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# **JOURNAL OF INDIAN LIBRARY ASSOCIATION**

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No. 3

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## EDITORIAL

Scholarly communication is meant for dissemination of innovations, inventions, research and development in various fields of human endeavour. This is meant for informing the peers to gain primacy of an invention or innovation or new idea, as well as to make these available to public good. Commercial publishers entered the field in no time and started reaping huge profits as scientific community became unpaid patrons to them by contributing articles of current research results, refereeing, editing and serving on the Editorial Boards of scholarly journals increasing the prestige of journals. A section of scientific community revolted against the publishers' strangle monopolistic hold on scholarly publishing media as well as bundling of journals, inconsistent selling prices with non-uniform discounts across institutions, and copyright, led to the open access movement and open access journals. The main objective of the open access movement is making research results available to one and all irrespective of geographic, national, ethnic, socio-cultural barriers. Sensing the importance of open access platform, wily commercial publishers as well as intelligent entrepreneurs joined the band wagon. In the current hybrid print plus open access era about 2 million papers are published every year amounting to a new paper every 20 to 25 seconds (*Science*, 342, 4 October 2013) leading to publish and perish environment. Now it is any time information, is everywhere information, any type information, and so on. Internet provides easy access to articles, e-books, reports and other texts, all in digital form.

The ever increasing openly accessible digital information is leading to plagiarism. I have been encountering this issue plagiarism for the last 8-9 years. As Editor-in-Chief I have to warn (and black list) author(s) who copied a paper verbatim from an international journal on Ontology published from Europe. Several articles on use of Internet or ICT (and now e-resources) in engineering colleges in a region of a state, with similar titles or similar findings and even similar wording, raising doubts of plagiarism. Recently I rejected a thesis on digitization of manuscripts as about 3 of its chapters are cut and pasted from Internet websites, that too with 3 year old figures and data. The scholar perhaps was too busy even to rewrite text or

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update data!! It is surprising to note that doctorate was awarded for this thesis may be because other evaluators accepted it. The Editors of National Conference on Scholarly Communication and Intellectual Property Rights held at the School of Planning and Architecture, Vijayawada, rejected 30 percent papers submitted as each one of them had more than 50 percent cut and paste material. Some paragraphs were rewritten for a few papers that had less than 25 percent plagiarism. We have to bear in mind that every time we use, borrow or copy a phrase or paragraph, it is our responsibility to give credit to the original author(s) and work(s) by properly citing sources.

In recent times many plagiarism scandals broke out that resulted face loss to people who were holding high offices. It is a universal phenomenon and India is no exception to it. Many well-known persons holding high offices like vice chancellor, deans in universities, professors and eminent scientists faced controversies of plagiarism. We have to learn a lot from western countries. When their research leading to PhDs was found to be plagiarized; Prime Ministers and Ministers in European countries like Germany, Hungary, Romania, Poland etc resigned from offices owning moral responsibility they were holding. But in our country no body cares and the institutions do not even admonish or warn the persons involved; in some cases they were promoted and even rewarded. A number of cases are listed in the website of Society for Scientific Values.

Many a time university faculties or research scholars are under pressure and stress to publish certain number of papers. The UGC requirement of Author Productivity Index (API) score, publish in journals with ISSN or present papers conference papers volumes with ISBN, is one more reason for the increased output and decreased originality and quality. It is a pity that very few organizers can boast of presentation of 40 percent or more papers in national conferences; in a majority of conferences 15 to 25 percent of authors only are presenting papers. Sometimes, author is attending the conference but not available in the hall when his/her paper is announced for presentation.

The main issue is that the authors do not think that plagiarism is a serious crime. It is resorted to fulfill the mandatory requirements of publications. Lack of punishment or admonition or social boycott makes such authors find short cuts. As per an estimate (<http://www.vox.com/2014/7/10/>), of the 1.3 million peer-reviewed papers published yearly in journals, about 500 get retracted on allegations of scientific misconduct, dishonesty and plagiarism. There will be much more which are not pursued upon or ignored.

Remedies and tools are available to discourage or stop plagiarism including anti-plagiarism software. At institution level, each academic unit should have a Committee to evaluate and vet the intrinsic value of the papers being sent out for publication in journals or presenting in a workshop or conference or seminar. The Committee should have access to plagiarism checking software like Turnitin, iThenticate, Plagiaritinfo, Copyscape (also known as Copysentry). Even a simple Google check will show plagiarism to a satisfactory extent.

In addition, Editors of journals or conference volumes should check these for any lapse at academic level. Refereeing should be stringent with at least two or three impeccable impartial referees. All the theses and dissertations submitted to the PhD awarding institutions should be made available on Internet for helping the research community to help avoid copying and plagiarism. The Electronic Theses and Dissertations project should be supported and made mandatory for all universities. It is important that the heads of institutions including the all-powerful vice chancellors should severely punish the defaulters without any favour. Then only meaningful research will come out of our institutions and academia.

**Dr A.L. Moorthy**  
*Chief Editor*

## A New Generation of Digital Library for Sharing Resources in Puducherry Using Knowledge Networks: A Prototype Model

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### ABSTRACT

*Research movement in various fields is increasingly being carried out through inter institution in collaborative approach. This has become necessary due to the increased activity in computationally intensive and data intensive research problems and greater emphasis on numerical techniques for analysis. To achieve these objectives, the approach adopted worldwide has been the extensive use of ICT through dedicated networks created for Research and Education. For this purpose library is become knowledge resource centres they can share the by way of resource sharing. Networking is essential for libraries in Puducherry for coordinating with the Institutions. Resource sharing models of networks in which libraries enter at one point and then more along a continuum, ideally ending in an advanced, integrated knowledge library network model for libraries in Puducherry for sharing the resource by way of cooperative management. In this paper, a prior knowledge model called PUDULIBNET is proposed in order to increase the effectiveness of Resource Sharing in Puducherry using Knowledge Network.*

### 1. INTRODUCTION

Research and Development activity world-over in various fields is increasingly being carried out through inter institution and trans-country collaborative approach. This has become necessary owing to the increased activity in computationally intensive and data intensive research problems and greater emphasis on numerical techniques for analysis. Besides, the infrastructure needed for the front-end, cutting-edge research and experimental simulation, requires investment which is beyond the means of several research institutions and its duplication, in any case, is

economically unviable. The key ingredients in this approach are *consultations Data sharing, and Resource sharing.*

To achieve these objectives, the approach adopted worldwide has been mthe extensive use of ICT through dedicated networks created for Research and Education. In most countries, the onus of such front-end research and propagation of education is a state responsibility and such networking efforts are invariably supported by the state with funds being provided either directly or through the institutions involved.

