

## **ELECTRONIC RESOURCE MANAGEMENT (ERM): PROCUREMENT POLICIES, ISSUES AND CHALLENGES IN INDIAN LIBRARIES**

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Providing information in electronic format has become one of the most important functions of a library. Purchasing and providing access to the relevant electronic resources within the limited budget in an effective manner is always a challenging task. Librarians expected to have proper awareness on the availability and legitimacy of various electronic sources. Imparting training to the user community on the resources already acquired yield a better result in enhancing the usage; however, the librarian has to always keep a tab on the usage statistics to know effective utilization. The aim of the paper is to provide an overview of electronic resources and its management prevailed in Indian libraries. Also analyses the procurement policies, current trends, issues and challenges faced by the library professionals to provide an effective electronic resource collection to its users in a better way. One of the challenges faced by the librarians to get access to electronic resources is the availability of the required funds for purchasing it. However, up to some extent consortium for electronic journals help to acquire more resources. This paper would help the librarians to understand the challenges in procuring and managing electronic resources and to take appropriate measures to avoid the issues related.

**Keywords:** E-resource, Electronic resource management, ERM, e-publishing, Procurement Policies.

### **INTRODUCTION**

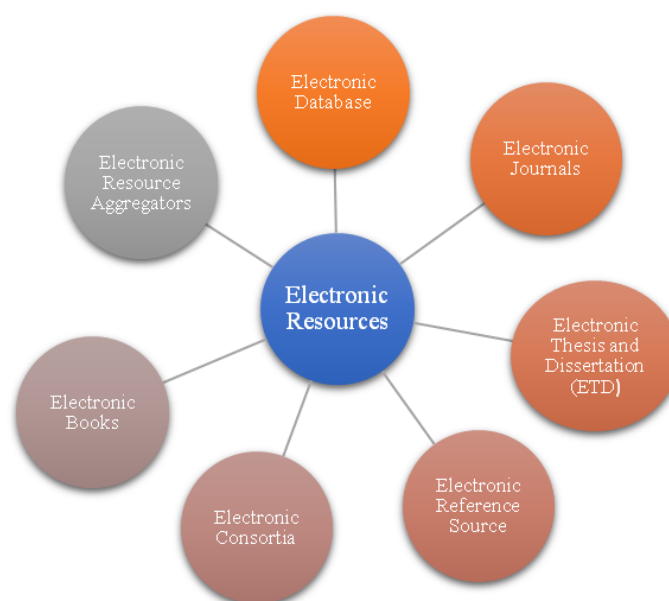
As an important component and one of the quality assessments measures, electronic resources are gaining significance in Indian libraries, hence increasingly become the part of collection building activities. Libraries and information centres play a pivotal role in selecting, acquiring and providing effective access to electronic information to its users under various categories to meet the objectives (Verma et al., 2021). Electronic Resource Management (ERM) is one of the challenging areas where the library professionals have to take utmost care in its selection, subscription, licence agreements and other access and renewal related issues. Unlike purchasing a print book, electronic resources subscription

requires advance payments and mutual agreement between the library and subscription providers. Acquiring e-resources are invariably expensive and its continuity of access for a longer period depends on many factors. In most of the higher education and academic institutions, as they are the major stakeholders of such products libraries have to pay more attention on purchasing of print as well as electronic resources. Library professionals have to play a key role in effectively utilizing the fund allocated and need to act as an expert in finding the best suitable resources for its user community, providing them an uninterrupted access facility and to lead them to the gateway of new technology and emerging internet tools to providing them the easy search facilities (Verma et al., 2021).

