

Changing Digital Landscape in
SMART Environment

Editors

Dr. Rama Nand Malviya

K.P. Singh

Dr. Anubhav Shah

S.K. Dey

Mr. Murari Kumar

Upasana Yadav



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Prof. Kamlesh Mishra
Vice Chancellor



FOREWORD

It is my immense pleasure to note that conference has drawn widespread attention and an overwhelming response both in terms of participation and papers. I am sure that literature being published in the form of a pre-conference volume will help to examine as to whether libraries can reposition themselves as nerve centres of E-Governance & Digitalization programmes towards building smart libraries and capacities of common users so as to partner with an immensely popular public policy programme.

The world has seen an explosive growth in digital connectivity over the past few years, and knowledge trends over the coming years are expected to lead to even further expansion of communication and digital networks. Making adequate use of information, transforming it, and creating knowledge out of it requires competence and opportunity – both in terms of innovation and capacity development. Information and knowledge are, therefore, crucial assets of the knowledge economy. As custodians of knowledge in the digital age, libraries, data centres, information and knowledge centres have a pivotal role in driving organizational and societal innovation in the global knowledge society.

There is no doubt that by providing intellectual and social spaces and as access points, libraries can sensitise the user community about the appropriate use of information, through training, research and capacity building programmes. While ICT has the ability to bring dramatic change and transform government institutions, conference deliberations and paper presentations will certainly uplift the issue of libraries with a focus that supports not only information seeking and discovery but also community interaction and collaboration and leverage libraries towards building a just, inclusive and equal society through e-governance.

I congratulate the organisers of the conference, participants and authors of the papers for their untiring efforts in organising the conference so successfully and bringing out a well researched publication. I am sure that the conference Volume will significantly add value to the existing literature and will be welcomed by LIS fraternity widely.

Sd/-

(Prof. Kamlesh Mishra)

Sector: 55, GOLF Course Road, Gurgaon, Haryana 122003, India. T: +91-124-4750400/501 F: +91-124-47116411
W: www.ansaluniversity.edu.in E: info@ansaluniversity.edu.in

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Contact Us

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India

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Planning, Development and Management of a Digital Library: An Experience from Special Scientific Library

DD Lal

Officer Incharge for Library, National Brain Research Centre (Department of Biotechnology, Ministry of Science & Technology), Government of India, NBRC, NH-08, Nainital Mode, Manesar, Gurgaon, Haryana

ABSTRACT

In India a large number of national level institutions are digitizing their own information resources and some infrequent items. The Department of Biotechnology under Ministry of Science and Technology has also established Digital Library of India Initiative. The digital libraries in India comprise digitized collection of academic publications, like - Dissertations, theses, research reports, working papers and research papers other than infrequent books and manuscripts. All these digitized resources can be made available and accessible to the learners and researchers. An effort is made in this paper to define the concept of digital libraries alongwith their prospects and the future. This paper highlights the functions, objectives and development of digital libraries. The paper also covers the development of digital library initiatives in the National Brain Research Centre (NBRC), which is a special library as well as a Deemed University of the Department of Biotechnology. In this century various libraries are converted into digital libraries which can be more appropriate and help to fulfill their basic aims/objectives of preserving the national heritage, culture and research and as well as making it globally accessible by avoiding all constraints of time and space.

INTRODUCTION

The user of computers and computerization, information technology and digitization has been accepted globally by libraries and information centres in the world. It is also vital in the information and technology based society. The use of computers and computerization in information management opened the door to new ways of accessing, using and servicing in library and information centres.

The current day's library includes sophisticated tools and tasks that make it easy to find the best information resources, delivering them at PC computer, laptop or mobile device at the push of button. This is the main concept of digital libraries, virtual libraries or libraries without wall etc.

As we move towards the new millennium, it is observed that, the libraries find themselves in the problematic situation of having to maintain and extend traditional library services, and develop, implement, and upgrade online, electronic and networked based information services. Hence, there is a bigger demand on library services and facility of electronic resources in the libraries. They will translate the information needs into action to cater the diversified needs of user's community.

The Electronic and Digital Libraries have received wide attention in the recent years allowing access to digital information from anywhere or globally in the world. They have now become widely acceptable and preferred information sources in area of education, science and others. The speedy growth of internet and the growing interest in development of digital library related technologies and collection supported accelerate the digitization of printed documents in past few year.

CONCEPTION OF DIGITAL LIBRARY

The conception of digital libraries in the developed countries started during the 1970's, but in India it initiated in the middle - of 1990's with the advent of IT on a large scale and the support extended by the central government. The beginning of the internet acted as a compound for digital library initiatives. The basic aim of digital library initiatives in India has been to preserve the art, culture and heritage of the India.

In the 21st Century, libraries are expected to play an important role for supporting the country to keep up with information revolution, current expansion in information and communication technologies, i.e. Internet and web have brought essential changes of producing, distributing and accessing and using information. The idea of a digital library is not new but recent progresses have made the recognition of this idea more of practical possibility than ever before.

