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Digital Best Practices in RIE Bhopal Library: Engaging Users with Transformative Library Solutions during Covid-19 Pandemic

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Abstract

Pandemic COVID-19 has severely affected all walks of life for last two years and still continuing. During the pandemic academic libraries played an important role in providing resources and services to students and teachers using digital technologies in innovative ways. This paper highlights how the digital best practices followed by the RIE Bhopal library came into force in providing various services to its users during the crisis time. The paper also describes the best practices followed in the Institute library for providing various services to users at home with the hardware, software, Internet and social network platforms available in the Institute library system. Among the best digital practices of the library, use of Open Source software in different operations, remote access to e-resources, Digital Document Delivery Service, e-mail alert service, Institutional Repository, etc. are a few. Decade long use of technologies experienced to say that the innovative ways of using digital technologies increases the quality of services, sets benchmark and ultimately brings elevation in the image of the library among the user community. In time to come, these digital best practices will definitely help the Institute library and motivate other libraries to meet the information requirements of users in best possible way.

Keywords: Digital Best Practices, Academic Libraries, Innovative Library Services, Library Services Quality, Quality Enhancement, Digital services.

Introduction

Since the outbreak of pandemic in mid 2019 due to spread of ever dreaded SARS family virus COVID-19 in the human history, all walks of life across the world has come to a grinding halt. Apart from this pandemic situation libraries have also been constantly worrying about the decline in the number of users and how they can justify their budgets. Studies by the Association of College & Research Libraries (ACRL) show that academic libraries are facing ever increasing budget cuts, and the prospects for reference desk staffing continue to decrease, but libraries must continue to give their patrons what they want (Dubnjakovic, 2012). Academic libraries in the digital age know that they cannot ignore digital technologies and digital materials for justifying loose in service due to budget crunch. In higher education the academic library has to support the academic, research and development and its functions are to help users to identify and access resources for research and academic purposes. Once, the most widely used academic libraries are now forced to adopt and adapt transformative IT solutions in their operations for serving the user community online at home.

Accrediting agencies in India such as NAAC, AICTE, NIRF, and NBA are very much concerned about the quality of higher education and the optimum use of library and information resources. Quality collection, quality of services, ICT integration, benchmarks and best practices adopted by the academic libraries are the main concerns of these agencies. Best practices will help to improve the quality of library services. “The best practice improves users’ maximum utilization of the library resources” (Sathe, 2015). The library needs to adapt innovative ideas to impress the users, which can facilitate them to use library collections (Panneerselvam, 2014). Doug Crane envision, “the library system would make such an incredible impact in the community that people just naturally know the modern value of a library beyond childhood nostalgia and what it’s done to shape the community in the digital age” (Crane, 2021). In addition to the routine activities some best practices can be adopted and persistently practised in the academic library systems for the quality enhancement. RIE Bhopal Library has been constantly exploring innovative methods to meet users' information needs by improving efficiency and simplifying work processes through digital technologies.

Definitions of Best Practices

Best practices are considered continuous improvement tools for products, processes and services of an organization, but the concept ‘Best Practice’ has been defined and described by many in their own terms but with central theme being the same in all definitions.

ODLIS (Online Dictionary of Library and Information Science) describes best practices as “In the application of theory to real-life situations, procedures that, when properly applied, consistently yield superior results and are therefore used as reference points in evaluating the effectiveness of alternative methods of accomplishing the same task. Best practices are identified by examining empirical evidence of success” (Reitz, 2021).

Oxford English Dictionary describes “Best practices as quality of most excellent or desirable type or most appropriate, advantageous, highly improved, outstanding, par excellence services or the customary or expected procedure or way of doing something that is usual or expected way in a particular organization or situation, guidelines for good practices. In this process of developing best practices we take action rather than good ideas, and we improve our skills” (Simpson, Weiner & OED, 1989).