As time passes, changes are happening in every walk of life, such as using simple phones to smart mobiles, conventional institutions to advanced, normal cities to smart cities etc. Library and information centres are not exceptional to such changes. Accordingly, the shape, size, mode of operation, nature of collection, responsibilities, access policies, facilities and service including the nature of demand from the users to have access to diverse resources also have been changed tremendously. So, the libraries are also undergoing transformation changing its old look to a new appearance, advanced digital form with a better understanding of the user and their needs and to disseminate the information with the help of modern technological aids. Accordingly, the collection development policy has also been changed to satisfy the user needs in the technologically advanced environment. However, dealing with electronic resources, libraries are facing significant challenging such as escalating

subscription prices of electronic resources, the tremendous growth of electronic collections, changing models of subscription, various types of the package under different disciplines and categories offered by publishers, vendors and aggregators, and lack of sophisticated access management tools to deal with e-resources. Hence, the librarians face a lot of challenges in dealing with the subscription and providing access to its user community.

Different libraries are following different system to manage their electronic resources. Librarians try to manage their electronic resources using the modules available in their integrated library system, but they are not capable enough to handle the electronic resources in an effective or holistic way (Sadeh & Ellingsen, 2005). Many librarians have proved their efficiency in managing the electronic resources and are successful in doing necessary tasks which are based on their understanding and personal experience. Managers without a matrix and proper analysis cannot manage such resources in a well-defined manner. According to Anderson et al., (2004) “a system that supports management of the information and workflows necessary to efficiently select, evaluate, acquire, maintain, and provide informed access to electronic resources by their business and license terms”. There is a lot of demand for access to e-publishing like e-book, e-journals, e-databases among the students, research scholars and faculties. Librarians and library staff have to be capable to render the services with the support of technology to its users according to the demand for providing better services. At the same time, the librarian must adopt the changes in the process of selecting e-resources so that the user demands get fulfilled on time.



*Fig.1 Diagrammatic representation of various dimensions of electronic resources*

## ELECTRONIC RESOURCES

Electronic resources, popularly known among the academic community and library professionals as e-resources, are materials available in digital or electronic format, including books, journals, databases, magazines, newspapers, thesis and dissertation, etc. Unlike its print counterpart, resources can be easily and quickly accessed and downloaded over the internet if one has permission to access it. The facility of remote access, availability of detailed and accurate usage statistics, the options to replan the packages, etc., make it convenient to hold by academic group as well as libraries. Librarians play a pivotal role in identifying, selecting and procuring the e-resource to enhance the quality of the collection to satisfy its user's demand (Verma et al., 2021).

**E-journals** are acting as an essential tool for researchers to perform their research studies. The quality and sustainability of an e-journal depend

on the feedback from its stakeholders. It can also be measured in terms of the usage statistics provided by the libraries. Access to e-journals can be either free or subscription-based. There are different platforms for online journals where a user can search and download full-text articles. The journals which are accessible online and are available in the public domain to download without any restrictions are named as open access journals.

**E-books** are a handy tool for user point of view. It can either be an electronic version of a printed book or can be born digital. The activities involved in acquiring an e-book are comparatively less to a print book purchase. Many people read the contents through mobile, tablet, compact device or with the support of e-book reader software. Nowadays, many integrated software is having pre-installed with e-book collections to support and provide easy reading. Some users prefer the use of e-books rather than printed

books due to its features like mobility, freedom to change its font sizes, liberty in marking citations, translating the contents to other languages, linking with dictionaries or other relevant sites, facility to search the subject terms, sharing the entire contents etc.

**Electronic databases** possess searchable interface using keywords to retrieve the desired results and are generally classified into two types such as indexes or bibliographic databases and full-text databases. In library prospective, aggregator can be a collection of electronic publications which contains full text on a selective basis, arranged by subjects, abstracts and metadata, links to the full-text etc.

**The aggregator** has come as a significant solution to the librarians as there is no need of contacting individual publisher for making their publication available for use. It has also made it possible to present e-contents in a systematic with a searchable interface allows libraries to address the information needs of their patrons quickly. Information published every day is due to exponential growth of information and making the librarian's task of selection more complex than earlier. Identifying the authentic, reliable and economically feasible packages of resources to satisfy the user needs become one of the challenges face by every library.