DEFINITION OF DIGITAL LIBRARY

Usually the term 'Library' refers to mere storehouse of information in paper form like books, journals, magazines, conference proceedings, annual reports, dissertations, etc. and also in other forms like films, film strips, audio and video cassettes, CDs, DVDs, Floppies, etc. But in the recent times traditional libraries are transforming into digital libraries. The term digital refers to any resources which in digital format or machine readable form which can be read, transmitted and scanned by means of electronic media. Therefore, digital library is warehouse of following electronic resources :

- a) Collection in which computer concepts of documents are created or converted into machine readable format for online access.
- b) Scanned images, photographs or printed text,
- c) Online database and CD-ROM information product particularly those which multimedia and interactive video components.
- d) Computer storage devices,
- e) Database accessible through Internet or other networks
- f) Digital audio, video clips or full length movies

Digital library is an information service in which all the information resources are available in computer processable form and functions of acquisition, storage, preservation, retrieval access and display are carried out through the use of digital technology. In is not restricted to the provision of information in text format, audio-video resources e.g. which can also be represented electronically. The resources in digital library can be in two forms i.e. those which are originally created in digital formats such as e-journals, data sets etc. and those which are non-digital resources such as manuscripts and prints that are subsequently digitized.

The Digital Library is a computer based system for acquiring, storing, organizing, searching and distributing digital materials for end users access. A digital library is not just a collection of materials in electronic form, it includes a browser interface and, perhaps a virtual space and society. It requires less space and data can be made available through communication networks to anyone anywhere.

In "Online Dictionary of Library and Information Science (ODLIS)" the digital library has been defined as "A library in which a significant proportion of resources are available in machine readable format as opposed to print or microform".

There are various definitions of "Digital Library" available but some of elements that have been identified as common to these definitions are as given below :

- The Digital Library is not a single entity.
- It requires technology to link the resources of many
- The linkages between the many digital libraries and information services are transparent to the end users
- Universal access to digital libraries and information services is a goal of many digital libraries.
- Digital library collections are not limited to documents surrogates : they extend to digital artifacts that cannot be represented or distributed in printed formats.
- In nutshell digital library is computerized information system where sources of information are stored in electronic format for retrieval, transmission and access to users locally or globally through network.

■ CHANGING ROLE OF LIBRARIES FROM TRADITIONAL TO DIGITAL

Libraries are playing a vital role in National development by providing information services to all kind of users such as researchers, faculties, students, policy makers, administrators and technocrats effectively and efficiently. But, current days environment has changed the concept of libraries and its functions. Currently, libraries have become centres of information dissemination with the help of computers. In this current era of Information and Communication Technology, libraries are sharing their resources with each other in order to avoid duplication of resources and to save enormous amount of print media. It is the need of the hour that traditional libraries may be converted in digital by converting their resources into digital formats or by acquiring information in digital methods. In this information age, users required information irrespective of format, time and location of information. Therefore, digitization of libraries is essential. The increased availability of CD-ROM products and electronic publishing activities have also attracted the library professionals to change their services from traditional to modern and to build a digital library for manipulation of their resources.

■ LIBRARIAN'S ROLE IN DIGITAL LIBRARY ENVIRONMENT

Librarian in 21st Century is predictable to play a vital role to suit the moving desires of tomorrow's information community. Traditionally, librarians have often organized the classified information in such a way that they can find the information on behalf of the user in the other words librarians has fulfilled physical role of adviser, interpreter and mediator for user's information needs. He should embrace the entire new information cycle from creation, restructuring and illustration of information to its propagation and use.

■ DIGITIZATION

This is the process of converting existing print version of library resources like books, journals, theses & dissertations, manuals, proceedings, reports, annual reports, etc. into digital or electronic or machine readable formats like CDs, DVDs, Magnetic Tapes and Diskettes etc.

The purpose of digitizing a document is to make the document more useful as well as more accessible. It enables user to conduct a full-text search an document that is digitized. The purpose of digitization is not to replace traditional library collections and services rather, it serves to enhance them.

■ OBJECTIVES OF DIGITAL LIBRARY

- To capture, store, organize and distribute information in digital from via, communication channels.
- To save time of library staff by avoiding routine jobs, and also save the precious time of users.
- To resolve the space problem of the library
- Acts as a comprehensive collection of library in digital form
- To share the digitized information in the emerging electronic library environment
- To provide library services 24X7 to the users with internet connectivity
- To reduce cost involved in various library operations
- To provide personalized and retrospective services to the users
- To introduced and provide new services to the users
- To emerge as a window for information consolidation and dissemination
- To provide facility for networking and resource sharing
- Users can reach to their desired results within three clicks so they can access the digital libraries more and more in their field of study.
- To provide easy access to documents to the users by the guided search through help messages.