The knowledge network is a network for providing a unified high speed network backbone for all knowledge related institutions in the country. The purpose of such a knowledge network goes to the very core of the country's quest for building quality institutions with requisite research facilities and creating a pool of highly trained professionals. The Knowledge network will enable scientists, researchers and students from different backgrounds and diverse geographies to work closely for advancing human development in critical and emerging.

## **2. DIGITAL LIBRARY**

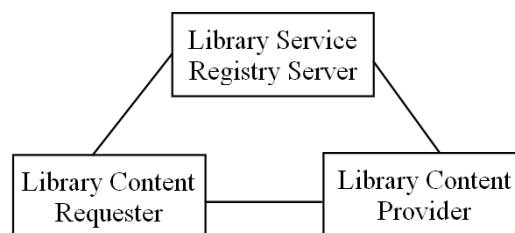
Digital library has the informational material stored in computer system in a form that allows it to be manipulated and delivered in a electronic way. In a digital library, information is digitized, collected, operated, by electronic computers, transmitted by the computer network, and freely shared. In this required information can be easily and efficiently retrieved and disseminated. Fully developed digital library environment involves the following elements.

- i. Initial conversion of content from physical to digital forms (scanning process)
- ii. The extraction or creation of metadata or indexing information describing the content to facilitate searching and discovery as well as administrative structural metadata to assist in object viewing, management and preservation.
- iii. Storage of digital content and metadata in an appropriate multimedia repository. The repository will include right management capabilities to enforce intellectual property rights, if required E-commerce functionality may also be present if needed to handle accounting and billing.
- iv. Client services for the browser, including repository querying and workflow.
- v. Content delivery via file transfer or streaming media.
- vi. Patron access through a browser or dedicated client
- vii. A private or public network

These components might not be all part of a discrete digital library system but could be provided by other related or multipurpose system or environment. Accordingly, integration is a consistent issue cited by digital library developers.

### **2.1. Digital Library using SOA**

A Service Oriented Architecture (SOA) goal is to provide various services for digital library the services are as Digital Library Publishing, E-Journals, E-books, Open Access Databases, Study materials, etc. Service-Oriented Architecture (SOA) provides a compelling vision for business-oriented applications in different domains. Its open-standard, loosely-coupled and platform-independent features can readily facilitate resource sharing, application interoperability and business collaborations. Many systems also adopt Grid technologies to handle large data volumes and intensive computation.



**Figure 1: Service-Oriented Digital Library**

Most digital library systems contain 3 main components: a digital object store, a metadata store and a suite of services to manage and provide access to the other 2 components. These are depicted in Figure 1. The digital object store and metadata store are typically implemented using a combination of file systems, databases, triple stores, etc. Services are provided by applications that execute locally and via remote interfaces such as Web based interfaces – the exact mapping of services to applications varies across architectures. Typical services provided by a DLS include: search, browse, submit, annotate, manage, copy, authorize, import, export, link, filter and visualize (Gonçalves, et al, 2004).

The PUDULIBNET is an example of the development of service-based, information-intensive



middleware to support the management and sharing of the biomedical data. It concentrates on dynamic resource discovery, workflow management and distributed query processing.

### **3. NETWORKING FOR PUDUCHERRY UT**

The unique Union Territory of Puducherry comprises of four scattered regions namely Puducherry (formerly Pondicherry), Karaikal in Tamil Nadu, Yanam in Andhra Pradesh and Mahe in Kerala on the West coast. The Union Territory of Puducherry offers quality education with excellent physical infrastructure and almost cent present literacy level. The Puducherry (formerly Pondicherry) is giving more importance for developing higher education. Many academic and research institutions have been established in Puducherry to promote better education in Puducherry. Several courses are being offered by these institutions.

#### ***3.1 Changing Dimensions of Library Resources***

With the changing new dimensions and directions of Information and Communication Technology are very fast approaching to the library and information centres on the world. With this technical paradigm shift the electronic information sources have become integral part of the library. Electronic and web resources play crucial role to in the teaching, learning, research and extension activities of the institutions and organisations. The impact of electronic information resources on LICs has been widely reported in the literature with change dramatically impacting higher education, change that focuses on and enabling array of technologies and networks to advance teaching, learning, and research. This vision encompasses a new library that blends the best traditions of the past-those of structure, service, and subsidy- with an electronic or 'virtual learning' one which transcends time a place.

#### ***3.2 CCD and Resource Sharing***

The latest developments in Information technology have great impact on every aspect of library operations and information services. Due to the advances in science and technology, there is a rapid growth of information

in different formats. The print publishing is slowly shifting towards electronic publishing. The new medium has given a scope for more efficient means of storage, organize and quick access from remote places. As a result libraries need to develop electronic documents selectively, and get access to electronic information resources using network facilities to serve the users. The UGC has created a centre for providing online collection of books and journals through Consortia like, UGC-Infonet for E-journals E-Consortium and UGC Infonet Digital Library Consortium through which most of the institutions are connected and their resources collection are shared through networking.

#### ***3.3 Connecting Digital Libraries***

Explosion in published output, increase in bibliographic access of literature through internet and off-line databases on CDs, static and in many cases decreasing library budgets along with high cost of published output have made it virtually impossible for libraries and documentation/ information centres to fulfill information needs of their primary clientele. Under such squeezing situation the best option left with the libraries is to optimize the output and utilize their resources through extensive sharing.