**Consortia** can work under three functional areas such as sharing of physical resources, providing access to e-resources and the technological support to the member institutes. Consortia provide an opportunity to come together to fulfil a combined objective so that all the members of the group will be equally benefitted (Fleming et al., 2014). However, it requires co-operation and the sharing of

resources among them (Oo, 2016). According to Allen and Hirshon (1998) "perhaps the most important development for academic libraries during the current decade has been the move from organisational self-sufficiency to a collaborative survival mode as epitomised by the growth of library consortia". In view of the shrinking budget, libraries strongly feel that resources sharing are considered to be the best solutions to be sustained in the service point of view thereby enhancing their quality of services. Consortia can help a member library to have more resources with less financial commitment and also support in solving the issues related to its access.

**Reference sources** are resources used as reference material. Various electronic reference sources are being provided by different vendors and publishers through their online databases and customized portals. For quality, the research describes some general criteria which may be used for evaluation of electronic reference sources and are to be reviewed to ensure the purpose, authority, accuracy, objectivity, currency, quality, reliability, format and presentation etc.

**Theses and Dissertation** is playing a vital role in disseminating research and scientific information to users. A dissertation or thesis is a research work carried out by a student or scholar and submitted as part of his/her Master's or Doctoral degree. Universities and institutes play a significant role in moulding good research works. The thesis and dissertation available in electronic format are referred to as Electronic Thesis and Dissertation (ETD). As the resources are available in electronic format, it is easy to search online, which also considerably reduces duplication. Many of the educational and research institutes have created their own portal for

depositing the thesis and dissertations awarded by the institute.

### **ADVANTAGES OF E-RESOURCES**

One of the major advantages of electronic resources is its uninterrupted access facility throughout the year. The access can also be provided remotely hence eliminates the geographical barrier to access the resources. Further, the same resource can be used simultaneously by many users from different locations. There is no issue related to physical space for accessing the resource. Unlike print resources, there is no delay in accessing the content once it is published and there are no such issues like 'out of stock', 'being used by another user' 'missing issues' 'postal delay' etc. It also supports resource sharing without wasting much time. Contents can be acquired very easily and can easily be viewed, downloaded and preserved. In the case of electronic journals, it automatically calculates related quantitative and qualitative data, including citations. It also facilitates the usage statistics based on its access and downloads so that the same can be used as one of the parameters for deciding the continuity or renewal. It also provides online feedback facility to comment on the resources used by the users. The resources can be easily searched and retrieved using search interfaces by providing different search keywords.

### **LIMITATIONS OF E-RESOURCES**

Libraries require sophisticated infrastructure with sufficient amount of computer peripherals and supporting software to provide uninterrupted access to electronic resources. Further, issues relating to digital rights and copyright issues are the prominent areas to be taken proper measures while dealing with electronic resources. There is

a need for static IP configurations to get access to such resources to prevent any kind of misuse by an unauthorized user. Users have to purchase their own system or smart device for accessing the information through a remote location if the library desires to give remote accessing facility to its resources. If the access is provided through individual login credentials, there is a chance of sharing the same to an unauthorized user. Hence library has to keep an eye on its access history and download statistics. Another issue pertaining to e-resource access is its systematic downloading in an unethical way. There is a difficulty in continuously using data on a digital screen compared to print format. Another major issue pertaining to the electronic resource is its access licensing such as perpetual access rights, contractual agreements, subscription policies, irregular publishing etc. There is a need to provide sensitization and orientation programme to the users on a regular basis to make them equip with the advance usage.

