

## **E-RESOURCE MANAGEMENT IN SELECT LIBRARIES OF R&D INSTITUTIONS IN KOLKATA: A SURVEY**

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**This study examines the select libraries of R& D institutions in Kolkata to reveal the practices of organization, management and promotion of e-resources. While the advantages of the electronic information services are great, there are some significant technological issues and strategies that must be addressed for effective information service to the users. In the present electronic era, the LIS professionals have to play significant roles to successfully manage the competitive virtual environment. The study highlights the management, repository, authentication, access, networking and promotional methods of e-resources. Suggestions for effective access of e-resources and different promotional activities to create awareness among users have been made for increasing usage of e-resources.**

**Keywords:** E-Resources; Organization; Management; Promotion; R & D Libraries.

### **INTRODUCTION**

In the digital era, Information and Communication Technologies (ICTs) provide the platform to manage and deliver the information around the globe. ICT has provided new media, new modes of organizing, managing, retrieving and communicating information to users. Today the e-resources are increasing day by day and becoming more popular among user community. To cope up with the changing context, a huge amount of money is being spent on e-resources in academic libraries and the concept of library is also changing from 'repository system' to 'local gateway' where all types of web centric e-resources can be accessed from remote servers. Now, library just gets the permission to access the e-content under certain terms and conditions laid down in the license agreement but can't own the content of e-resources.

E-resources are available in different forms i.e. e-journals, e-books, full text (aggregated) databases, indexing and abstracting databases, reference databases, numeric and statistical databases, e-theses and dissertations. These e-resources raise some new issues and challenges and have changed the traditional concept of collection development. The growth of reliance on electronic resources in libraries has led to the recognition of electronic resource management as a new problem area and specialty within librarianship and to the development of a variety of electronic resource management systems and services that have been widely adopted by libraries [1]. But for effective management and usage of e-resources, a good ICT infrastructure and awareness among users are needed in organizations/institutions.

### **LITERATURE REVIEW**

Singh [2] emphasized the fact that declining library budgets, growing user expectations, technological innovations, and the globalization of information have forced the library & information (LI) professionals to share their precious

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resources via networks. There is a trend towards managing access rather than ownership of information.

Borse [3] illustrated that in digital era, the techniques of displaying of digital materials with the help of certain devices and to bring into notice the bibliographic data in regard to digital information resources are the usual practices of libraries. Display and dissemination of digital information sources keep the users well informed and up-to-date in their field of interest.

Bhat [4] asserted that the access to e-resources need to be made easier for both on campus and off campus users. Further, new web 2.0 technologies may be implemented to make the library site interesting and to provide the much needed publicity of e-resources.

De *et al.* [5] examined the electronic resource management systems and the present practice followed by the central library, IIT Kharagpur. They revealed that present Electronic Resource Management is not professional and identified a few lacunae. So, a standard ERM method may be implemented to make system more transparent.

Das [6] addressed the need of promotion of electronic information resources and also suggested few methods for promoting e-resources in library which include brochure, flaps, orientation programme, OPAC, institutional website.

Rao [7] stated that the migration from print to electronic publishing has resulted in the development of new software tools to manage the digital information and to keep track of them.

Baikady, Jessy and Bhat [8] have stressed that the library should initiate an appropriate off campus login access solution and identified EZ proxy remote access software as the solution.

H.R. & Reddy [9] defined web scale discovery and revealed that the unified index of discovery tools enabled libraries to provide easier

access to their resources at a time when mobile devices are beginning to change how we work.

Kumar [10] described that the 'Website' has been used by most of the libraries for promoting their e-resources followed by 'subject gateway' method. Further, for users' awareness the libraries practiced orientation programme, e-mail, telephone, poster and leaflets.

The review of related literature explore that the increasing trend of electronic publishing has introduced a new challenge for libraries and information centers in terms of collection, organizing and providing access to these e-resources. Display, dissemination and effective management of digital information sources will keep the users well informed and up-to-date in their field of interest, thereby facilitating increased usage of e-resources.

## OBJECTIVES OF THE STUDY

The specific objectives of the study are:

- To find out the strategies and methods for organization and management of e-Resources adopted by the R&D libraries in Kolkata city.
- To study the available network infrastructural facilities for the use of the electronic resources in R&D libraries of Kolkata city.
- To explore the current practices for promotion of e-resources in R&D libraries of Kolkata city.