However, it has been observed with regret that the concept of resource sharing is generally not popular in India. Resource sharing is a method of overcoming these and other limitations of the individual libraries in respect of their resources by way of co-operation and co-ordination among the participating libraries. Most of the libraries are working on the policy of "self-sufficiency". In some instances it has been found that two academic and research libraries located at a distance of 5-15 minutes walking distance are spending substantial amounts from their budget on the subscription of same journals and procurement of same books, whereas they can easily share their resources with each other. Therefore, there is a need to motivate librarians and information professionals for resource sharing and networking of libraries to ensure optimum utilization of available financial, physical and manpower resources. Realizing the significance of the networking concept the researcher made an attempt to study the

possible ways and means to networking of all types of libraries functioning in Puducherry region.

### 3.4 Requirements and Design Issues

Connectivity to be provided to around 5,000 nodes covering all universities, technical institutions, medical and agricultural institutions, related R&D laboratories and libraries. This is the requirement of the final and ultimate network.

- **Single Terminal:** *Single terminal* based access to the network for all applications including internet based applications, is the preferred arrangement based on feedback from some prospective major users. This would require ability to access and use Internet at high speeds. The connectivity to the International bandwidth could be made at two or three routers located on the core network, at locations where cable landing stations are available.
- **Connection Reliability:** *Connection Reliability* will be a key concern for most of the operators. In the network design this will translate into duplication of links and homing nodes.
- **Bandwidth guarantee:** *Bandwidth guarantee* has to be provided on the access link of the LAN of each entity. It is to be considered whether within a LAN a specific terminal needs to have bandwidth priority at a given instant for a specified period of time under the control of the software command of the administrator to ensure the requisite availability of bandwidth by that terminal.
- **Security, Privacy and Confidentiality (SPC):** SPC are issues of major concern when this type of networking is envisaged. Methods will have to be evolved both at the time of commissioning of the network as well as during operations, to ensure security of data along with privacy and confidentiality. Access to the data from the Data Centre of a given entity should be under the control of the entity being addressed. An arrangement for authentication and authorization with the participation of the connected entities will be required to be firmed up and put in place.

### 3.5 Creation of Library Network

In view of the emergence of number of networks at local, regional and national level such as MALIBNET, DELNET, INFLIBNET, CALIBNET etc., and in view of the possible benefits that emerge from the successful functioning of those networks which benefit the participant, libraries and in view of the librarians willingness to join the library network as revealed in the survey, it is suggested that the libraries in Puducherry region shall form a group on network basis. The major objectives of the proposed PUDULIBNET are;

- To promote sharing of resources among the libraries in Puducherry region through networking for maximum use of resources and better facilities for users.
- To avoid duplication in acquisition of reading materials especially in case of subscribing e-journals.
- To encourage all the members of PUDULIBNET to share their library resources.
- To co-ordinate efforts for suitable collection development policy and reduce unnecessary duplication wherever is possible.
- To develop a wide range of information services and to enhance the quality of services using latest available technologies.
- To evolve international standards and uniform guidelines in techniques, methods, procedures, hardware, software and services and to promote their adoption.

### 3.6. Potential Approaches using Knowledge Network

The National Knowledge Network (NKN) is a state-of-the-art multi-gigabit pan-India network for providing a unified high speed network backbone for all knowledge related institutions in the country. The purpose of such a knowledge network goes to the very core of the country's quest for building quality institutions with requisite research facilities and creating a pool of highly trained professionals. The NKN will



enable scientists, researchers and students from different backgrounds and diverse geographies to work closely for advancing human development in critical and emerging areas. NKN network is designed with the aim of providing highest level of availability, robust & reliable connectivity, highest level of scalability and best bandwidth capacity. The main services of NKN can be broadly categorized under *Generic Services*, *Community Services* and *Special Services*.

The NKN is a platform for delivering effective distance education where teachers and students can interact in real time. This is especially significant in a country like India where access to education is limited by factors such as geography, lack of infrastructure facilities etc. The network enables co-sharing of information such as classroom lectures, presentations and handouts among different institutions.

### 4 PUDUCHERRY LIBRARY NETWORK (PUDULIBNET)

It has been proposed to connect all libraries in Puducherry region a network viz., PUDULIBNET. The PUDULIBNET will also act as gateway to all these libraries exists in Puducherry. Each library in Puducherry is connected to the PUDULIBNET, for which the nodal centre is Pondicherry University. By providing a separate user login ID, users can login in to Pondicherry University Library Server and can view all the information resources available in the proposed network. Each library in Puducherry region can share the resources through nodal centre or between among themselves. The benefits of the proposed network (PUDULIBNET) are as follows:

- Maximum access to information at least cost to all the participating libraries.
- Speedy access to information to the users.
- Possibility of providing of the additional services such as content page, select bibliographies, trend reports and article indexing to the users.
- Facilities for easy inter-library loan and document delivery service (DDS)

- Avoids duplication of technical work thereby reducing the manpower requirement or enabling the libraries to provide more user services with the minimum library staff.
- Explore the possibility of weeding out the out-dated sources by maintaining a centralised storage system for texts, documents that would be required in a near future.
- Create healthy environment by motivating the staff to be competitive with the other participating libraries to provide services to the users.
- Explore the possibility of training the manpower to meet the future requirement in information handling and dissemination.
- Preparation of web based Co-operative Online Public Access Catalogue (COOPAC).

This prototype model would facilitate easy and direct access to information from the centralized bibliographical databases housed at the nodal center. The regional centre libraries also interact mutually for exchanging of the required information. Participating libraries can establish link with the regional centre to access resources of nodal centre.

The PUDULIBNET shall consist of the centrally located computer configuration with bibliographic databases of all the participating libraries collection of various types also supported by technical supervision and user services unit. Linkage can be established with other already existing library and information networks of the country like ERNET, NICNET, INDEST, DELNET, INFLIBNET, (UGC-INFONET) and others Networks.

#### 4.1 Services

The services are envisaged by the PUDULIBNET can be start and executed from basic services such as exchange of bibliographic data, Inter library loan, Document Delivery service and Uniform serials and acquisition system to achieve uniformly and compatibility for greater and easy of access to all kinds of resources and services. The process logic of

PUDULIBNET is given below:

- Considered and studied the existing networking systems such as DELNET and INFLIBNET.
- Identified the requirements for all types educational institutions located in Puducherry region
- A prototype model was designed and proposed for Puducherry region.
- This model attempts to provide network connectivity to all Libraries established by educational institutions and Government of Puducherry.