### **ELECTRONIC RESOURCE MANAGEMENT (ERM)**

Libraries and information centres provide access to a wide variety of resources in both print and electronic format. However, one of the major challenges associated with the management of electronic resources is its diversity in contents, formats and subscription policies and access options for libraries. Electronic Resource Management (ERM) has emerged in this context. The tools or the system that use to manage the different process associated with the electronic resources is generally called as Electronic Resource Management System (ERMS) (Patra & Jha, 2016). ERM is the process associated with the acquisition, support and the evaluation of usage



access and its administration. There are many ERM tools which are available under many platforms as commercial and open access. Some commercial ERM tools are Meridian – EBSCONET- EBSCO, Endeavour Information Systems, Verde- ExLibris, 360 Resource Manager- ProQuest, BLUE cloud eRM - SirsiDynix, True Serials, Gold Rush®- Colorado Alliance of Research Libraries, Innovative Interfaces. (Balasubramani et al., 2017). Examples for open sources ERM tools are CORAL, CUFTS, ERmes, SMDB etc. In an ERM process, there are various steps involved such as identifying the resources, enabling trial access to the resources, selecting the resources, subscribing/ acquiring the resources, providing access facility to the users, collecting the usage statistics and making the decision on renewal or discontinuation.

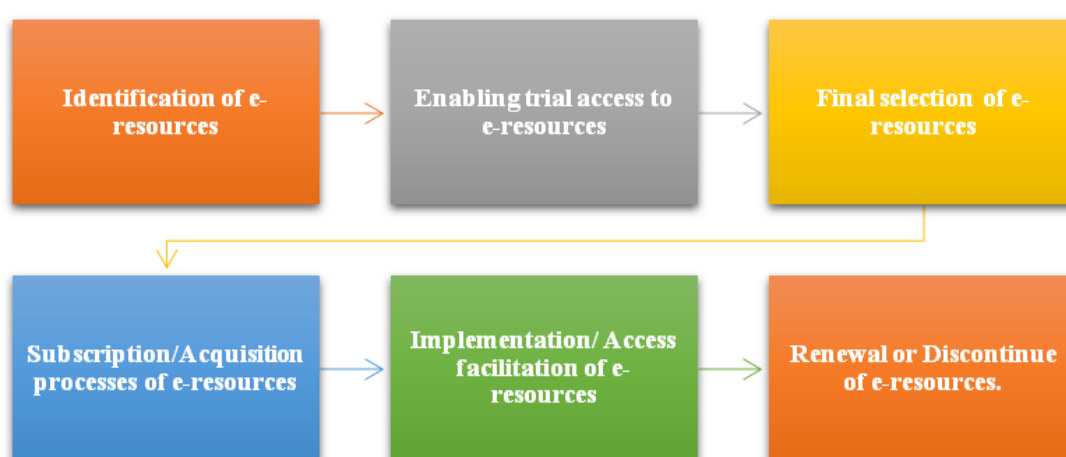
### PROCESS INVOLVED IN ERM

Libraries play a vital role in managing, organizing and disseminating e-resources in a systematized way. It is the process of managing the e-resources which involve the process such

as acquisition, selection, maintenance, licensing, troubleshooting, protecting the legal right, promotional activities etc. The process involved in an electronic resource management system is different from library to library. However, there are some common steps in which any library generally followed are depicted in Fig.2.

#### a) Identifying of e-resources

The library staff associated with the subscription of e-resources plays a significant role in identifying the e-resources. It is necessary to evaluate the recommendation received from the users for subscribing/purchasing of e-resources. The detailed study on its relevancy, availability, subscription policies, comparative analysis on the usage and effectiveness of the resource which recommended by the user have to be performed or compared with other libraries who have been using it., details about the service providers etc have to be checked. E-journals consortium can also be consulted in getting the details. Once the resource is identified based on its relevancy to the user community the issues like access policies, terms and conditions,



*Fig. 2: Steps involved in a typical e-resources management process.*

coverage, archival values, subscription pricing and all other related activities pertaining to its subscription can be examined.

**b) Enabling trial access to the identified e-resources**

Once the resource is identified, the next step which is very much essential in the user's point of view is providing them trail access. Trail access does not involve any financial commitment from the library and the service provider sets the institute IP configured to provide trail access to a limited period. Trail access will enable the users to access the resources, test it and justify themselves with the relevance of the package and can communicate with the librarian so that the same can be acquired. The frequency of the trail access can differ from provider to provider. Further, it is the responsibility of the librarian to communicate properly with the users on setting up the trail access.

