

SEEMA VASISHTA, Senior Librarian

Central Library, Punjab Engineering College, Chandigarh.

E-mail: seema_pec@yahoo.co.in

NAVJYOTI, Research Scholar

Deptt. Of Library and Information Sc., Panjab University, Chandigarh

Abstract- Earlier information resources were considered physical entities but now these have evolved from traditional print documents to electronically stored information resources. In this time of lessening finances, myriad forms of resources and rising expectations of user community, libraries face many challenges to operate competently. The demand to provide more electronic information resources often results in a need to find creative ways to get the most out of our limited financial resources. Present paper discusses the Electronic Information Resources (EIR) in detail explaining their advantages and various types. Also depicts how consortia approach will be helpful in harnessing EIR for a developing country like India. The paper also tries to describe major prerequisites for consortia initiation and benefits that can be expected from a successful consortium. It is concluded that Indian libraries must seriously think, proceed and commence consortium movement for maximum utilization of EIR at a reduced cost, time and space.

Index Terms- Electronic Information Resources (EIR), Consortia, E-consortia, Information Resources.

1. ELECTRONIC INFORMATION RESOURCES (EIRS)

The information arena today witnesses an explosive situation with the advances in technology. Not only the definition of resources embedding information has changed but also the concept of information resources has changed completely due to rapid and widespread development in the technology. Earlier information resources were considered a physical entity but now these have evolved from traditional print documents to electronically stored information. In most simple words, when we process data and convert it into meaningful and useful form, it becomes information, when this information is fetched in electronic form; it is called electronic information resources (EIR). Thus, EIR are the information resources, which is available in remotely located databases and can be accessed through interactive communication with the help of computers and communication channels. It also includes collection of library or archival materials converted to machine-readable format for preservation or to provide electronic access. EIR are being added to library collections at exponential rates. Libraries do extensive work to make e-resources available without the need for individuals to enter the library complex. Since the creation of EIR, its potential as an instructional tool and learning environment has attracted intense academic interest and commercial development.

2. ADVANTAGES OF EIR COLLECTIONS:

EIR are very useful to all institutions and individuals to get instant, relevant, and comprehensive information. Keeping these factors in view, largely organizations are concentrating to build e-collections for their use. EIR are having an edge over its print counterparts because of the browsing, searching, multi-access capability, 24x7 access, remote accessibility, etc. Some of the major advantages of EIR are listed below.

1. *Maintenance of Updated information:* Data can maintain aptitude so that user will have access to latest version of information. It is very easy to retrieve, manipulate and merge data.
2. *Rapid and accurate information retrieval:* EIR provide aids for connectivity, audio visualization, customizability, creation and revision of document, interactivity and rapid retrieval of information.
3. *Distribution:* The major advantages of EIR are their global distribution, their hyperlinks and the ability to access from different sites and ability to reach distant places.
4. *Compatibility with search engines:* There is good number of search engines available to access and retrieve the appropriate information from the EIR. Most of EIR are providing access to information on the basis of keywords, author search etc.
5. *Cost Factor:* Whole world is moving towards electronic publishing and the cost of the e-publishing is much cheaper than that of the print version. Access to EIR is now considered most important element of collection building.
6. *Multiple user access:* Most of EIR are providing multiple user access which enables many users to access EIR concurrently. Many users can use the same EIR at the same time at any place.
7. *Manageability:* EIR can easily be managed by adding bookmarks and personal notes to the sites or by downloading it to private files or databases for coping and editing.
8. *Availability:* Libraries managing collections of IER can support patrons from all over the world via the Internet. As far as electronic resources are concerned, the library is "open" twenty-four hours a day, seven days a week.
9. *Technology Savvy:* Best suited for the users, who are more technology savvy and are demanding and expecting to meet their all information needs not only on demand, but also in anticipation of demand.
10. *Convenient:* Patrons can access EIR at their own convenience. **“We are here for you”** is the motto of these easy-to-use resources. Such notions generate satisfaction among users.
11. *Space saving:* EIR are less bulky than paper, thus saving incredible amount of space storing documents.