- Implemented the prototype model with Web server along with domain name

#### 4.2 Work Flow of Networked Library Model

The Figure 2 shows the proposed network model for libraries in Puducherry. The model would facilitate easy and direct access to information from the central bibliographical databases housed at the nodal centre. The regional centre libraries shall also interact mutually for exchanging of the required information. Participating libraries can establish link with the regional centres to access resources of nodal centre.

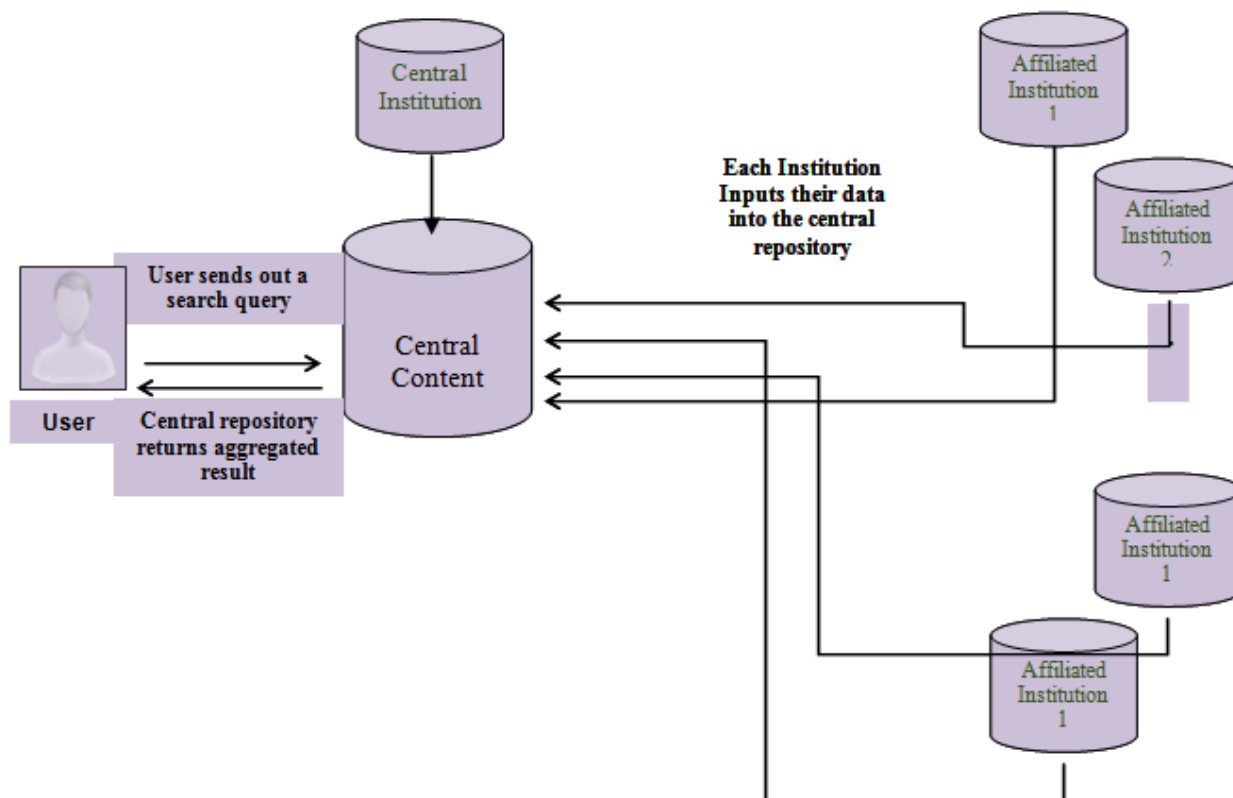


Figure 2: Work flow of Networked Library Model

The proposed network model shall consist of the centrally located computer configuration with bibliographic databases of all the participating libraries collection of various types also supported by technical supervision and user services unit. The participating libraries can have direct access to the bibliographic databases of regional centre library collection as well as main server housed in the Nodal centre

#### 4.3 Principles for Digital Library Design

The following principles guide the development of the architecture.

- a. Service driven The architecture for the DLs must be driven by the services it provides and tools required for delivering the service

- b. Open architecture - The architecture must be open, extensible and support interoperability among heterogeneous, distributed systems
- c. Scalability The architecture must be robust, scalable and reliable in a high transaction rate production setting thousands of patrons with a wide variety of backgrounds and information needs
- d. Preservation - The architecture must ensure persistent access to collection of the DL, addressing such issues as naming, digital archiving and digital preservation.
- e. Privacy - The architecture must be sensitive to privacy issues and support both anonymous and customized access to resources
- f. Practicality -The architecture should represent a flexible and practical approach to standards, recognizing the need to balance the level of information collection with economic constraints
- g. Modularity- The architecture should represent a mix of new technology and legacy pieces, all of which must inter operate while involving at different rates.
- h. Time frame The time frame required to plan for system migrations in the next year as well as planning for a technology generation framework should be approximately 3 to 5 years.
- i. Client support - The architecture should support a base line level of services, which can be accessed with common desktop configuration and software. Certain higher level services may require proprietary clients but the support of these clients should be determined by DL tool and services group.
- j. Personalization - The library systems currently offer only modest abilities for individuals to personalize services. In addition, our systems do not enable library staff to construct services that are customized according to what users allow us to know about their usage habits. Current infrastructures support little in the way of alerting services, or customized views of our holdings.

Staff cannot personalize their daily work environment in the current systems either, and reporting functions are limited, both of which can hinder productivity.

#### **4.4 Components of PUDULIBNET**

Digital library framework permits many different computer systems to coexist. The key components are shown in the figure below. They run on a variety of computer systems connected by a computer network, such as the Internet.

**User Interfaces:** We have to use two user interfaces: one for the end-users of the digital library, the other for digital librarians and system administrators who manage the collections. Each user interface is in two parts. A standard Internet browser is used for the actual interactions with the user. This can be Netscape Navigator, Microsoft's Internet Explorer. The browser connects to client services, which provide intermediary functions between the browser and the other parts of the system. The client services allow the user to decide where to search and what to retrieve; they interpret information structured as digital objects; they negotiate terms and conditions, manage relationships between digital objects, remember the state of the interaction, and convert among the protocols used by the various parts of the system.