“Best practice is a method or technique that has been generally accepted as superior to any alternatives because it produces results that are superior to those achieved by other means or because it has become a standard way of doing things. Best practices are used to maintain quality as an alternative to mandatory legislated standards and can be based on self-assessment” (Wikipedia, 2021).

Digital Best Practices

Digital best practices combine a variety of skills, processes and technologies to provide a better user engagement, experience, conversion rate, and retention rate. The organization's "digital best practice" may be to use the best digital technology and digital professionals to

serve clientele in specialised way. The digital best practices in library adopt and execute digital media in various library operations and services for users. Digital best practices introduce digital technologies to modern libraries and information centers, enabling them bring improvements their activities, enhance the utilization of resources, and provide value-added services to their users.

RIE Bhopal Library Profile

Regional Institute of Education (RIE), Bhopal, a constituent unit of National Council of Educational Research and Training (NCERT), New Delhi is one of the pioneer Institutes in the Western regions of India; offers interdisciplinary degrees in Science and Arts like B Sc. B. Ed., B A B. Ed, M Ed. and Ph D. Library of the Institute is called as Learning Resource Centre, was established in 1964 with the aim to provide right impetus for the intellectual growth of students, teachers and researchers. It holds knowledge resources predominantly related to the subject 'Education' and provides access to various information resources on and around the subject stretching to latest books, journals and audio-visual materials. At present the Library has around 72,000 print and more than 2000 e-books, 128 print and 130 e-journals, 4 CD-ROM and on-line databases, Infflibnet N-List consortium materials, more than 5000 dissertations and reports, and many other Open Access downloaded materials.

The library is developed in hybrid model with the most advanced technological applications. The library is now fully computerized with KOHA (LMS), DSpace based Institutional Repository (IR), RFID based circulation and security system, Joomla powered website and many state-of-art technologies. On-line Public Access Catalogue (OPAC) Kiosks facility is available in all halls of the Library and Web-OPAC access is through website. The library is member of national and International level networks like Infflibnet, DELNET, etc. Library resources and services are provided to its users through an integrated system connected to the campus network. The library provides various information services to support the learning process established in accordance with the highest professional standards. It strives to implement digital technologies in innovative way in library activities and services in accordance with the ever-changing needs of academia and continue as best practices.

RIE, Bhopal Library was bestowed with the award “**Academic Library of the Year – 2019**” by Madhya Pradesh Library Association (MPLA) for innovative use of the technology in its operations and services.

Digital Best Practices in RIE Bhopal Library

The institute library has followed many standardized innovative practices in the past few years. Efforts have been made to integrate technology into all aspects of library activities and services. The selected such practices are given below:

1. Use of Hardware

Alongside the usual computer technologies the RIE Bhopal Library also uses a variety of cutting edge ICT hardware for enabling itself to operate within modern digital environment:

SN	Technologies	Purpose	Quantity
1	State of art Servers	Library automation, Institutional Repository (IR) and Library Web-OPAC.	03
2	Biometrics system	For user attendance	03
3	Wi-Fi	Wi-Fi access points for library service access in mobile and laptops.	06
4	RFID (Radio Frequency Identification) technology	For automated circulation system and theft detection.	A set
5	High-end Scanner	Digitisation and OCR of documents for Institutional Repository (IR)	01
6	Text Reading scanner	Inclusive instrument for reading printed and hand written text for visually impaired.	01

2. Use of OSS

In present IT days Open Sources Software (OSS) are gaining immense significance in the management of all sectors due to the prolific features like access to the source code, free by cost, global support community, and user friendly. The use of OSS tools in library management is an increasing trend. Implementation of OSS provide library a dynamic and cost effective solution for managing large volumes of content and serving divergent user groups effectively without depending on the authority. For library management open source software are available in the areas like; basic operating system (Linux family), Library Management Software (KOHA, NewGenLib, etc.), Digital Library software (DSpace, Eprint, etc.) and many more. RIE Bhopal library has explored and effectively implemented open source software in its various activities and services as given below:

SN	Library operations/services	OSS used
1	Computer Operating System	Ubuntu (18.04)
2	Library Management Software	KOHA (20.05)
3	Institutional Digital Repository	DSpace (6.3)
4	Library Website (CMS)	Joomla (3)
5	Discovery tool	VUfind (7.0)
6	Subject guide	Subject plus (4.0)
7	Bar coding	ID automation
8	Publishing Journals	Open Journal Systems (OJS)
9	Mobile App	Android Studio (BETA Version)
10	Reference Management Tools	Mendeley and Zotero

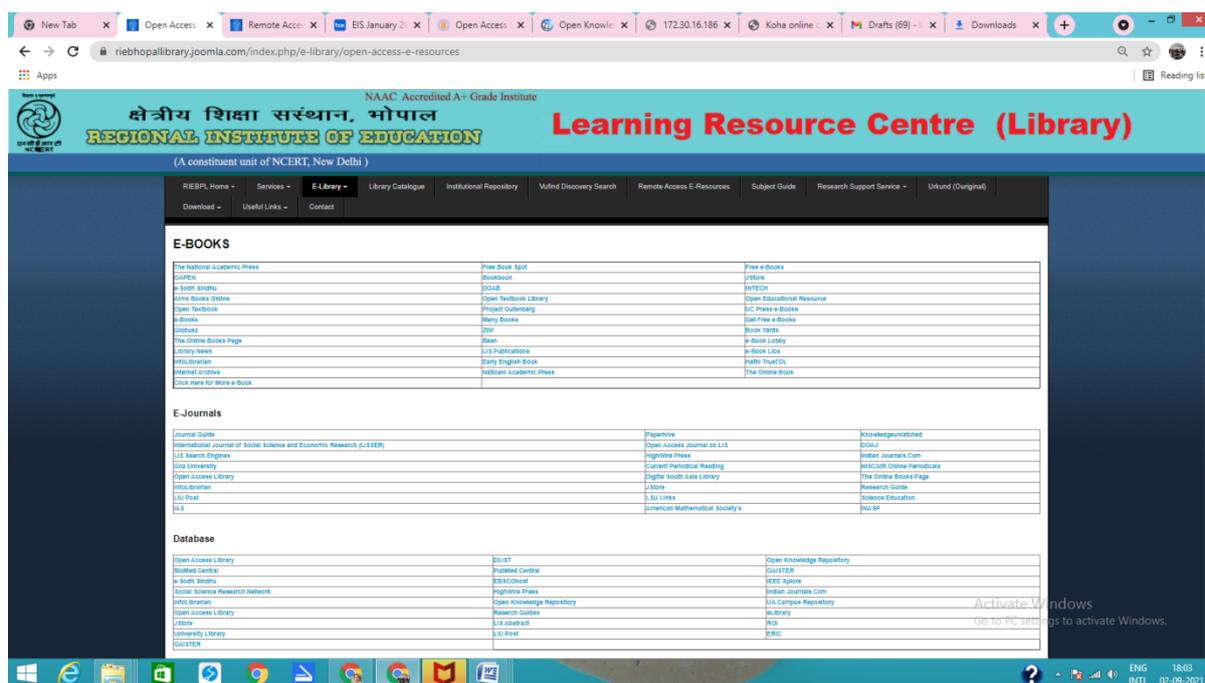
3. E-Library Collection by Subscription

Since the year 2001 the RIE Bhopal library has been emphasising on development of non-print reading materials in its collection. The subscribed e-library collection (books, journals

and databases) of the Institute library consists of the e-resource bundles purchased on multi-user perpetual access basis from different publishers and aggregators like SAGE, EBSCO, Pearson, KopyKitab, and others. The Institute library becoming member of member of national level consortiums like UGC Infflibnet N-List, DELNET, and others have access to e-contents that constitute a good part of the library's e-collection. Apart from online collection there are about 3000 books in CD/DVDs and audio books in cassette form.