3. TYPES OF EIR:

EIR are replacing non e-resources, and are appearing as new types of discovery tool. Generally two types of EIR are identified.

1. *Direct Access Resources:* They are basic types of EIR and can be used at any time. These have two sub-types

* *Static e-resources:* They contain fixed information and never change form e.g. databases available in CD form.

* Dynamic e-resources: Such documents also contain fixed information, but this information can change its outward form (multimedia CD-ROM).

2. *Living e-documents*: Such e-resources can change their outward appearance and their embedded information (e.g. information on the web). These are the server and client based information resources. These are also called remote access resources or online resources because the location of the server is somewhere else.

EIR are commonly available in following categories:

* *Subscribed Electronic Information Resources (SEIR)*: To access this category of EIR, some subscription amount/fee has to be paid to the publisher/owner.

* *Free Electronic Information Resources (FEIR)*: Such resources are freely available on the Internet and can be divide into sub-categories like

- a. Open Access journals/Free journals
- b. Information available at Institutional Repositories
- c. Organizational/Individual's websites
- d. Individual Blogs/Professional Discussion Forums

4. FORMS OF EIR:

A vast wealth of information is available in the form of EIR, which have become more compact, sophisticated and less expensive. Introduction of Internet and web technology has reduced the cost, time and manpower of publishing documents. As a result organizations, institutions and even individuals are publishing on the Internet. A number of distinct types of EIR now exist in the following forms:

1. *On line resources*: like online E-books, E-journals, E-encyclopedia, E-dictionaries, E-directories, E-handbooks, E-thesis, E-database, E-book, V-book, E-Groups, Search Engines, E-Lists, E-newspapers, Web Rings, Library Networks Databases, Library Websites FAQs, Web OPACs, Digital Archives, Bulletin Boards, Virtual Conferences, Web Exhibitions, Virtual Help Desks

2. *Off line resources*: C.D-ROM, Jukebox etc. Audio visual aid etc.

But the most successful is the form, which will not only reproduce the functionality of the traditional library, but must also fully exploit the unique features of electronic information provision.

5. CONSORTIA APPROACH TO HARNESS EIR IN INDIA:

The Library and information Centers, in India, are increasingly being called upon to provide more relevant, up-to-date and timely information to a wide range of users. To satisfy the varied user needs, libraries require availability and accessibility to a variety of EIR. Users expect their libraries to built and maintain a collection of EIR while simultaneously maintaining and growing

traditional print collections. To cope with thorny problems of tremendous explosion of information, financial constraints, availability of information in different forms etc., the resource sharing networks has emerged as important alternatives. The advent of e-journals and e-databases coupled with high speed data communication facilities has paved the way for the present form of library consortia. A **Consortium** could be described as a group of organizations who come together to fulfill a combined objective that usefully requires co-operation and the sharing of resources. Resource sharing in the form of cooperative acquisition and management of resources is not new to the library; the only difference is that these days efforts are made to the cooperative acquisition and management of resources in electronic form. Thus in present form of e-consortia, a group of libraries are coming together for buying e-information. Voluminous development has urged the libraries to adopt new philosophies and techniques for collection development and reduce the cost of information; the reduction of cost is achieved by the e-consortium acting as an agent on behalf of all member libraries to negotiate a purchase price of EIR that is lower than that available to an individual institution. One of the libraries or agencies work as coordinator, for identification of libraries for each publisher, negotiation, legal matters etc. The e-consortia can be an ideal solution in present context, if that has been established and managed at the wider interests of the society and the mankind in total. The activities and operations of the library and information centres are being influenced and drastically changed with this new approach to information management. Cooperation in form of e-consortia has emerged as an essential facet of modern library management in most developed countries of the world, but in our country it is still in the normative stage.