**Repository:** Repositories store and manage digital objects and other information. A large digital library may have many repositories of various types, including modern repositories, legacy databases, and Web servers. The interface to this repository is called the repository access protocol (RAP). Features of RAP are explicit recognition of rights and permissions that need to be satisfied before a client can access a digital object, support for a very general range of dissemination of digital objects, and an open architecture with well defined interfaces.

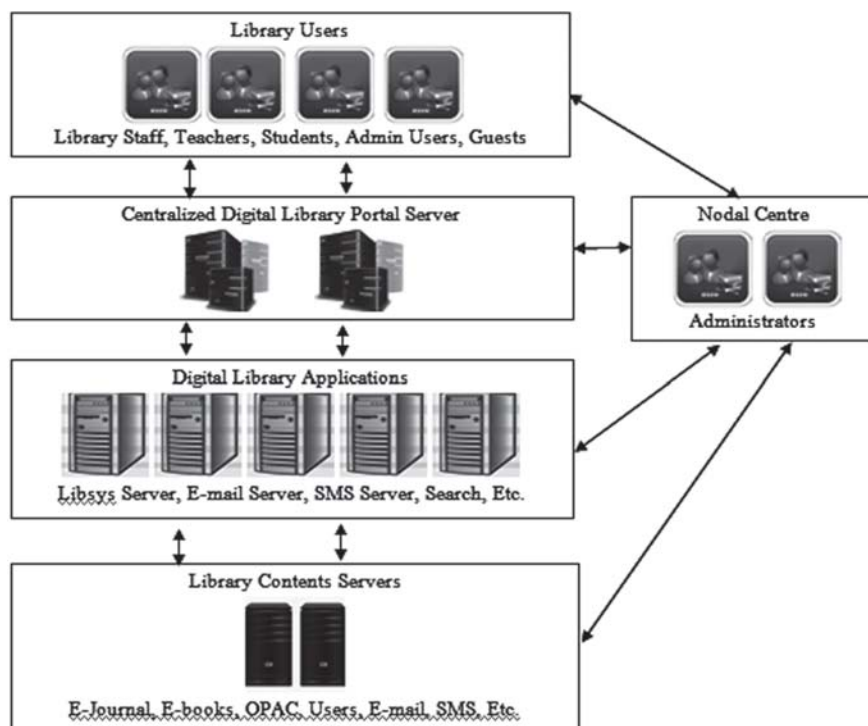
**Handle System:** Handles are general-purpose identifiers that can be used to identify Internet resources, such as digital objects, over long periods of time and to manage materials stored in any repository or

database. When used with the repository, the handle system receives as input a handle for a digital object and returns the identifier of the repository where the object is stored.

**Search System** The design of the digital library system assumes that there will be many indexes and catalogs that can be searched to discover information before retrieving it from a repository. These indexes may be independently managed and support a wide range of protocols

#### 4.5 Architecture of Next Generation Digital Library Model

Figure 3 shows the knowledge network model for PUDULIBNET using NME-ICT. In this model all users are connected to either NKN or NME-ICT network. The users can share their resources through the core network. In this model, the main role or service is of central server. The central portal server provides single window access to the user. User interface is based on the keywords related to meta-data. The work flow of the model is given below:



**Figure 3: Network model for PUDULIBNET using Knowledge Networks.**

The User id and password will be given to all the participating institutions. The user can login into the central portal server. The security checks the user whether authorized or not. The authorized user sends a query in any language to the central server. The central Portal server translates the query to the requested languages. Portal server passes query to the searching service. The Searching checked with indexing services. The Searching do the ranking on the outcome of the indexing service. Searching services passes the response to the central server. The Portal server reformulates the ranked response according to the format expected by primary servers. Various application servers execute query provided by the central server and return results. The central Portal server returned results to user after translation, summarization, filtering etc. of the content as required or the link to the content.

A fully detailed systems architecture resolves into software and hardware systems. Desirable systems properties such as scalability and extensibility can be taken into account at the systems architecture level. The systems architecture is rationalized relative to the operational and technical architectures.

#### 5. CONCLUSION

In this paper we have given some of the proposed knowledge network model for Puducherry libraries to share the information by way of resource sharing and networking through PUDULIBNET using Knowledge Networks. National Knowledge



Network interconnecting all universities, all technical institutions, all medical institutions, all agricultural institutions, R&D institutions, all libraries and all Universities with an access network providing up to 100 Mbps connectivity for optimal utilization of resources to give a major push to research and spread of quality education, is required and is entirely feasible.

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## Electronic Resources in Management Libraries: An Analytical Study of National Capital Region (NCR) of Delhi

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### ABSTRACT

*The present study reports the changing facets of e-resources and current practices related to acquisition, selection and mode of procurement, promotion, development policy, problems and future plans of Management Libraries in National Capital Region (NCR) of Delhi. The Survey Method followed for this study with the help of structured questionnaire designed keeping in view of the objectives and scope of the study. The findings shed light on the e-resources are databases are very famous and subscribing e-resources based on easy to use, saving of space and users demand. Currency and timeliness of the information is the first and cost of resources is the last factor in collection development policy. Geographic parameter and remote accessibility is used in selection of e-resources. The study also highlights the current practices in selection of e-materials and helps in efficient collection development policy of e-resources in libraries covered in the study.*

**Keywords:** e-resources, online journals, databases, management libraries.

### 1. INTRODUCTION

Management libraries are changing dramatically by adopting new means of technology in all activities of print to e-environment with a variety of web-based graphical user interface (GUI) functions, online accessibility for 24/7, availability of numerous e-databases, e-journals, information resources, services for users. To face the new information explosion, university libraries will have to meet even more challenges and opportunities to serve students, faculty, staff, scholars and other users, all with much expectations and many more demands triggered by

the growth of emerging and cutting edge technologies in academic learning environments (Madhusudhan, 2010).