■ TOOLS FOR DIGITIZATION

- Micro Computer (Server and PCs)
- Scanners
- Scanning Software
- Storage system and software
- Network
- Display system
- Printers

■ FUNCTIONS OF DIGITAL LIBRARIES

- The basic functions of digital libraries are :
 - Creation, capture, store, manipulate information and private access to a large collection.
 - Digitize documents for preservation and for space saving.
 - Make information available for a longer time
 - Maintain other routine office works and developing the house database
 - Supports all the library operations
 - To provide facilities for networking and resource sharing
 - Improve the cost effectiveness of library operations.
 - To provide extensive access control capabilities content owners to capitalized content owners to capitalized on their protected..

■ PLANNING OF DIGITAL LIBRARY

Planning plays a very important role in achieving desired goal particularly in transforming traditional library into digital library. Two ways of developing a digital library has been identified viz. converting traditional library into digital library and direct development t of digital library. Digital library planning includes:

- IT infrastructure planning
- Digitization of information
- Information access
- Manpower planning
- Furniture and space planning.
- Services
- Financial planning

■ BASIC COMPONENTS OF DIGITAL LIBRARY

These are the basic components for direct development of digital library :

- IT Infrastructure : Local library system, with adequate PC having LAN, Local databases in machine readable format, CD-ROMs provision to provide e-mail services, access to server and to remote databases etc.
- Networks : Including network of networks
- System Functions : A variety of system functions to coordinate, manage the entry and to retrieve data.
- Digital Collections : Information resources in digital format.
- Trained & Experienced Manpower : Component for converting traditional library into digital library.
- IT Infrastructure : Computers (Server and PCs), printers (Laser and Inkjet), Storage and Output Devices (CD-ROM, DVDs, CD-Tower, Scanners, Book Scanners etc.)
- User of imaging software with date compression and networks
- Professionals Skilled Manpower
- Storage Devices

■ ADVANTAGES OF DIGITAL LIBRARY

Digital information is economical in the sense that it is cost effective to acquire, store and save the data. Two important parameters to determine the effectiveness of digital information are given below :

- Improvement in the performance of library
 - Economy of digital information
- #### ■ FOLLOWING ARE THE ADVANTAGES OF DIGITAL LIBRARY
- Round the Clock Access : Accessibility anywhere anytime (University/College/School, Home, Libraries, Canteen, Campus, and during travel etc.)
 - Multiple Access : Provide access to more information than possible to physically acquire and maintain
 - Support Both Format and Informal learning.
 - Media Integration
 - Greater access to expensive and rare material
 - Greater opportunity for publishing

■ NATIONAL BRAIN RESEARCH CENTRE (NBRC) DIGITAL LIBRARY: A DEVELOPMENT

The NBRC Library has a characteristic responsibility to provide information services to support the educational, personal and economic endeavors of the researchers of

their respective fields to the individual mission. An important role of the NBRC library is supporting research works.

The NBRC Library is functioning as the information centre where information is collected and organized for the users and their needs, mainly life scientist, neuroscientists and doctors.

The aim is to build up a useful collection of documents and information, meeting present and future user needs and to develop the systems for information, meeting present and future user needs and to develop the systems for information retrieval and dissemination.

The NBRC library was primarily considered as small library having small collection of books for use of its institutional faculties and scientists, which was located at the building at "International Centre for Genomics and Engineering Biotechnology (ICGEB) Campus, New Delhi during the Year 2000.

The National Brain Research Centre has moved from ICGEB, New Delhi to the rented building in Gurgaon (at SCO 5,6 & 7) having three floors of building. The NBRC library was established progressively and NBRC got a 'Deemed University' status in the Year 2002 by UGC. Further the NBRC was shifted to its permanent building in the year 2009, which is located at Manesar in Haryana. Progressively, the NBRC Library fully-fledged developed in the term of collections, features; services and at present it is became most popular library among the DBT Institutions.



To achieve these NBRC library has following functions to discharge :

1. To identify users and their information needs
 2. To build up a strong collection reflecting the subjects in the field of specific interest, covering the topics of growing importance within the scope of broader disciplines and materials of reference and bibliographical nature.
 3. To facilitate information retrieval by developing circulation reference services
 4. To provide current awareness services.
 5. To prepare specific subject bibliographies
 6. To organize technical processing like classification and indexing of books and articles.
 7. To provide reprographic services like Xeroxing, offset printing and binding of in-house annual reports.
 8. To develop computer based integrated information system.
- The main responsibility NBRC library is to maximize users need satisfactions and to minimize time loss of the user. Increasing the internal efficiency of day-to-day work within the library can only do it.

The NBRC library has good collection of journals, books and other relevant research materials on Neuroscience, Biochemistry, Genetics, Molecular Biology, Immunology & Microbiology, Pharmacology and Toxicology, Psychology, Physics, Mathematics, Computer Science and General Subjects. NBRC Library was subscribing to many resources among of them 300+ are online, 68 are in the printed hard copy formats and others were free journals prior to the year 2009. The NBRC Library is also subscribing Newspapers, News Letters etc. The Collection of NBRC Library is growing day-by-day keeping in view the research and knowledge required in the field of Neuroscience and related areas.