6. NEED FOR E-CONSORTIA:

Technological developments, electronic publishing of scholarly journals, pricing models of publishers for consortia gives new opportunities for libraries to provide instant access to information. Following factors justifies the need of consortia development for the management of EIR:

- 1. Overloaded Budgets:* Libraries are committing larger portions of their budgetary allocations for either procuring or assessing EIR while the allocation keeps on diminishing. The libraries with their diminishing or at best static financial allocations have to consider new ways to consolidate globally accessible EIR. Consortia are formed with an objective to enhance the purchasing power of the participating institutes in this critical situation of major financial crunch faced by the libraries and information centres. The consortium facilitates the libraries to get the benefit of wider access to electronic resources at affordable cost and at the best terms of licenses.
- 2. Information explosion:* There has been the sudden onslaught of new materials and electronic versions of old materials resulting in the availability of information in numerous forms. This flood shows no signs of abating. Full-text electronic scholarly and popular books are becoming available in online form, and a deluge of such materials and providers over the next few years is expected. A consortium, with the collective strength of resources of various institutions available to it, is in a better position to address and resolve the problems of managing, organizing and archiving the EIR.
- 3. Impossibility of self-sufficiency:* With the proliferation of information in myriad forms, it is difficult for any library to be fully sufficient to cater to the information needs of its

user community. Financial constraints, space curbs, human resources inadequacy also stress upon the need for the libraries to opt for the consortia approach.

4. *Willingness of publishers:* This approach has helped to get attractive discounted rates and most of publishers responded positively to the call of consortia and are enthusiastic to give the best possible offers. Another reason for the eagerness of publishers to enter the Indian market, which holds very high future potentials.
5. *Diversity of user needs:* The technology has changed expectations of researchers, their patience, and their willingness to accept services that are available on demand. The Web-based EIR is an apt answer to the expectations of users. Library users want to have access to that material as quickly as possible, and many of them want information at their computer screens.
6. *Quick Access:* The technology provides an unparalleled media for delivery of information with greater speed and economy. Academic and Research users can now hope to have access to their learned journals articles in electronic form as the electronic access is comparatively cheaper. Users are beginning to expect electronic delivery that is speedy and accessible at remote.
7. *Improving quality standard of research:* The research productivity of all institutions is expected to improve with increased access to international e-databases and full-text resources, so libraries are willing to add EIR to their collection and opting for consortia approach.
8. *Professionalism of Library Science:* This concept has tremendous influence on the consortia initiatives. The changing role of librarian as a conservator to a navigator/disseminator of information has enhanced the value of library consortia.
9. *Future developments:* One of the important issues related to technology is stability of the systems that they deploy to store, retrieve and deliver the EIR. Consortia help to have a watchful eye on coming latest technological changes in publishing industry and associated legislations which can affect the libraries directly or indirectly.

7. BENEFITS OF E-CONSORTIA:

The present system of consortia has lot of merits over the earlier pattern of individual subscription to EIR. The main advantage of library consortia is resources enhancement and general cost savings. Few benefits are mentioned below:

1. Consortia-based subscription to electronic resources provides access to wider number of electronic resources at substantially lower cost. When subscribed through a consortium the cost per library can be significantly lower than what each library would pay in an independent agreement. The consortium, with its collective strength of participating institutions, has attracted highly discounted rates of subscription with most favorable terms of agreement.
2. The consortium usually offer better terms of licenses for use, archival access and preservation of subscribed electronic resources, which would not have been possible for any single institution.
3. Since the subscribed resources would be accessible online in electronic format, the

beneficiary institutions would have less pressure on space requirement for storing and managing print-based library resources. Moreover, all problems associated with print media such as their wear and tear, location, shelving, binding, organizing, etc. would not be an issue for electronic resources.

4. Availability and monitoring of usage statistics, which helps libraries in accomplishment of future strategy.
5. Library consortia act as means to achieve EIR access to more users for a lesser price. For the library it is more-for-less bargain strategy.
6. By developing common e-resources databases libraries can have access to otherwise un-subscribed EIR.
7. A single interface and access point providing scope for electronic archive searching always provide an edge to the needy user.
8. Pooling of expertise in the resolving of complicated tasks e.g. in the implementation of modern technological applications is an added benefit.
9. The gateway portals provide customized solution not only to access the resource online but also access resources of other libraries participating in the consortium.
10. Cost of establishing digital library is reduced. Digital libraries are more near to the tech savvy users' mind and EIR paves bridges between sea of information and user community.