Electronic resources (e-resources) have given us the power to get information timely and manage information more effectively and also the means to dissolve barriers and offer equity of access to knowledge and information. Further, e-resources can meet the instant desire of users to have an access to information. These can be used for efficient retrieval and meeting information needs. Thus, “libraries are moving towards e-resources and services, which are

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found to be less expensive and more useful for easy access” (Madhusudhan, 2010).

The present study focuses in depth on e-resources collection development and their current practices with particular reference to management libraries of NCR Region of Delhi.

### *1.1. Statement of the Problem*

Current practices related to e-resources have always been of great challenge to librarians throughout the world. Management libraries in NCR have to develop a well balanced document collection to meet the needs of present and future requirements of the users. It is possible only when the acquisition is planned. All study libraries have experienced a tremendous shift in content from print to electronic. So the question that naturally arises is how do management librarians make decisions on what to purchase and what to cancel, simply stated how do we manage our e-collections? So far, no study exists to know the current practices regarding e-resources in management libraries in NCR. The need felt that to know the same to study in depth on e-resource collection development and their current practices with particular reference to Management Libraries in NCR.

### *1.2. Scope of the Study*

The scope of the study is confined to ten Management Libraries (owned by Central government, State government and Private management) of Delhi and NCR namely:

- Amity University, Noida (UP);
- Birla Institute of Management Technology (BIMTECH), Noida (UP);
- Galgotia University, Greater Noida (UP);
- Indian Institute of Foreign Trade (IIFT), New Delhi;
- Institute of Management Technology (IMT), Ghaziabad (UP);

- Institute of Management Studies (IMS), Ghaziabad (UP);
- International Management Institute (IMI), New Delhi
- MBA Department, Ch. Charan Singh University, Meerut (UP);
- Shobhit University, Meerut (UP);
- Swami Vivekanand Subharti University, Meerut (UP).

## 2. REVIEW OF LITERATURE

A search has been conducted with the combination of various terms such “collection development”, “e-resources”, “management libraries” and “e-resource collection development”, in Library and Information Science Abstracts (LISA), Emerald database, Ebsco database, Science Direct, Open J-gate and other databases. Print journals were also scanned to complete the review of literature for the present study, including a search of some general search engines.

Lee, Paik and Joo (2012) investigate the selection of information sources and identify factors associated with the resource selection of undergraduate students for academic search tasks. This study reaffirmed recent information usage trends that online sources are preferred by university students in their academic searches. This study identified twenty nine factors in four different dimensions, including information type, resource feature, search strategy, and interaction with others. Moreover, perceptions of users were investigated quantitatively focusing on usefulness, credibility, accessibility, familiarity with source, satisfaction, and intention of continuous use. Multiple factors are influencing the resource selection of undergraduate students and those factors vary in different types of sources in academic search tasks. The findings of the study suggest some insights in how to guide undergraduates to choose better information resources for their academic search tasks.

Lupton and Salmon (2012) describes that many university libraries now utilize an Electronic Resource

Management (ERM) system to assist with operations related to electronic resources. An ERM is a relational database containing information such as suppliers, costs, holdings, and renewal dates for electronic resources, both at the database and title levels. While commercial ERM products are widely available, some institutions are custom building their own ERM in-house. This article describes how York University in Toronto, Canada, did just that by building a system called Managing University Library Electronic Resources (MULER). Positive and negative implications of choosing an in-house project over paying for a commercial product are also discussed.

Benahal (2012) attempted to identify the trends in using e-resources by various user groups. Distribution of user studies are studied with respect to place of publication, resource-wise, type of user, purpose-wise, subject-wise, year of publication, time lag in publication, language-wise, publication-wise etc. The study shows that academics prefer to use e-journals over other e-resources and that both print and e-resources complement each other.

Noh (2012) seek to verify the correlation between university libraries and academic research achievement and to examine which university library resources relate to research achievement. This study confirmed that labor and budget, investment in e-resources and an investment in university libraries enhances academic research achievement.

Francis (2012) discusses utilization of consortia-based digital information resources. Results show that 87.14 per cent of them used CeRA (Consortium for e-Resources in Agriculture). Eighty two per cent students were acquainted with CeRA and learned the required skills for the access and use of digital information resources through curriculum-based courses like “library and information services”, “research methodology”, etc. The students in general would like to strengthen the CeRA services by adding more resources and facilities.

### **3. OBJECTIVES OF THE STUDY**

The main objective of the study is confined to the management librarians’ perception towards the collection development of the e-resources and the current practices. The specific objectives of the study are:-

- To know the availability of different types of e-resources in select management libraries in NCR;
- To find out the reasons for acquiring/subscribing e-resources;
- To examine the different criteria for selection of e-resources and collection development policy;
- To study the different modes of procurement and acquisition of e-resources; and
- To find out the current policies and practices followed for acquiring e-resources.

### **4. METHODOLOGY**

The Survey Method followed for this study with the help of structured questionnaire designed keeping in view of the stated objectives and scope of the study comprising of dichotomous, multiple choice, rating, and opinion questions. However, a few open-ended questions were also included in order to gather qualitative data relating to the subject. Total 14 questions were included in the questionnaire under three major sections.

### **5. ANALYSIS OF DATA**

A survey was conducted through a structured questionnaire circulated personally among the ten management librarians in NCR. All filled-in questionnaires were collected personally so the response rate is 100 per cent.

The primary data was collected through structured questionnaire and the secondary data collected from the libraries covered in the study through library records, annual reports, plans, and other relevant documents/sources. On the basis of the responses received through questionnaires on various aspects of

e-resources collection development and current practices, data is analyzed and interpreted in the following sections:

### 5.1. Availability of E-Resources

This is the most important and basic aspect related to e-resources collection development, the quality has replaced the quantity of library collection during the present days. The quality has direct link with the type of library collection as it depends upon the requirement of the users. Management Libraries need to procure a variety of documents not only different subjects but also in types. Furthermore, the information explosion bringing in different types of information storage media calls for

acquisition of information in various forms of documents. The data reveals that the libraries are also adding electronic media apart from print media. The e-resources include e-books, e-journals, databases, electronic thesis/dissertations, microfilms/microfiches, audio- cassette, CD-ROM databases, CD/DVD-ROM, etc. Table 1 presents the availability of e-resources data in management libraries covered in the study. Table 1 reveals that e-journals and databases are the most common factors among all study libraries (100 percent), followed by e-thesis/dissertations, and CD/DVDs. This data clearly indicates that the study libraries are having good collection of e-resources to cater the information needs of their information age users.

