With the availability of computers capable of computing at very high speed and having large disc storage space, it is possible to digitize and store information in the form of high quality graphics, color images, voice signals and video clips at a relatively affordable cost.

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Growth of Electronic Resources

The information in electronic format was created with the advent of computer in 1950s, but was not until the early 1960s that the first

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database suitable for searching was developed (Meadow, 1988). The advent of non-book materials in India had been slow. The non-book materials started to appear in the 1960s (Taher and Davis, 1994): T.P. Sexena and Saifuddin's *Problems of Cataloguing Microfilms* in 1962; the Bombay based Atomic Energy Establishment Microforms Bulletin in 1963; M.S. Hussain's *Audiovisual Librarianship*; and S.P. Singh's *Automation in libraries* in 1975 are few examples. Sodak and Schwarz were the first (1973) to conceive electronic form of the scholarly journal; their vision was distribution of computer output microfiche to individual subscribers (Lancaster, 1995). MEDLARS was the first on demand computer-based information retrieval service, and it was developed primarily for the medical profession. In 1971, MEDLINE, the online version of MEDLARS, was the first major online dial-up database search service. DIALOG offered the first public online commercial database. With the introduction of CD-ROM in mid-1980s, electronic resources began to have a major impact on selection practices in libraries (Meadow, 1998).

The emergence of various distribution systems of electronic journals from CD-ROM was the first step to local data loading, where publishers provided image and text data directly to libraries (Barnes, 1997). In the early 1990s, publishers and universities explored ways of creating electronic journals that could be retrieved on the users desktop. There is significant growth in the number of electronic journals these days. The 7th edition of "*The ARL Directory of Electronic Journals Newsletters and Academic Discussion Lists*" (1997) shows that the number has increased from 110 in 1991 to 675 in 1995 and further to 3,414 in 1997 (Mogge, 1998). According to Stephen Harnad, Professor in Cognitive Sciences at Southampton University, around 24,000 research journals and 2.5 million articles are published per year worldwide (Johnston, 2003). Alongside the growth in the number and size of academic journals, there has been significant increase in the prices. With a 58% increase during the five-year period, from 1998 to 2003 LISU has been reported. Price

increases have been highest in the areas of science, technology and medicine. As per the 47th edition of Ulrich's Periodicals Directory, which covers the latest international information on journals, magazines and newspapers, there are over 51,440 serials available on-line (Ulrich's 2008).

SASTRA Central Library

Saraswathi Sadan, the aptly named library of the university, is an architectural elegance over an area of about 47,000 sq ft with modern study area, audio visual room, Internet and reprographic facilities. It is the nerve center of the entire campus catering to the needs of the staff in full measure. Saraswathi Sadan contains over 78,000 books valued at Rs 3.5 crores; the library subscribes to 300 journals and periodicals, including IEEE publications. The library also subscribes to online journal database like Science Direct, IEEE, ACME, ASME, SCE, EBSCO, SCOPUS, DELNET, ebrary etc., providing access to over 3200 scientific, technical and management journals and bibliographic database of over 17,000 journals. It also subscribes to PROQUEST Digital Dissertation database which offers access to over 550,000 PhD dissertations.

SASTRA University Library is the only University in India to purchase the entire suite of Springer's Electronic collection of over 8,000 e-books. The library also subscribes to e-Brary which provides access over 35,000 full text books. The networking of entire campus provides a seamless access to all the online databases for simultaneous use by unlimited number of users. Constant addition of titles and volumes in all fields of Engineering, Management, Basic Sciences and Humanities is a regular feature. The transactions of the library are fully automated and automation covers the entire gamut of library activities, such as acquisition, cataloguing, circulation with provision for renewal, reservation, serial control, online Public Access Catalogue [OPAC] and generating various types of reports and statistics.

The multimedia section is equipped with state-of-the-art computer systems, plasma screen Television, DVD, video and audio players and over 1800 educational and informative CDs. The library has reprographic facilities and attracts an average of over 600 students a day. Online access to the library's collection in a networked environment and outstanding collections of books and research materials provide a salubrious environment for learning. The entire library is automated, making searching, issuing and returning easier. Besides the central library, each school has its own library with technical books and journals.

Review of Literature

Razaand and Upadhyay (2006): carried out a survey to examine the usage of e-journals by the researchers at Aligarh Muslim University. They used questionnaire method to find out the purpose and place used by research scholars for using e-journals. The survey revealed that all the researchers are aware of e-journals at AMU. Many research scholars were consulting e-journals from their departmental labs and computer centers, not only for research purposes but also to update their own knowledge. Some problems like lack of training and slow downloading were found and the researchers felt the need for print journals as well as electronic journals.

Kanwal, Ameen (2008) studied the "Barriers in Collection Sharing among Libraries of Pakistan: University Library Managers' Viewpoint". A survey method was used to explore the barriers to collection sharing among the well-established chartered university libraries situated in the major cities of Pakistan. The survey followed a qualitative design based on an interview technique of data collection. Twenty chief/head librarians from five major cities of Pakistan were interviewed. In-depth, semi-structured interviews were conducted at the librarians' workplaces between 2003 and 2004. The results of the present study revealed that various technical, procedural, psychological, and behavioral barriers in achieving planned and meaningful

collection-sharing (CS) programs still prevail. It suggests analyzing the possibilities, opportunities, and challenges of CS in the emerging paradigm.