■ CURRENT SCENARIO OF NBRC LIBRARY

This NBRC Library has a huge collection of journals, books, and other relevant research materials on Neuroscience, Biochemistry, Genetics, Molecular Biology, Immunology & Microbiology, Pharmacology and Toxicology, Psychology, Physics, Mathematics, Computer Science and General Subjects. The NBRC Library now currently subscribes to 1172 online journals through the DBT e-Library Consortium (DeLCON Consortium) and 16 additional journals. It also maintains digital archives and news clips about the centre and subscribes to Newspapers and News Letters. The Collection of the NBRC Library is increasing day-by-day along with new developments in research and knowledge in the field of Neuroscience and related field.



This library is fast becoming one of the leading digital library in the India. This library acquires documents, books, e-books, and e-journals along with CD-ROMs in different

areas of research field enriching the collection at its circulation desk. All bibliographic details of books, journals and information databases are accessible through the campus-wide network that facilitates easy access to journals and reduces the manpower requirement. This library acquires various scientific national and international journals in online format. This library associated and established inter-library loan arrangement with various national and international organizations for exchange the resources.

This library provides access to the most current reference sources available in order to ensure the accuracy of information. It also been providing electronic access to subscribed journals throughout the campus and maintains digital archives and newspaper clippings about the centre.

This library uses a LSEASE software for automation & library services. A technology of barcode has been adopted for accurate and speedy circulation and the management of its documents. The following library operations viz. administration, acquisition, circulation, serial control cataloguing and information retrieval also be used through this software. The collections of NBRC was digitized and provided full access to the users.

Making the right information available to the right person at the right time is the aim of NBRC library services. The main goal of NBRC library is to provide the mechanisms and means for efficient handling, transfer, storage and retrieval of information to its users.

■ AREA OF ACTIVITIES OF NBRC LIBRARY

1. Book acquisition / procurement services
2. Cataloguing and Indexing
3. Serial Control : Acquisition / Subscription of Periodicals
4. Information Retrieval and Its Dissemination
5. Selective Dissemination of Information (SDI) Services
6. Current Awareness Services (CAS) Services
7. Inter Library Loan Services
8. Resource Sharing Services
9. Circulation Services
10. Library Administration and Management
11. Reference Services, Bibliographic services
12. Network / Internet based information searches : Providing services to Network Centres.
13. CD-ROM Databases
14. Desktop Publishing (DTP) works
15. Indexing and Special Services
16. Office Automation
17. Collects, maintains, stores and retrieves information and data, keeping in the view the evolving needs of its researchers
18. Online Public Access Catalogue (OPAC)

■ NBRC LIBRARY SERVICES

The services rendered by NBRC library are:

- **Online Public Access Catalogue (OPAC)** : The library has OPAC which is a powerful search engine for searching library's holdings database.

- **Issue of Books/Journal Volumes** : Users may borrow books and journals for a stipulated period.
- **Reference Service/Assistance** : Reference queries from users are answered over telephone, email or in person. While general queries are answered by the staff at the desk, specific queries regarding books or journals could be referred to with personnel of the concerned.
- **Inter-library Loan**: The library has an inter-library loan arrangement with all important Network institutions of India. The books/journals not available with NBRC could be arranged from these institutions for a short period.
- **On-line Databases** : The library has provided access to over 300 on-line journals. Library also has access to some of the back files, from Volume 1, Issue 1. A link for these journals is available through library home page. The library has full text databases such as Science Direct, Annual Reviews, Nature Publishing Groups, JBC, Blackwell Publications Online. It also has bibliographic databases.
- **CD-ROMs**: Library, for the use of NBRC Scientific Community and IT Community, has more than 300 CDs. The CD's contains various electronic information resources such as Scientific Information which coming alongwith the Scientific books and Scientific Journals, and some are with Magazines etc.
- **Multimedia resources** : Library has a collection of audio-visual materials. Users can make use of these preferably after normal working hours.

The NBRC Library has setup 22 IBM PC-Pentium-IV Computers with ISDN Internet facility in the common room to provide services for use of researchers and students at NBRC. The Library provides access to the most current reference sources available in order to assure the accuracy of information. The Library has been providing electronic access to the subscribed Journals within campus portal. It is maintaining digital archives and clippings off the centre.

A total of 245 registered users including Scientists, Researchers, students and other staff use the NBRC library facilities. The NBRC Library also provides the services of "Inter Library Loan" to the 48 Networked Centres at all over India. The researchers, scientists and students send their requirement for research material or journal articles through email to NBRC Library (library@nbc.ac.in) and staff of library download the articles / papers / information and send the same to the requestors free of cost. The library entertains an average of approximately 458 articles every year and such requests are increasing.