**Table 1: Availability of E-Resources in Libraries Covered in the Study**

Name of the Library	Availability of e-resources								
	e-Books	e-Journals	Data bases	e-Thesis / Dissertation	Microfilm/ Microfiches	Audio Cassette	Video Cassette	CD-ROM Databases	CD/DVD - ROMs
Amity University	√	√	√	√	√	NA	√	√	√
BIMTECH	NA	√	√	√	NA	NA	√	NA	√
Galgotia University	√	√	√	√	NA	NA	√	√	√
IIFT	NA	√	√	√	NA	NA	√	√	√
IMT	√	√	√	√	√	NA	√	√	√
IMS	√	√	√	NA	NA	NA	NA	√	√
IMI	√	√	√	√	NA	NA	√	√	√
MBA Dept. CCSU	√	√	√	√	√	NA	√	√	√
Shobhit University	√	√	√	√	NA	NA	NA	NA	NA
SVSU	√	√	√	√	√	NA	√	√	√

Note: NA = Not Available.

### 5.2. Acquisition of E-Resources

Acquisition of e-resources is a regular and continuous process by adding of e-resources by the Management Libraries for help to users in accessing up-to-date information, thereby improving academic and research standards in the Institution. All libraries covered in the study have experienced a tremendous shift in e-content

and deluged daily by offering e-resources in a myriad of forms (Table-2). On the whole, the e-resources are moderate in number in all the study libraries. The data in table reveals that these libraries still continue to hold documents primarily in print media and are yet to move towards acquiring modern storage media.

**Table 2: Total Acquisition of E-Resources in Study Libraries**

Name of the Library	Availability of e-resources								
	e-Books	e-Journals	Data bases	e-Thesis / Dissertation	Microfilm/ Microfiches	Audio Cassette	Video Cassette	CD-ROM Databases	CD/DVD - ROMs
Amity University	250	350	10	150	NA	07	38	08	1235
BIMTECH	NA	NA	05	NA	NA	500	NA	NA	2780
Galgotia University	150	450	03	NA	NA	06	66	01	1650
IIFT	NA	30	31	NA	NA	NA	20	NA	2000
IMT	9234	9120	22	300	NA	NA	300	31	NA
IMS	155	1201	04	NA	NA	NA	NA	10	250
IMI	200	5117	14	NA	NA	30	78	02	329
MBA Dept. CCSU	1000	6398	1241	935	NA	NA	20	430	500
Shobhit University	200	150	23	NA	NA	NA	NA	NA	NA
SVSU	500	550	08	410	NA	NA	50	NA	NA

**Note:** NA = Not Available.

### 5.3. Different Sources of Finance

Finance is very important and vital factor that influences heavily and contributes much for the development and progress of any institution. Thus, finance is very essential element wherein the competent authority and all concerned should take up necessary measures to provide stable, sound and adequate financial support to meet the mandate and objectives of any given institution. The primary source of income of the Libraries is funding from the Government, Management, Marketing of Library

Products & Services and raising money by Management Libraries themselves by way of fee and other charges. However some libraries receive donation from other agencies. The Government provides grants to the Management Libraries under five year plan programme for purchase of e-resources for the plan period under certain conditions. Table 3 presents the different sources of the finance of the management libraries covered in the study. Table-3 shows that maximum libraries are receiving grant form Management and Government.

**Table 3: Different Sources of Finance in Libraries Covered in the Study**

Sources of Finance	Different sources of finance in libraries									
	Name of the Library									
	Amity University	BIMTECH	Galgotia University	IIFT	IMT	IMS	IMI	MBA Dept. CCSU	Shobhit University	SVSU
Government Grants	NA	NA	NA	√	NA	NA	NA	√	NA	NA
Management Grants	√	√	√	NA	√	√	√	NA	√	NA
Special Grants	NA	NA	NA	NA	NA	NA	NA	√	NA	NA
Library Fee	NA	NA	NA	NA	√	NA	√	√	NA	NA
Library Late Fees	NA	NA	NA	NA	√	NA	NA	√	NA	NA
Marketing of Library Products & Services	NA	NA	NA	NA	√	NA	NA	NA	NA	NA
Any other Sources	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

**Note:** NA = Not Available.



#### 5.4. Selection of E-Resources

Table-4 presents the selection of e-resources in management libraries covered in the study. The table4

reveals that the selection of e-resources is primarily made by the librarian and Library committee in management libraries.

**Table 4: Selection of E-Resources in Libraries Covered in the Study**

Responsibility	Selection of e-resources									
	Name of the Library									
	Amity University	BIMTECH	Galgotia University	IIFT	IMT	IMS	IMI	MBA Dept. CCSU	Shobhit University	SVSU
Librarian	√	√	√	NA	NA	NA	NA	√	√	NA
Library Committee	√	√	√	√	√	√	√	√	√	√
Head of the Department	NA	NA	NA	NA	√	NA	NA	√	NA	NA
Users	NA	NA	√	NA	√	NA	√	NA	NA	NA
E-Resources Committee	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Any Other	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Note: NA = Not Available.

#### 5.5. Criteria for Selection of E-Resources

The four basic criteria for selection namely quality, library relevancy, technical aspects and cost remain the same in the electronic era of information. The library aims to acquire information resources in support of teaching, learning and research. E-resources are selected on the basis of their subject content, courses and on-going research. The library will give priority to acquiring materials in e-format where this gives return on investments, enhanced service quality of users in terms of access and use of the material value for money

for the subject and appropriate assurances of long term access to the content. Table 5 presents format will be selection of e-resources in management libraries covered in the study. Table 5 reveals that the subject matter of a resource's content is priority factor determining the decision making about subscription. The quality of digital content and that of printed content is determined according to a number of parameters, among which are the authoritativeness of a resource, its value, completeness, exactness, clearness, currency, uniqueness and corresponding to academic standards.