OBJECTIVES OF THE STUDY

1. To find out the awareness of users' about available electronic information resources.
2. To study the purpose and utilization of electronic information resources.
3. To find out the frequency of using electronic information resources.
4. To find out the hindrances and problems faced by the users while accessing and using electronic information resources.
5. To study the level of satisfaction of users about availability and coverage of electronic information resources.
6. To study the preferred format for using electronic information resources.
7. To study the satisfaction level of users about infrastructure to support the access of electronic information resources.
8. To suggest suitable recommendations to improve facilities and services related to the use of electronic information resources.

METHODOLOGY

There are various methods of data collection for profiling data including questionnaire, interview, transaction log, and citation study. Each method has its strengths and weakness. In this survey questionnaire method was used for collecting the primary data. For the purpose of this study, secondary data and information was collected from the library records, and annual reports. The survey was conducted during the academic year 2009-10. For this purpose, a questionnaire was distributed personally to undergraduate, postgraduate, research scholars, and faculty members of the SASTRA University. Keeping in view the above objectives, a structured questionnaire

was prepared to collect data from the users of electronic information resources, SASTRA University. The questionnaire contained various questions pertaining to the awareness and use of electronic information resources. A total of 450 questionnaires were distributed among faculty members, researchers, postgraduate and undergraduate students of the SASTRA university. Out of 450 questionnaires distributed, 420 valid questionnaires were collected and then data was analysed, tabulated, interpreted and presented in the form of this paper.

Scope and Limitation

The proposed study will help other institutes to see how electronic journals are being used and to understand the need of electronic resources in the larger interest of the faculty members and research scholars. The study covers the undergraduates, postgraduates, research scholars and faculty of the SASTRA University. The present study will be beneficial for other institutes and motivate them to implement these resources in their libraries also.

Data Analysis

Analysis of data is the ultimate step in research process. It is the link between raw data and significant results leading to conclusions. Thus, the process of analysis has to be result oriented.

Population study

Table 1. Sex-wise distribution of respondents

Gender	No. of Respondents	Percentage
Male	278	66.19
Female	142	33.81
Total	420	100.00

Personal detail section of the questionnaire provided information regarding the sex and different qualifications (Table 1). 66.19 percent of population studied were males and only 33.81 percent of total were females, who could use electronic information resources available through library for different purposes.

Table 2. Category-wise distribution of respondents

Academic Status	No. of Respondents	Percentage
Under graduate Students	194	46.19
Post graduate Students	124	29.52
Research Scholars	42	10.00
Faculty Members	60	14.29
Total	420	100.00

Table 2 shows that 46.19 percent were undergraduate students, 29.52 percent postgraduate students, 10.00 percent research scholars, and only 14.29 percent were faculty members.

Table 3. Awareness about electronic information resources

Gender	Aware	Not Aware
Male	220 (79.13%)	58 (20.87%)
Female	104 (73.23%)	38 (26.77%)
Total	324 (77.14%)	96 (22.86%)

Table 3 shows the awareness of electronic information resources among the respondents available through the library. 79.13 % of the male users were aware about the electronic information resources whereas only 73.23 % of female respondents were aware about the availability of electronic information resources. It can be seen that male respondents were more aware about electronic information resources than females.

Table 4. Preference level of using electronic information resources

Type	Number	Percentage
Online	232	55.23
Print	84	20.00
Both	104	24.77
Total	420	100.00

The results reveal that 55.23 % of respondents wanted to access only electronic resources, 20.00 % users wanted to read the printed resources, but 24.77% respondents want to use both electronic and printed resources.

Table 5. Purpose of using electronic information resources

Purpose	Number	Percentage
For studying course work	322	76.66
For update subject knowledge	196	46.66
For teaching	37	8.80
For research work	68	16.19
For writing papers	268	63.80
Any other works	124	29.52

Note: Total sample exceeds the required size since the questions are multiple choices

From table 5, it is clear that most of the respondents (76.66%) used electronic information resources for studying their course work, 63.80 % of respondents use electronic information resources for writing papers, 46.66 % of respondents used electronic information resources for update subject knowledge, 29.52 % respondents used for other works like exams etc., 16.19 % of users used electronic information resources for research work and only 8.80 % respondents used electronic information resources for teaching.

Table 6. Frequency of using electronic information resources

Frequency	Number	Percentage
Everyday	174	41.43
2-4 times a week	94	22.38
Once a week	118	28.10
Occasionally	34	8.09
Total	420	100.00

It is observed from the analysis that 41.43 % of respondents accessed electronic information resources everyday, 28.10 % respondents used once in a week, 2.38 % of respondents accessed 2-4 times a week, about 8.09 % of respondents used electronic information resources occasionally.