4. Collection development using OA resources

Though the parent organisation, NCERT is giving more importance to the library and allotting huge amount for spending on purchase of library resources, still that is not sufficient to meet the requirements of users. Alternatively, going for Open Access resources in the Web to substitute the library collection is for strengthening the services that meet the demands of users. Open Access e-books, e-journals, Electronic databases, ETDs, are the widely used e-resources in the library. Major sources used for accessing Open Access resources are Open Text Book Library, DOAB, DOAJ, OAPEN, Project Gutenberg, ERIC, Google books, DLIST database, PubMed Central, Open Thesis and many others. Users can have access to all these Open Access resources by visiting the library website under the menu e-resources or at the link: <https://riehbhoppallibrary.joomla.com/index.php/e-library/open-access-e-resources>



Note: Web-linked Open Access e-resources given in the Library Website

5. E-book cataloguing and hyper-linking

Meta data of library subscribed e-books have been incorporated into the print book catalogue in KOHA platform and made visible to public through OPAC and Web-OPAC with the dedicated link (URL) of the e-book for access. Through this practice on-line catalogue is made user friendly; users can search for the e-books along with print books through OPAC and can also have the access to the full-text version of e-books.

6. Book Content Analysis and Keyword Assignment

Content analysis is a constant practice of the library for last two decades, through which the contents of each book, print and e-book, analysed and on each chapter appropriate keyword is entered into the subject/keyword field of the data sheet in the cataloguing module of KOHA LMS and by term contents of each book is visible to users at OPAC/Web-OPAC and the entire content is converted into searchable mode.

7. User-Centered Services

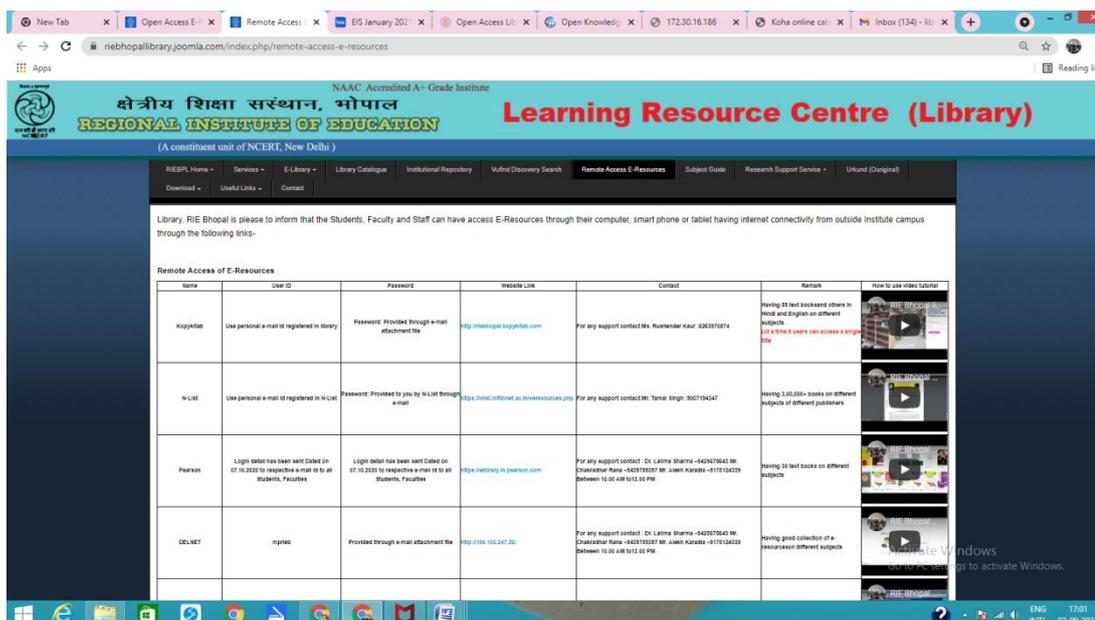
Apart from regular services the Institute library has introduced certain specialised IT based services keeping in view specific user groups.