## METHODOLOGY

### Scope and Coverage

The present study is restricted and limited to only libraries attached with Central Govt. research and development (R & D) institutions in Natural Sciences and Technology disciplines in Kolkata city, West Bengal. Nine such libraries attached with R & D institutions have been selected for the present study, in which it has been tried to find out the practices, strategies and infrastructure adopted by these R & D libraries for organizing, managing and promoting e-collections.

**Table 1: List of R&D Institutions in Kolkata City**

S. No.	Name of the R & D Institutes	Funding Agency
1.	The Bose Institute (BI)	The Department of Science and Technology (DST)
2.	Central Glass and Ceramic Research Institute (CGCRI)	Council of Scientific and Industrial Research (CSIR)

3.	<b>The Central Inland Fisheries Research Institute (CIFRI)</b>	<i>Indian Council of Agricultural Research (ICAR)</i>
4.	Indian Association for the Cultivation of Sciences (IACS)	The Department of Science and Technology (DST)
5.	Indian Institute of Chemical Biology (IICB)	Council of Scientific and Industrial Research (CSIR)
6.	<b>Indian Statistical Institute (ISI)</b>	Ministry of Statistics & Programme Implementation (MSP)
7.	The Saha Institute of Nuclear Physics (SINP)	Department of Atomic Energy (DAE)
8.	S. N. Bose National Centre for Basic Sciences (SNBNCBS)	The Department of Science and Technology (DST)
9.	Variable Energy Cyclotron Centre (VECC)	Department of Atomic Energy (DAE)

### Data Collection

Data have been collected through the survey of select libraries attached with the central R&D institutions by using questionnaire and interview methods. Furthermore, annual reports and websites of respective institutions are also consulted to collect necessary data for the study. The data obtained from the above sources were recorded separately and then used MS-Word and MS-Excel to organize and tabulate the necessary data for the study.

### DATA ANALYSIS AND DISCUSSIONS

The collected data on various aspects of current practices of organization, management and promotion of e-resources are analyzed and interpreted in the following sections:

#### Organization and Management of E-Resources

Table 2 depicts the distribution of organization and management method of e-resources in libraries of R&D Institutions. Only 22.22 % libraries i.e. SINP and ISI have maintained integrated OPAC service for subscribed print and e-resources. Other R&D libraries do not maintain integrated OPAC for subscribed print and e-resources. Besides, none of the R&D libraries have separate e-resource management software (discovery service) for effective organization, management and retrieval of e-resources.

**Table 2: Distribution of Organization and Management Method of E-Resources in R & D Libraries**

Name of the R&D Institutes	Integrated OPAC	E-Resource Management Software
BI	×	×
CGCRI	×	×
CIFRI	×	×
IACS	×	×
IICB	×	×
ISI	√	×
SINP	√	×
SNBNCBS	×	×
VECC	×	×
<b>Total</b>	02	0
<b>Percentage (%)</b>	22.22	0

#### Institutional Digital Repository of Libraries of R&D Institutions

Table 3 and figure 1 illustrate the distribution of institutional digital repository of libraries of R & D Institutions. The table reveals that except SINP, all the R & D libraries i.e. 88.88% have maintained institutional digital repository (IDR) for organization and dissemination its intellectual output. CGCRI and IICB under CSIR have used E-prints software for its IDR whereas rests of R&D libraries (66%) use Dspace software.

**Table 3: Distribution of Institutional Digital Repository of R & D Libraries**

Name of the R&D Institutes	Inst. Repository	Software
BI	√	Dspace
CGCRI	√	E-prints
CIFRI	√	Dspace
IACS	√	Dspace
IICB	√	E-prints
ISI	√	Dspace
SINP	×	×
SNBNCBS	√	Dspace
VECC	√	Dspace
<b>Total</b>	08	--
<b>Percentage%</b>	88.88	--

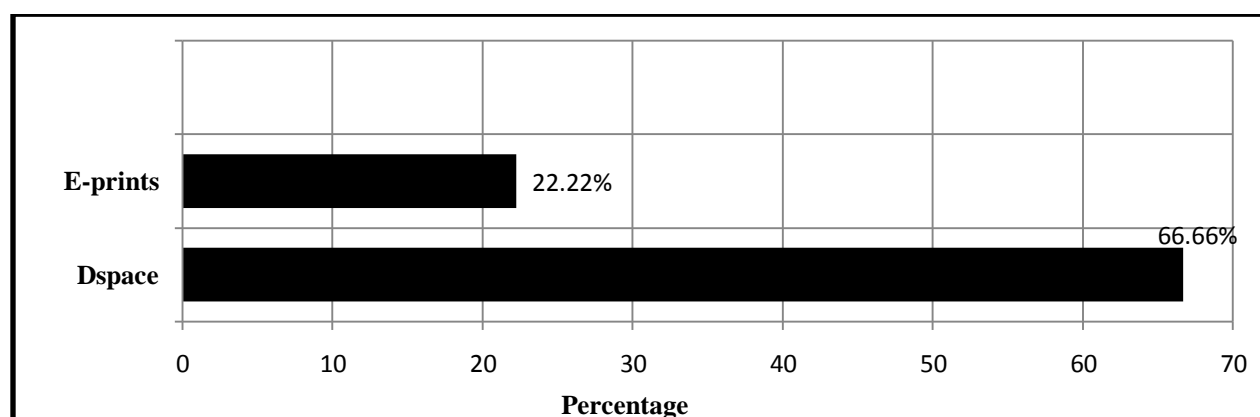
**Figure 1: Distribution of Institutional Digital Repository Software of R & D Libraries****Authentication of users for accessing e-resources**