**c) Selection of e-resources**

Once the trial period is over, librarian should decide whether to go for its subscription or not based on the feedback received from the respondents. If the feedback is satisfactory, the same can be communicated in the selection committee meant for the same along with all other subscription and access policy details. Once the approval is granted by the committee to acquire the product and admitted the subscription policies then the procedure for the subscription of approved resources needs to be followed. In the cases of e-journals and e-books, the selection can pick and choose model of relevant resources or it can also have in the form of a complete package. Based on the feasibility study it can be decided by the library and its committee.

**d) Subscription/Acquisition processes of e-resources**

Once the concerned committee approves the subscription of a particular resource, then librarian has to take initiative to contact with the service provider to share all the details pertaining the access to the selected resources in the form of a proforma invoice, which includes subscription price details, mode of access, access restrictions and licences, an agreement between the library and the service provider, period of access, mode of payment, foreign exchange, discount etc. In view of that, the librarian has to prepare a purchase order indicating all the terms and conditions to be followed. Most of the electronic resource subscription the price of subscription has to be paid in advance. The committee has to take the decision on paying the subscription price for a year or multiple years together based on the discount in subscription price and the other benefits too. But normally, if the resource is new, it is better to subscribe it initially for a year and then based on its usage and the feedback from the users it can be subscribed for more years together.

**e) Implementation/ Access facility to e-resources**

Once the payment is made for the subscription to the service provider, request for activation can be initiated. In the case of electronic/online transaction of payment, the procedure can be completed without spending much time. The access time starts from the day in which the complete payment is made. If it is IP based access then the librarian has to share the campus network IP details with the service provider. If the access is provided on login based,

then the user name and password are to be created by the service provider and shared. Once the access is activated library has to randomly check the service and the same can be intimated to all the users. If agreed, the training and orientation program to the users can be conducted either by the service provider or the library. Settings up of remote access facility to the subscribed contents are also to be decided at this stage. Continuous monitoring is required on the usage to prevent any kind of issues like systematic downloading, sharing of login credentials, access interruption, poor usage of the subscribed contents, any other malpractice etc.

#### **f) Decision to continue or cancel the subscription**

Renewal of a particular resource which is already been subscribed is decided by many factors such as its usage statistics, the satisfaction of users, service provided by the publisher, library budget, subscription price, changes in the terms and conditions, access and licence agreements etc. If the library desires to continue the subscription the same procedure followed in the initial stages must be followed. If it is a termination, either it automatically discontinues after the expiry period or the library has to intimate the same and request for cancellations. In the case of perpetual access, the already subscribed contents will be available to the users for further access hence the same need to be updated with the resources list.

### **PROCUREMENT, ISSUES AND CHALLENGES TO E-RESOURCES**

Electronic Resources shall be procured as per requirement and suitable methods can be adopted. The process and activities involved in the

procurement such as pricing models, annuals subscription, perpetual access, negotiation, process and approvals etc. Are also be taken care. Libraries can adopt a suitable model after approval from the competent authority depending on various factors like suitability for different programs, research area, relevance to other campuses and usage analysis etc (Singh, 2019). Negotiation plays a vital role in deciding the pricing factors. One can enforce procurement terms and conditions to the publishers/vendors in the form of the pricing, access to the back volumes, locking period, perpetual access, archival rights, governing laws, training and awareness programs, immunity, access to the walk-in-users, usage statistics, simultaneous access, etc. (Library Manual, 2013). Online databases are expensive resources that need to be evaluated properly before subscribing. Hence, different procedures such as identify the need, asking for trial access, publicizing the availability of resources on trail, analyzing the usage statistics and making a cost-benefit analysis. However there are many issues related to the procurement of electronic resources such as single platform for procurement of e-resources, agreement of e-resources (sometimes publishers do not follow institutes terms and condition as they provide and follow their own conditions, limiting of IP address for access, possibilities of purchase e-resources directly through publisher rather than vendors, escalating priced of journals while purchasing single e-resource, and the awareness of library staff on publishers and vendors procedural changes, software integration issues, difficulties with catalogue integration, and aligning organisational culture with e-resources,