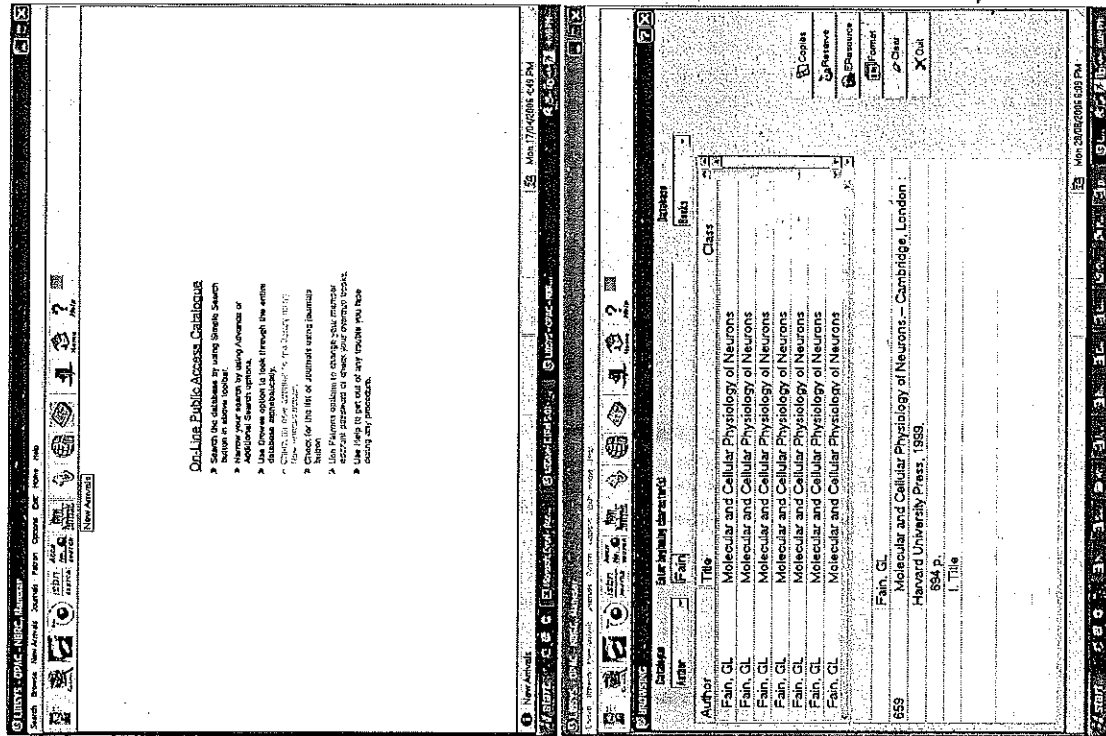
The NBRC Library regularly evaluates its information services to ensure that the Institution's requirements are met. The Library promotes resource sharing and cooperation activities amongst libraries by providing efficient and reliable means of resource sharing. It does this by providing inter library loan for maximum users of resources, and copies of the documents that are not available in their respective libraries.

OPAC AND ITS USE AT NBRC LIBRARY

The NBRC Library, which is using LIBSYS automation software for the development of its database its maintenance and user service of its documents, holdings, of books, periodicals, back volumes, audio-video materials, thesis, dissertation, CD-ROM etc, using LIBSYS automated system.

Here, NBRC users generally come to the library with a hope to get their required documents with an easy and simple away and without loosing much time. The OPAC

systems with its various retrieval facilities (i.e. Author, Title, Subject etc.) make their effort easy to find out a document with a limited time span and with an expected scientific away. The modern and up-to-date system with quick response makes users more and more dependent to the system spending more time.



The screenshot shows a search interface with the following details:

- Search Criteria:** Subject: Neuroanatomy
- Results:** 3 items found.
- Item 1:**
 - Title: Functional Neuroanatomy: An Interactive Text and Manual, Wiley-LISS (A)
 - Author: Joseph, JT
 - ISBN: 0-471-44437-5
 - Publisher: John Wiley & Sons Inc., 2004.
- Item 2:**
 - Title: Functional 2, Neuroanatomy 2, Interactive, J. Cardoso, DL II, Title
 - Author: Joseph, JT
- Item 3:**
 - Title: Functional Neuroanatomy: An Interactive Text and Manual, Wiley-LISS (A)
 - Author: Joseph, JT
- Database Search Results Table:**