Table 4 reveals the mode of authentication of users for accessing e-resources. All the R&D libraries use computer IP address to authenticate

authorized user whereas BI, IACS, ISI and SINP also use login-password method to authenticate authorized user.

**Table 4: Distribution of Users' Authentication Mode for Accessing E-Resources**

Name of the R&D Institutes	Authentication of Users	
	IP Address	Login Password
BI	√	√
CGCRI	√	×
CIFRI	√	×
IACS	√	√
IICB	√	×
ISI	√	√
SINP	√	√
SNBNCBS	√	×
VECC	√	×
<b>Total</b>	09	04
<b>Percentage (%)</b>	100	44.44

## Access of E-Resources

Table 5 reveals the mode of access of e-resources by the libraries of R&D Institutions. Maximum R&D libraries have implemented LAN and Wi-Fi facility within the campus. So user can

access the subscribed e-resources from anywhere within the campus. BI, IACS, ISI and SINP also provide passwords to faculties so that they can access the e-resources from outside the campus.

**Table 5: Distribution of Access Method of E-Resources in R & D Libraries**

Name of the R&D Institutes	Access in the Campus	Access in the Campus through Wi-Fi	Remote Access using User Name and Password
BI	√	√	√
CGCRI	√	√	×
CIFRI	√	×	×
IACS	√	√	√
IICB	√	√	×
ISI	√	√	√
SINP	√	√	√
SNBNCBS	√	√	×
VECC	√	√	×
<b>Total</b>	09	08	04
<b>Percentage (%)</b>	100	88.88	44.44

## Network Infrastructure for Accessing E-Resources

Table 6 shows the network infrastructure of nine libraries of R&D institutions to access the subscribed e-resources. All the R&D libraries have separate server dedicated for library and have LAN connectivity to all the computers within the campus.

Further, all the R&D institutes are the nodal points of National Knowledge Network (NKN) which provide the additional internet link with capacity of 1GBPS to share intellectual property. Besides, all the respondent librarians have confirmed that they have sufficient internet speed for accessing of e-resources.

**Table 6: Distribution of network infrastructure in the libraries of R&D Institutions**

Name of the R&D Institutes	Network Infrastructure			
	Separate Server for Library	LAN facility in the Campus	Whether Speed of Internet is Sufficient	Member of NKN
BI	√	√	Yes	√
CGCRI	√	√	Yes	√
CIFRI	√	√	Yes	√
IACS	√	√	Yes	√
IICB	√	√	Yes	√
ISI	√	√	Yes	√
SINP	√	√	Yes	√
SNBNCBS	√	√	Yes	√
VECC	√	√	Yes	√
<b>Total</b>	09	09	09	09