coordinating inter-organisational information, and assessing the cost benefits

### **ADVANTAGES OF IMPLEMENTING ERM SYSTEM**

Electronic Resource Management System (ERMS) is useful for both the librarian and users to facilitate better access. Some of the advantages of implementing ERMS are as follows:

1. ERM manage electronic resource workflows effectively and efficiently.
2. Maintain and provide the complete details pertaining to e-resources service providers, resources, license agreement, coverage, list of holdings etc.
3. All the information related to a particular resource can be consulted at once place.
4. Analyse the usage statistics, licensing information and the cost per use. It can also examine the cost-effective analysis of the library.
5. Access can be provided simultaneously by many users for multiple resources.
6. A centralized system that monitors all and resolves the management with the vendor, negotiating licenses with the content provider, evaluation of trial access, subscription of management, acquisition, budgeting and ordering, and more (Patra, 2017).
7. The evaluation and monitoring module provides usage statistics, user feedback and analysis that support review for Continuation/cancellation of e-resources (Stephen, 2017).
8. The information alert popup via e-mail reminds the librarian for renewable resources before the license agreement expires. If the organization's e-resource URL / IP changes, a notification is received from the content provider to the librarian and vice versa. Various types of notifications have also been given to users through this alert service such as new additional resources in the library, delay in time notification if any.
9. Enable search of the A-to-Z list available in the library using various permutations and combinations to retrieve the resources by title, author and subject etc. Direct the full-text article can also be accessed through the Open URL resolution standard. It forms a single interface for different units of information about the steps of managing e-resources.
10. ERMS administration controls and restricts library staff to read, update, create, or delete authorization of e-resource workflows. Provide more security and error-free workflow with individually defined security restrictions. For example, the person who is dealing with an acquisition may be limited to viewing the acquisition area only.
11. Enable the library professionals to extend an opportunity to learn new tools, technology and standards by implementing an electronic resource management system in the library.
12. Implementing ERMS requires different sessions to work together. Thus, inter-relationship between library professionals occurs. This provides an opportunity for everyone to fit together all the pieces related to e-resource management (Patra, 2017).

### **LIMITATIONS OF ERM SYSTEM**

1. Difficult to deal with various digital collections like digital pictures, audio files, streaming videos etc.
2. Implementation of electronic resource management systems incurs a large additional cost as most proprietary ERMS are quite expensive.
3. A group of professionals with their technical skills/expertise is required to implement ERMS.
4. After implementing ERMS the redundancy rate in terms of personnel, technology is very high.
5. Although most functions are paramount in all ERMS, the paramount issue i.e. basic structural features/modules are the opposite.
6. Integration of e-resources in the electronic resource management system is a hill job which takes more time (Patra, 2017).

### **CONCLUSION**

Managing electronic resources in a library is a complex task and needs more attention in the scenario where the growth of publication is exponential and the formats of the resources are available in various mediums (Verma et al., 2021). Terms and conditions involved in subscribing any resource are to be thoroughly investigated to avoid any kind of financial loss and legal issues. The advent of Information and Communication Technology and Internet have provided ample opportunity for libraries to manage electronic resource in a better way compared to the traditional system. The librarian must have a system that manages their e-resources irrespective of the mode of purchase and mode

of access. Adopting an ERMS will enable a library to effectively and efficiently manage the resources available to it and deliver their services to the users without any interruption. However, Lack of professional skills to manage the electronic resources, shortage of library funds allocated to electronic resources, lack of sufficient technical infrastructure, organizational structure and support from the authority, copyright issues, etc. Adversely affect the management of electronic resources in Indian libraries that are to be addressed.

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