Title	Author	Year / Available
Atlas of Neuroanatomy	Shannon, R.C.	2004 / 1115
Brain Emergencies & Neurological Activity: Applications to Neph and Medicine	Shannon, R.C.	2004 / 1108
Correlation Cases: Vol. 10: Primary Visual Cortex in Primate	Pearse, A.	1994 / 1107
Correlation Cases: Vol. 15: Primary Visual Cortex in Primate	Pearse, A.	1994 / 1101
Correlation Cases: Vol. 11: The Barrel Cortex of Primate	Jones, Edward G.	1995 / 1123
Correlation Cases: Vol. 14: Neocortex: Cytoarchitectural and Age-Related Changes in N...	Pearse, Alan W.A.	2003 / 1113
Dictionary of Neuroanatomy	Nelson, David	2003 / 1111
Dictionary of Physics	Rijssenbilt, Verste	2000 / 1110
Dictionary of Science	Expington, J.	1999 / 1111
Drug Discovery for Nervous System Diseases	Phan, F.F.	1995 / 1126
Drug Discovery for Nervous System Diseases	Phan, F.F.	2005 / 1107
Foundations of Psychopathology	Larson, Bruce G.	2001 / 1105
Genetics, Mind and Culture: The Evolutionary Process	Lummaa, Charles J.	2002 / 1092
Genetics, Mind & Culture: The Evolutionary Process	Lummaa, Charles J.	2002 / 1092
The Dictionary of Biological Images	Phan, F.F.	2005 / 1103

The NBRC users basically come to the library to get their required documents with the "Author name", "Title" and some times only with "Subject" Headings. Therefore the demand of Author is coming first. Here surname of the author is using to find out a specific document. Hence demand of the Author catalogue is more than that of the others. The first few words of the surname is sufficient to get the exact author name from the index. If there is more than one title by the same author then the particular title has to be highlighted and

then press enter to get details of bibliographical records. The same technique is also using to select through 'Title' & 'Subject'.

Thus, OPAC system is playing a significant role in information retrieval in the NBRC library. It guides users to get the book from the book stack or journal from the display rack but also helps users to get all kinds of information for the subject or research jurisdiction. Here OPAC can be accessed from the whole campus through LAN systems.

■ UP-GRADATION AND MAINTENANCE OF NBRC LIBRARY

The maintenance and up-gradation was very crucial part of NBRC library without adequate and maintenance and up-gradation NBRC library will not be able to extract the benefits of the automation. The detailed issues of up-gradation and maintenance of NBRC library was as given :

- Library data-base and software maintenance.
- Routine indexing and integrity checking.
- Correction of data-base records having errors.
- Deletion of bug records that cannot be corrected and re-entry of correct records.
- In case of major corruption, entire data-base of previous date to be reloaded.
- Indexing and up-gradation of OPAC data-base to provide better such facility to users.
- Maintenance of master data-base for duplication records, record having bug entries, spelling, mistakes, etc.
- Generation of number of statistical reports and general report to verify the data-base and provide support to library needs.
- Training to staff on the operation and use of package so that functional mistakes can be minimized.

The NBRC Library provides 24X7 reading facilities, reference room, video conferencing facilities, online Electronic Journal full text access facilities, book section, Internet access facilities, and reprographic facilities to its users. The aim of this library staff is to serve with outstanding services to its users as well as all connected organizations.

The NBRC library ensure that the Institution's requirements are met. It also promotes cooperation among different institutional libraries by providing an efficient and reliable means of resource sharing that it, the inter-library loan facility to maximize resources and provide copies of documents that are not available in other libraries.

The NBRC library is an automated open access library system, which is kept open all year round. The main aim of the NBRC library staff is to provide excellent services to the scientist, researchers, research associates and students of NBRC and all centres associated with the Institute. A library committee supervises it.

Now, the NBRC Library is a nodal centre for the DBT's Electronic Library Consortium as well as became a very prestigious Library in the India and it is the role model for the all DBT Institutions.

NBRC library caters adequately to the institute's research and teaching activities. It is also open to other academic users for reference. It has proves to be a role model for other libraries and was prominently displayed and discussed on the website of the "International Brain Research Organization (IBRO)".

■ IMPACT OF DELCON CONSORTIUM AT NBRC

Prior to the DeLCON consortium, the NBRC was subscribing only 300+ online journals and approximately 68 print journals. After functioning of the DeLCON Consortium the NBRC has discontinued maximum online journals & print journals as the NBRC is currently getting access to 1172 resources through DeLCON Consortium. Those which were not covered under the DeLCON Consortium the NBRC currently subscribed prime journals through Institutional Budget. Due to DeLCON Consortium the library budget has been saved by the NBRC and those budget utilized for other research works. A wide range prime journals have been covered under DeLCON Consortium, which fulfilled the requirements to the NBRC Scientists & researches in their research areas. The DeLCON resources supports to improve the development of the NBRC in the terms of quality of research works as well as publications. It would not be possible for any single institution to negotiate better terms for subscription, archival access and preservation of licensed e-Resources, which the DeLCON Consortium currently providing with lower cost, suitable terms and a wider range of journals to member Institutions.

■ COOPERATION AND COORDINATION WITH THE OTHER INSTITUTIONS AND THEIR LIBRARIES

The NBRC coordinate with all the 14 DBT Institutions & 18 NER Institutions which is a major network group for resource sharing and all these institutions agreed to share their resources hence cooperation and coordination with other Institutional Libraries has been increased, which benefitted to faculties, Scientists and library staffs. The DeLCON Consortium had reduced the workload & burden of the NBRC Library, hence the Library staffs getting sufficient time to deliberate other library activities and other services.