- a. CAS Services:** The decade old Current Contents Service of the Institute library in the form of Table of Contents (ToC) of journals in the name Education Information Service (EIS) and a list of New Arrival of books and journals are being published online by the library on monthly basis. Table of contents compiled each month is digitised before circulating among faculties and uploading to cloud site (BOX.COM) for embedding to the different library Internet platforms; Library website, facebook page, twitter site and LinkedIn network. Users can have this Information service visiting either of these web and social network platforms.
- b. SDI Services:** Selective Dissemination of Information (SDI) is a specialised library service to keep a user informed about the new resources on specific topics of interest. Institute library introduced Selective Dissemination of Information (SDI) service in 2018 especially for the faculty members. Faculty profiles have been developed and regularly updated by collecting the area of research assigned to faculty members by Programme Advisory Committee (PAC) of the parent body NCERT, New Delhi. A dedicated staff engaged for the purpose searches for research papers on the topics of each faculty in SAGE Education Collection (database), other online journals subscribed in library and OA databases; and sends through e-mail to concerned faculties.
- c. E-mail alert:** The RIE Bhopal library has registered the mail IDs of all faculties and students in KOHA Library Management System. The purpose of this service is to provide information on issue/return transactions made by users in library, sending documents through Digital Document Delivery Service (DDDS), keep them updated with the information on new arrivals, new services, new technologies, important updates in education sector etc. Book transaction details are communicated to the users through system generated e-mail alerts in real time.

8. Pandemic services

During COVID -19 pandemic the Institute library tried to utilise available IT infrastructure of the library to serve the students at home. Some of the initiatives are:

- a. **Online orientation** – Orientation is one of the best practices of RIE Bhopal Library to create awareness among the students about the library. By means of conducting regular user orientation programmes at the beginning of the academic session newly enrolled library users are get acquainted with the library system, resources, facilities and services. Due to Covid-19 pandemic, as students are virtually using the library, orientation programmes are being conducted online since 2020. Awareness among new students increases about the different types of documents, e-resources, services, digital library facilities, different ICTs used in library, library rules, library times, membership procedure etc. through on-line library orientation. Apart from these, hands-on training sessions for teachers and researchers on information retrieval techniques are conducted throughout the year as per their need. The aim is to refurbish their knowledge on latest innovations in library, how to discern what is a good information source, how to use new technologies and ultimately to help them to use the library maximum.
- b. **Digital Document Delivery Service (DDDS)** - One of the innovative and valuable services offered by the RIE, Bhopal is the Digital Document Delivery Service (DDDS). After Covid-19 pandemic limits the library started implementing ICT based document delivery service using Internet to deliver desired copies of journal articles, book chapters and other documents after scanning from hard copy and converting into portable document format (PDF) to the desktops of library users.
- c. **Query based Service:** Although not exactly called Reference Service, Query based Service is one of the effective services of RIE Bhopal library for its users. The library staffs assist the users through online for accessing and retrieving information from e-library collection for academic and research purposes. If users are unable to find or retrieve information from the library subscribed e-resources they mail their queries to the library official e-mail ID for assistance. After receiving the mail the library staffs start searching for information on the query from library collection and professional networks like UGC Inflibnet N-List, DELNET, etc. and serve information within reasonable time. This service initiated during first wave of pandemic and continuing since then.
- d. **Remote access** – The library purchased e-resources from various dealers with the condition in License Agreement to provide remote access to the users and to manage the digital rights (DRM) of the contents at their disposal. Expedient e-resource online access anywhere anytime; in classroom, in hostel, at home or on transit to get the materials when and where users need; is the purpose behind remote access facility of the library. E-resource suppliers have their own peculiar remote access policies different from each other, but enrol the Institute library users and provide the access details to them through their e-mail IDs separately. Content access and downloading restrictions varying from supplier to supplier are well taught to the users while providing library orientation. How to use instructional video tutorials have been prepared on each e-resource supplier and embedded to the library website at the URL: <https://riebhopallibrary.joomla.com/index.php/remote-access-e-resources>