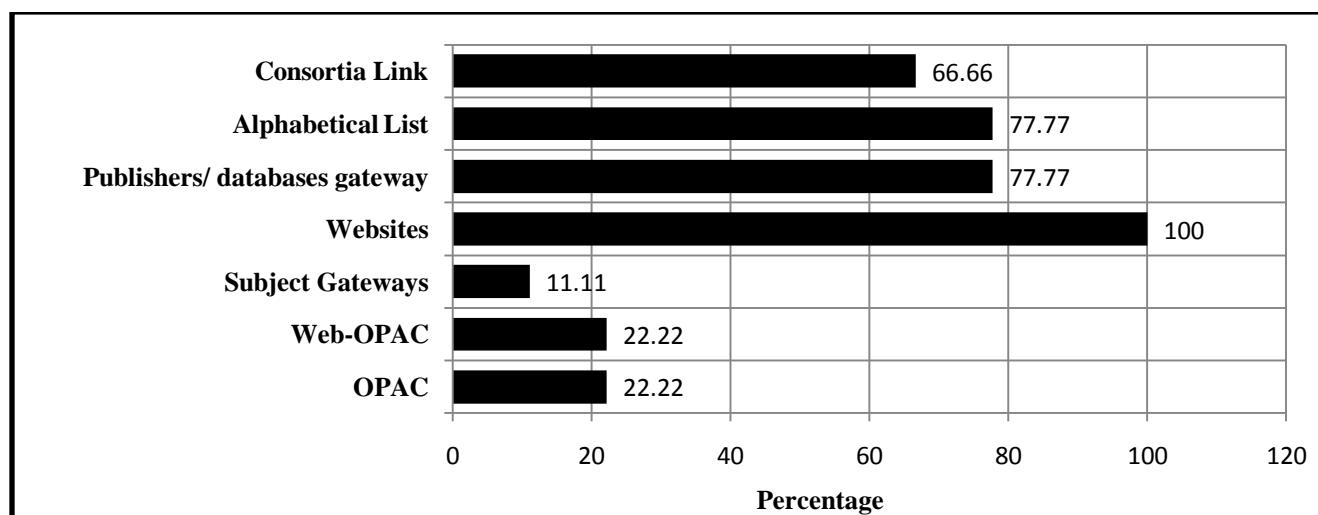
## Promotion of E-Resources in the Libraries of R&D Institutions

It is evident from table 7 and figure 2 that all the R&D libraries (100%) promote their subscribed and available e-resources to users through the library website. Further, seven (07) libraries (77.77%) used

‘Publishers/ databases gateway’ and ‘alphabetical list’ methods in the library websites to promote e-resources to the users. This is followed by ‘consortia link’ method with 66.66%. Only SINP and ISI also provide OPAC and Web OPAC service to promote e-resources.

**Table 7: Distribution of Promotion Method of E-Resources in R & D Libraries**

Name of the R&D Institutes	Promotion of E-Resources						
	OPAC	Web-OPAC	Subject Gateways	Websites	Publishers/ Databases Gateway	Alphabetical List	Consortia Link
BI	×	×	×	√	√	√	√
CGCRI	×	×	×	√	×	√	√
CIFRI	×	×	×	√	×	×	√
IACS	×	×	×	√	√	√	√
IICB	×	×	×	√	√	√	√
ISI	√	√	√	√	√	√	√
SINP	√	√	×	√	√	√	×
SNBNCBS	×	×	×	√	√	√	×
VECC	×	×	×	√	√	×	×
<b>Total</b>	<b>02</b>	<b>02</b>	<b>01</b>	<b>09</b>	<b>07</b>	<b>07</b>	<b>06</b>
<b>Percentage%</b>	<b>22.22</b>	<b>22.22</b>	<b>11.11</b>	<b>100</b>	<b>77.77</b>	<b>77.77</b>	<b>66.66</b>



**Figure 2: Distribution of Promotion Method of E-Resources in R & D Libraries**

## CONCLUSION

The present study reveals the management and promotional methods of e-resources practiced in the R & D libraries of Kolkata city. Libraries now need new guidelines to address the new issues and challenges of building an effective e-resource

collection. To cope up with the technological developments of the present centuries, all the R & D libraries adopted technologies to manage e-resource collections. Maximum R & D libraries have maintained institutional digital repository (IDR) for



dissemination its intellectual output and used system IP address to authenticate authorized e-user. Users' can access e-resources in the campus through networking facilities with sufficient internet bandwidth but off-campus access is yet not implemented in the libraries by installing remote access software like Athens, Shibboleth or EZproxy software. Remote access softwares should be installed and implemented immediately so that remote users' can be authenticated and authorized through easy single sign on (log in) method to access the e-resources. Besides, for effective usage of e-resources, discovery services may be implemented so that the library resources can be explored using single interface to multiple resources based on using a centralized consolidated index.

Librarians must not only authenticate and facilitate access to electronic information resources; but also need to educate library users about how and where to access them. All the R & D libraries use library website and other methods for promoting available e-resources. Newer methods by using Web 2.0 technologies which include Blogs, Facebook, Wiki, RSS alerts should be implemented to bring the information for the personal attention of the user. Along with newer technologies, traditional methods such as launch events, personal visits, orientation programmes, printed brochures and posters do create awareness and should also exercise to provide the much needed publicity. Finally, the impact of promotional activities needs to be measured regularly by examining usage statistics, surveys and conducting user meets [4]. These managerial issues must be addressed for effectively manage and promote the competitive virtual environment.

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