■ FREE DOCUMENT DELIVERY OF NBRC LIBRARY THROUGH THE DELCON CONSORTIUM

The most important feature of the NBRC library facility is the concept of digital library since inception. Through online the NBRC provides free of cost, references, papers, full text articles, copies of reprints of relevant literature from the DeLCON resources to users all over India. The NBRC serve & help more than 48 Network Centre in all over India through "Inter Library Loan (ILL)" services for their research works. Faculties, Researchers & students at various centres requests their requirement for research materials or journals articles through email to NBRC, and NBRC provide them free of cost.

■ ACTIVITIES DONE FOR THE DELCON CONSORTIUM BY THE NBRC

Role And Responsibilities of NBRC

The National Brain Research Centre (NBRC) play a role as a nodal agency for implementation, monitoring and execution of the entire DeLCON Consortium programme through the constituted committees. The NBRC coordinates with all the activities concerned with negotiation, renewal of subscription of e-resources and subsequent trouble shooting on behalf of the DeLCON Consortium. The NBRC also endorses cooperation amongst member institutions and enables better terms of references for use and preservation of subscribed electronic resources.

Here is the responsible of the NBRC as a Nodal Centre for furnishing the following tasks:

1. Managing the "DeLCON Consortium" since inception (i.e. from the Year 2009), which is National Biotechnology Consortium.
 2. Coordinating meetings of its various Committees (such as Steering Committee Meetings, Review Committee Meetings, Negotiation Meetings, DeLCON Nodal Officers Meetings, SFC Meetings, Audit & Budget related meetings etc.).
 3. Constitution of National Steering Committee and National Negotiation Committee through Department of Biotechnology (DBT);
 4. Negotiating rates of subscription and its terms and conditions with the publishers;
 5. Managing whole DeLCON funds and arranging required budgets from the DBT as well as releasing funds to publishers.
 6. Ensures IP-based access of subscribed e-resources to beneficiary Institutions;
 7. Attend to the problems faced by member institutions and liaise with publishers to resolve such problems;
 8. Managing administrative credentials such as username and password for the DeLCON Consortium and its members.
 9. Develop tutorials and promotion materials, impart training and technical support to member Institutions;
 10. Propagate the Consortium amongst other Institutions; other Ministries / Departments encouraging them to avail the benefits of the national initiative through ILL services & resource sharing for research works;
 11. Extracting, arranging, evaluating subscribed e-resources and monitoring its usage statistics regularly and analyzing usages statistics of all the DeLCON Members.
 12. Sign license agreement for access to various electronic resources on behalf of members;
 13. Maintaining and updating DeLCON website of the Consortium (<http://www.delcon.gov.in>) regularly;
 14. Managing the manpower for the DeLCON Consortium;
 15. Evaluating and analyzing the License Agreements of publishers and discussing on the major issues related to terms & conditions
 16. Evaluating & analyzing the proposals of the publishers for the subscriptions / renewals of the DeLCON resources.
 17. Organizing awareness programme time-to-time to promote e-resources;
 18. Improving cooperation and communication amongst member Institutions;
 19. Measure impact of access to e-resources on research output in beneficiary institutions; and Present periodic report to the Department of Biotechnology (DBT) on extent of usage of e-resources, economics of the consortium and its impact on research output.
- **MAJOR ACHIEVEMENT THROUGH THE 'DELCON CONSORTIUM'**
1. Identification of NBRC as a "Nodal Centre & Head Quarter" for the DeLCON Consortium.
 2. The Inter Loan Library (ILL) services and Resource Sharing has been increased after initiation of DeLCON Consortium and it was enhanced inter-institutional interactions and collaborations among the DBT Institutions.

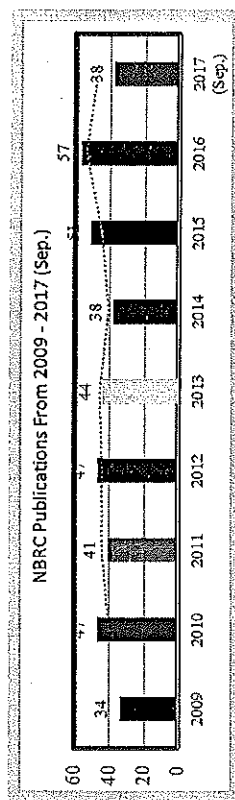
3. Established cooperation and communication among the DBT Libraries, NER Institutions and other major libraries.
4. Digital Collections and Back Volume collections have been increased.
5. Due to DeLCON e-resources the NBRC faculties and scientists have increase their research qualities and paper of publications. The citation Index and h-Index have been enhanced for the faculties and scientists.
6. The DeLCON Consortium has fulfilled day-to-day requirements of the NBRC faculties, scientists and other researchers.
7. Library budgets have been saved due to the DeLCON Consortium and which were utilized for the research works.
8. The quality publications and papers have been enhanced and increased.
9. Collaboration of NBRC has been increased with various National & International organizations.