Note: Video tutorials are embedded to the Library Website

- e. **Mobile App based services** – The Institute library always takes initiatives to introduce innovative methods to reach its users online to save their time. Library App is a right approach for making the library accessible through smart phones. It is very well said “App is shorthand for application, or software that typically runs on a mobile device”. The library has developed its own Library App on an open source platform ‘Android Studio’ for Android smart phones users embedding all facilities and services of the library in GUI interface. Along with its own App two more Apps for library are also in operation - developed by e-book suppliers – M/s Pearson India and M/s KopyKitab (DigiBook Technologies) for access of their e-resources. Users have been informed about these Apps and their links for download in mobiles with user login methods.

9. Social Network use in Library

In academic library environment social networking sites are widely accepted networks where users can get up-to-date information in any area of interest. The Web 2.0 applications provide libraries with the opportunity to use innovative tools for information dissemination and two way communication with users. The RIE Bhopal Library uses the following social media tools to get connected with its users and provide them different services:

SN	Social networks	Services provided	Site address
1	Facebook	New arrival service, Current Contents, library events, etc.	https://www.facebook.com/Library-Regional-Institute-of-Education-RIE-Bhopal-India-175184902497312/
2	YouTube	Library orientation video, user guide videos, Library live events, etc.	https://www.youtube.com/channel/UC-QgzgfAVfThGbQY1Zv1o7A

3	LinkedIn	Circulation of scholarly contents	https://www.linkedin.com/in/libraryriebhopal/
4	Twitter	Keeping patrons updated on regular library activities	https://twitter.com/libraryriebpl
5	Instagram	Library photo sharing among users	http://shorturl.at/bACZ9
6	RSS Feed	Links back to the latest published content in Library website	https://rss.app/feeds/WTxY6yZAG077AiIU.xml

Note: *Links of all social media sites of RIE Bhopal library.*

10. One Stop Shop Library Website

Library website needs to be dynamic and informative; designed to showcase the facilities of any library system so as to save the time of the users. The RIE Library stores many different kinds of information digitally in the form of e-books, online journals, full-text databases, digitised institutional publications, OA resources, and many more; but that are scattered across different platforms, and accessible through different networks. Apart from e-resources library has developed a number of digital services for its users, which can be availed online. The library web site developed on open source Joomla platform facilitates single window access to various e-resources and web enabled library services. Starting from the access to all e-resources subscribed in library and open access, other facilities and services the Institute library website embeds are; ‘KOHA’ built library web-OPAC, ‘DSpace’ developed Institutional Repository (IR), ‘VuFind’ based discovery service, ‘SubjectPlus’ powered subject guide, access to ‘Ouriginal’ Plagiarism Detection Software (PDS), remote access details, institutional membership (DELNET, INFLIBNET etc.), Current Awareness Service (CAS), New arrival alert service, Selective Dissemination of Information (SDI) Service, research support tools, links of various social network sites of the library, and iconic access to a number of authenticated OER portals such as NDLI, NROER, e-Pathshala, DIKSHA, Vidyadaan, e-Adhyayan, and Shodh Sindhu. A user can shop everything available in the library once visiting the library website. The library website available at the URL <https://riebhopallibrary.joomla.com> acts as a gateway for the users to the world of information.

11. Web OPAC

The bibliographic information of print books and metadata of e-books are accessible through Web-OPAC link provided at the library website (<https://riebhopallibrary.joomla.com>). Remote library users without spending time to visit the library for minimum information about availability of a book can get the information through this online catalogue. The book-jackets of recently procured books in library are displayed at Web-OPAC site and also their metadata are accessible online.