8. PLANNING FOR E-CONSORTIUM:

A very systematic approach is to be adopted and the subscription should be purely based on the thorough understanding of the needs of consortium members. Some of the particularly difficult issues in augmentation of consortia include:

1. A condition for success is that a consortium must comprise members who trust each other and know each other well enough to take advantage of cooperation. Information managers have to shed their old beliefs to exploitation/ego problems and step ahead with a positive attitude of win-win situation.
2. Price is always the most problematic issue. The electronic resources, such as databases, journals, and now collections of current e-books, are very expensive, even with a consortial discount. Consortia probably spend more of their time discussing price with suppliers than any other item.
3. Managing a consortium is no small thing. Selecting a coordinating agency to deal on behalf of entire group of participants and executing and monitoring the work, is a dealing of trust. Also, Identification of libraries interested in participating and agreeing to common terms and conditions is quite cumbersome.
4. Issues relating to Identification & selection of E-journals and e-databases along with the backup of these EIR need careful planning keeping in view the present and future needs of nodal agency & member libraries.
5. At the outset, no one is sure precisely what a "good deal" in consortium comprises. That is, it is hard to define and measure success. The bases for comparison between individual institutional and multiple institutional prices are thin, and the stated savings can often feel like a sales pitch.

6. Identification of potential publishers to provide access under consortia purchase is a major concern as not all publishers are willing to negotiate with all consortia. It is also important to Negotiating with publisher to get a commonly acceptable and affordable price.
7. Source of funding to meet the subscription cost is a major concern. Consortia require high initial investments in licensees and information and communication technology.
8. The resources that are shared today's consortia environment are predominantly in electronic form. The technology and associated tools to support sharing the e-resources are also important components for the success of any library consortia. Identification and availability of necessary infrastructure for electronic access to resources is essential.
9. Legal issues involved in contracts and usage of material within the consortia. Such Issues should be cautiously embarked upon.
10. Copyright laws for EIR lack enough punch especially in India. More pragmatic approach is needed towards implementation of these laws.
11. Finally, training of staff is must in handling electronic documents.

9. EXPECTATIONS FROM E-CONSORTIUM:

The consortium is assigned the function of a resource center, with an aim to cater to the needs of its members for accessibility to EIR, having subsequent expectations.

1. To eliminate the different problems faced by the libraries to provide various EIR related services to the users,
2. To meet the thrust of information of the vast people due to rapid growth of population all over the world,
3. To cope up with the newly generated knowledge published in different forms, such as, CDs, DVDs, online and electronic documents etc.
4. To provide access to all the documents published at the national and international level, because of the library financial crunch
5. To Increase the cost benefit per subscription.
6. To promote the rational use of funds.
7. Guarantee local storage of the information acquired for continuous use by present and future users.
8. Develop technical capabilities of the staff in operating and using electronic publication databases.
9. Strategic alliance with institutions that have common interest resulting in
 - Reduced Information cost.
 - Improved Resource Sharing.

10. CONCLUDING REMARKS:

The perpetual job of libraries are collection development, preservation, retrieval of information for providing users service. These everyday jobs have become more complex with the preamble of EIR. In a developing country like India, different steps are being taken to disseminate information embedded in EIR as these are emerged as quick sources of information. Consortia approach will be the hallmark of libraries in order to harness EIR effectively. According to Allen Kent "*the success and survival of libraries will much depend on how much and to what extent the libraries cooperate with each other in future*". Libraries have to realize that working together

can accomplish far more than they can do individually. Any set of objectives will only be attained, if there is a willingness to unite together and to believe that more will be achieved through the hard work of the whole than at the individual level. In India, we are yet to get into the mainstream of consortia development, which entails changes in attitudes and functions on the part of library professionals. By utilizing the support of the regional & national level networking, libraries in India should work cooperatively towards establishing library consortia for offering and sharing EIR. Establishment of better consortium for integrating intellectual access will be a remarkable step in moving towards the electronic libraries. In the nutshell, consortia have pivotal role to play in management of EIR for Indian libraries. Indian libraries must seriously think, proceed and commence consortium movement for maximum utilization of EIR at a reduced cost, time and space.

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