■ SCIENTIFIC ACHIEVEMENTS DUE TO DELCON RESOURCES

The NBRC faculties & Scientists have published many papers and the publications increased every year, which are given below. The NBRC scientists have also won various National awards like Young Scientists awards, Shanti Swaroop Bhatnagar and DBT IYBA awards, to name a few.

The Yearwise publication of NBRC is given below during the year 2009 - 2017 :

NBRC Publication during the Year 2009-2017	
Year	Published Papers
2009	34
2010	47
2011	41
2012	47
2013	44
2014	38
2015	51
2016	57
2017 (Sep)	38



A Graphical view of the publications of the NBRC during the year 2009 - 2017 (upto Sep).

Utilization of DeLCON Resources by NBRC during the Year 2012 - 2015

Sl.No.	Covered Journals	Publisher	2012	2013	2014	2015
1	415	Elsevier	88512	116813	126193	105685
2	38	Nature	16159	14322	16439	17236
3	12	ASM	1027	1401	1248	1098
4	18	OUP	3280	2654	4089	5173
5	86	Wiley	4952	4355	4544	3573
6	237	Springer	3539	1097	805	815
7	44	ACS	115	325	372	268
8	7	MAL	174	222	126	85
9	2	ASBMB	2371	2300	1769	1733
10	2	ASPB	72	60	39	30
11	3	AAAS	1744	2536	2259	1675
12	1	AAJ	603	396	520	330
13	1	ASH	246	231	226	108
14	4	CSHL	1001	1243	839	820
15	40	Informa / T&F	47	255	73	1325
16	3	SGM	104	63	188	61
17	8	AACP	850	850	743	488
18	1	NEJM	0	180	238	218
19	1	PNAS	0	3472	2878	2752
		Total	124796	152775	163528	143474

■ CONCLUSIONS

Digitization is the current are of action and research today; as a result, most of the libraries and many of the library and information departments are focusing on this area. A large number of libraries are undertaking digitization project to provide global access to materials in their collections and long term preservation of these materials. The Digital Library, besides providing an opportunity to create freely brows able and searchable documents of value to all of humanity, has become a tested for Indian research. Digital Library has developed search engines, and cluster for data base storage and retrieval. It has also helped in creating a tight bound for those doing research in India. Setting up a digital library is very important in any institution to meet the present and future information requirement. No single institution can effectively manage and provide access to more than a small portion of the information universe. There is an increasingly diverse array of networked digital library products and services.

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Multimedia Libraries in Collection Development

Madan Lal Jat and Kuldeep Kumar

Assistant Librarian, KGM, Gurukul Kangai University, Haridwar
Assistant Professor, (Department of Library and Information Science), Chaman Lal Mahavidyalaya Landhaura

ABSTRACT

User satisfaction is an affective or cognitive state of mind which the user experiences as a result of his use and subsequent evaluation of library services. In effect, the quality of library performance is inferred from the degree of satisfaction experienced by the user. User satisfaction is usually measured by the comments: "good," "useful," "valuable," and "high relevance/pertinent." Digital libraries which have been evolved as the result of rapid advancement of ICTs have brought an evolutionary change in the information scenario. They are offering a lot of opportunities to improve and enhance the library services all round - most important one is that digital libraries are accessible from anywhere, by anyone and at any time. Electronic information resources constitute a major part of such library collections. A library with varied multimedia contents can do better for providing quality services to its users. This paper attempts to discuss some of the qualities of multimedia contents and the policies needed for their collection management.

Keywords: Media, Multimedia, Mass Media, Social Media, Media Literacy, Information Literacy

INTRODUCTION

Specifically, the findings provide library professionals greater understanding of how users perceive their library use and how user satisfaction is formed and influenced, in terms of its formation, antecedent, and consequent impact. The research also provides librarians with what is hoped will be practical advice on what else they can or should do to improve library use. For instance, it is important to recognize users' emotional experience in their library use because it determines their immediate next time library use behavior and service use loyalty; it is easier to achieve service use loyalty for repeat users in some specific services than to achieve general library use loyalty for them or occasional users.

Libraries in the world exist for a long time, particularly with the advent of printing machine in 15th century. Earlier the libraries were used as the place to store knowledge or the room or building to store documents used to read, study or refer to. But a library is not a building stacked with books - it is a repository and source of information and ideas, a place for learning and enquiry, and for the generation of thoughts and the creation of new knowledge. Information and communications technology (ICT) that is a combination of diverse set of technological tools and resources (Dhiman, 2003; Dhiman & Rani, 2012) is used to communicate, and to create, disseminate, store, and manage information (Garg & Rishpal, 2012). This ICT led to the establishment and development of digital libraries all over the world. Sreenivasulu (2000) mentions that with the growing popularity of world wide web (WWW) and the tremendous growth of CD-ROM products, digital libraries offer a huge range of multimedia information, everything from movies, speeches, images and photos to sounds, text and beyond.