12. QR Code Based Services

Quick Response Codes (QR Code) technology is widely used as a medium to deliver a message to end users in coded form. QR codes are two dimensional images that, when scanned by a smart phone's camera, prompt the smart phone to open a webpage or display an image, video, or text (Kumar, Chikkamanju and Mamtha 2014). Libraries use QR codes mainly for the purpose of promoting the information services among their users. QR codes have been created to link directly to the URL of the subscribed e-resources and services of RIE Bhopal library; and embedded to its website for easy and immediate access of users in smart phones.

13. Inclusive Library

“Education for All” is the newest teaching and learning movement over the concept specialised schooling system for disadvantaged children. “As democratic institutions, (public) libraries have an important role to play as agents for promoting social inclusion and must therefore guarantee citizens’ right to access information, culture and reading” (Cruz, 2018). Libraries have also transformed themselves accordingly and developed specialised collection and technologies within library in support of these disadvantaged students. RIE Bhopal library has also taken certain initiatives in this regard as:

- a. **Collections** – The Students with Special Need (SWSN) can get the print book read with the help of a text reading scanner installed in the Institute library that reads text written in 14 different languages in India and even hand written text. The library has a range of audio books in CD/DVD form that students use through screen reader software in multi-media PCs. Apart from that the e-library contains variety of such talking books in its collection selected from various Open Access sites like LibriVox, Loyal Books, Lit2Go, etc.
- b. **Facilities** – To support the differently able students the library has developed infrastructure. In a special corner multi-media computer with screen reader, head phone, text scanner and Internet connectivity are available to enable the visually impaired students to read the books themselves.

14. Institutional Repository (IR)

Digital objects are digital reproductions as surrogate of printed monographs exist in analog format; for an Institution the digitisation of its publications are its digital objects, which are invaluable. The National Information Standards Organization (NISO), USA has described digital objects as "equivalent conceptually to the items that may be found within library holdings, museum collections, and archival collections" (NISO, 2004). Institutional Repository is an online archive created for digitally storing and disseminating Institution's digital objects and other intellectual output for wider access. The RIE Bhopal library has developed the Institutional repository for Institutional publications on DSpace open source platform and keeps it updated in regular basis and makes it available online for everyone

through the link at library website. The digital objects are created in library following Digital Library Federation (DLF) Benchmark to be long-lived and high quality (DLF, 2002).

15. The Model Licensing Agreement

Academic libraries spend a good part of their annual budget on purchase of e-resources. As electronic resources grow up in library, they become more and more difficult to manage in acquisition and use, and some standard library management systems provide tools for contract management and licensing terms. Being different from the method of acquisition for print documents the e-resource acquisition process involves licensing agreement between library and the supplier as a legal commitment for both of them to abide by as no physical entity is dealt with except the access credentials for users like user ID/password, IP based activation, VPN based access or other access methods. The draft license agreement based on the standard terms and conditions is thoroughly reviewed and modified by e-resources providers and RIE Bhopal library incorporating negotiating points in license agreements with acceptable terms according to the RIE Bhopal conditions before final execution. In a decade span of dealing with e-resources the Institute library has never come across any breach of contract or legal dispute from either side for the reason of library's standard licensing agreement. The professional legal knowledge of the library staff in the background helped in preparing the model licensing agreement.

Conclusion

Developing digital best practices in RIE Bhopal library, analyzing and revising them at a regular interval has lead to continuous improvement in overall performance of the library. It is observed that new digital practices in the management of library activities could strengthen services for digital-centric academic community. The potential areas where library implemented innovative technologies like new hardware, Open Access software, free Content Management System (CMS), Internet and social network platforms and free discovery tool, emerged as the strong points of the library. The digital best practices of the library have created a complex and trustworthy image in the minds of students, teachers, and scholars of the Institute. The current digital best practices followed could strengthen the Institute library to sustain for future.

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