Table 7. Location for accessing electronic information resources

Location	Number	Percentage
Central Library	224	53.33
Department Library	164	39.04
Computer Center	76	18.09
Other Places	32	7.61

Note: Total sample exceeds the required size since the questions are multiple choices

When respondents were asked to indicate the preferred location to access electronic information resources. Table 7, 53.33 % of the respondents chose the central library, about 39.04 % accessed the department library, 18.09 % accessed the computer center, and 7.61 % accessed other places where they got facility to access electronic information resources.

Table 8. Linking pattern of electronic information resources

Linking	Number	Percentage
Links through library website	183	43.57
Links through publisher's website	46	10.95
Links through search engines	246	58.57
Links through online journals website	92	21.90

Note: Total sample exceeds the required size since the questions are multiple choices

Table 8 shows how respondents searched electronic information resources. Many searched electronic information resources through search engines followed by linking facility available on the library website. Some of them also linked through online journals website and only a few of the respondents searched electronic information resources through publisher's website.

Table 9. Use pattern of electronic information resources

Use Pattern	Number	Percentage
On computer screen	83	19.76
Download in storage devices	187	44.52
Take Printout	236	56.19

Note: Total sample exceeds the required size since the questions are multiple choices

Respondents were asked to indicate how they use the content of electronic information resources. It was observed from analysis that majority (56.19%) of respondents took printout from electronic information resources, 44.52 % downloaded the content in storage devices, and 19.76 % of respondents used on the computer screen.

Table 10. File formats of electronic information resources

File Formats	Number	Percentage
HTML	112	26.66
PDF	236	56.19
No Preference	72	17.15
Total	420	100.00

Electronic information resources are available in two major formats: PDF and HTML. It was observed from the analysis that

56.19 % of respondents preferred PDF format for using electronic information resources, whereas 26.66 % of respondents preferred HTML format; and 17.15% had no preference.

Though electronic information resources have become a common source among the academic and research communities, the majority of users stated that they had difficulties using electronic information resources. The specific problems faced by the users are given in Table 11. It was observed that majority of respondents were not satisfied with availability of enough electronic information resources in their respective subject. Second was coverage of electronic information resources not suited to research area, time consuming and lack of training difficulties.

Table 11. Difficulties in accessing electronic information resources

Reasons	Number	Percentage
Not many electronic information resources available in my subject	214	50.95
Coverage on electronic information resources is not suited to my research area	162	38.57
No assistance provided by the information professionals	123	29.28
Lack of training	87	20.71
Time consuming	58	13.80

Note: Total sample exceeds the required size since the questions are multiple choices

Table 12. Satisfaction of accessing electronic information resources

Level	Number	Percentage
Highly satisfied	216	51.42
Satisfied	147	35.00
Average	30	7.14
Not satisfied	27	6.42
Total	420	100.00

Regarding the satisfaction level of infrastructure among the users for accessing electronic information resources, it was observed that majority (61.42%) of respondents were highly satisfied with the infrastructure provided by the library for accessing electronic information resources at different levels whereas only 6.42 % of respondents were not satisfied with the same.

Recommendations

Based on the findings of the study, the following suggestions are made:

- The response of respondents with regard to awareness about e-resources and services of library shows that only minimum per cent were not aware of it. User-wise, faculty, research scholars and postgraduates were more aware of their library e-resources and services as compared to undergraduates. The library should provide orientation workshop and ongoing seminars for students to guide them how to use electronic resources in order to extract maximum value from these resources.

- The authorities must conduct training programmes for users regarding how to use electronic information resources.
- Awareness should be created to use electronic information resources to fulfill information needs.
- More computer terminals should be installed in the library for the benefit of users.
- There is need to include more number of online journals in various disciplines.
- More fund should be given to acquire electronic information resources.
- Information professionals have to help users to create awareness and use of electronic information resources.

CONCLUSION

The study showed that Internet has radical impact on the changing higher education environment. It is interesting that Internet use among faculty members at the SASTRA University is much higher than expected. It is broadly used for teaching and research purposes. Electronic information resources have opened up many exciting opportunities and potentials for academic libraries. e-journals have both advantages and disadvantages. Librarians need to be able to identify and balance the factor that would make e-journals a success in their libraries. Looking at the present situation of information explosion and competency in acquiring it, the onus is on the library staff to create more awareness about the electronic information resources availability among the users and provide them a friendly environment so that they can make a better use of the facility. The staff in the library requires training in handling the electronic information resource and users need an orientation for using them. Library staff should be provided proper training, which will help them in acquiring more sophisticated searching and retrieval skills. The librarian's role has to be redefined in view of

technological developments keeping in mind the best interest of users and retrieval efficiency. The study shows that most of the users chose to use the journal in both formats, print re-journals. Therefore, even in this digitization era, electronic information resources may not completely replace the existing print version but both will compliment each other to meet the needs of the users. For this purpose, The SASTRA University needs to improve its IT infrastructure, including providing distance access. The use of electronic information sources for study and research purposes must be encouraged and proper training should be provided.

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