**Table 5: Criteria for Selection of E-Resources in Libraries Covered in the Study**

Criterion	Criteria for selection of e-resources									
	Name of the Library									
	Amity University	BIMTECH	Galgotia University	IIFT	IMT	IMS	IMI	MBA Dept. CCSU	Shobhit University	SVSU
Quality	√	NA	√	√	√	NA	√	√	√	√
Subject Matter	√	√	√	√	√	√	√	√	√	√
Currency and Authority	NA	√	NA	√	√	NA	NA	√	√	√
Uniqueness of Content	√	NA	√	√	NA	NA	NA	√	√	√
Geographic Parameters	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Relevance of Material	√	√	√	√	√	√	√	√	NA	√
Cost	NA	√	√	√	NA	√	√	√	√	√
Network Capability	NA	NA	NA	√	NA	NA	√	√	NA	√
User Friendly	√	√	√	√	NA	√	√	√	NA	√

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Strength of Retrieval	√	NA	NA	√	NA	NA	√	√	NA	√
Hardware Compatibility	NA	NA	NA	√	NA	NA	NA	NA	NA	√
Software Compatibility	NA	NA	√	√	NA	√	NA	NA	NA	√
Service Implications	NA	NA	√	√	NA	NA	√	√	NA	√
Remote Accessibility	NA	NA	NA	NA	NA	NA	√	√	√	√
License Restrictions	NA	NA	NA	NA	NA	NA	NA	√	NA	√

**Note:** NA = Not Available.

### 5.6. Collection development policy

The e-resources development policy provides general guidelines for allocating funds fairly and formulating objective selection criteria. The main purpose of the e-resources development policy is to establish guidelines for the planned development of e-resources to meet the academic and research information needs of the students, researchers and faculty at the institute. From the mission statement of the management libraries, it is important to provide users with

information and access to information in support of scholarly activity, research, student learning, teaching excellence and curricular development. In this context, a question was asked regarding various considerations under e-resources development policy and responses are presented in table 6. None of the libraries covered in the study consider excluding language to exclude and whether the work is a translated on or original language in e-resources development policy.

**Table 6: Various Considerations under E-Resources Development Policy in Libraries Covered in the Study**

Consideration	Various Considerations under E-Resources Development Policy									
	Name of the Library									
	Amity University	BIMTECH	Galgotia University	IIFT	IMT	IMS	IMI	MBA Dept. CCSU	Shobhit University	SVSU
Language to Include	NA	NA	√	√	√	NA	√	√	√	NA
Language to Exclude	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chronological Limits	NA	NA	√	NA	NA	NA	NA	√	√	√
Geographical Limits	NA	√	NA	NA	NA	NA	NA	NA	√	NA
Physical Format of Material	NA	NA	NA	NA	√	NA	√	NA	NA	√
Whether the Work is a Translation or Original Language	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Whether the Work is in One Format	√	NA	NA	√	√	√	√	√	NA	NA

**Note:** NA = Not Available.

### 5.7. Modes of Procurement of E-Resources

There are different modes of procurement of e-resources based on the type and place of publication. The libraries may use simultaneously more the one mode of procuring e-resources. The data regarding

mode of procurement adopted by the study management libraries is given in table 7. None of the libraries covered in the study consider modes of procurement of e-resources through printed reviews lists, bibliographic & indexes of the library catalogue.

**Table 7: Modes of Procurement of E-Resources in Libraries Covered in the Study**

Procurement Criteria	Name of the Library									
	Amity University	BIMTECH	Galgotia University	IIFT	IMT	IMS	IMI	MBA Dept. CCSU	Shobhit University	SVSU
Through Publisher's Catalogue	√	NA	NA	NA	NA	√	√	NA	NA	NA
Use Recommendations	√	NA	√	√	√	√	√	√	√	√
Through Publisher's Website	NA	NA	NA	NA	NA	NA	√	√	√	NA
Through Aggregators/ Agents	NA	√	NA	NA	NA	NA	NA	√	NA	√
Professional Journals/ Magazines	NA	NA	NA	√	NA	√	√	NA	√	NA
Printed Reviews, Lists, Bibliographies, & Indexes of Other Library Catalogue	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Consortia Membership Information & Bulletin	NA	NA	NA	NA	NA	NA	NA	√	√	√
Curriculum Plans and Reference Lists	NA	NA	NA	NA	NA	NA	NA	NA	√	NA
Any Other	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

**Note:** NA = Not Available.

### 5.8. Modes of Acquiring of E-Resources

Mode of acquisition is an important part in collection development of e-resources subscription of e-journals and databases, especially foreign e-journals, involve more risk factors compared to Indian e-journals. Different Libraries follow

different modes of subscription to e-journals. The different libraries follow different modes of subscription to e-journals. Information from ten management libraries covered in the study was sought on mode for acquiring of e-resources is presented in Table 8.

**Table 8: Modes of Acquiring E-Resources in Libraries Covered in the Study**

Procurement acquiring e-resources	Name of the Library									
	Amity University	BIMTECH	Galgotia University	IIFT	IMT	IMS	IMI	MBA Dept. CCSU	Shobhit University	SVSU
Through Direct	√	√	√	√	√	√	√	√	√	√
Through Consortia Based	NA	NA	NA	NA	NA	NA	√	NA	√	√
Through Agent/Vendor	√	√	NA	NA	NA	NA	NA	√	√	√
Through Exchange	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Gratis with Free Printed Subscription	NA	NA	NA	NA	NA	NA	NA	√	NA	NA
Open Access	NA	NA	NA	NA	NA	NA	NA	√	NA	√
Institutional Repositories	NA	NA	NA	NA	NA	NA	NA	NA	NA	√
Any Other	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

**Note:** NA = Not Available.

### 5.9. Problems in Development of E-Resources

The demand for e-journals among the academic and research community has increased over the years. Due to decreasing budgets, libraries are forced to cancel subscriptions to important journals. The loss of journals subscriptions hampers access to scholarly research in management libraries and limits in researches in global research opportunities. In this regard a question was asked for the problems in development of e-resources

and responses and presented in table 9. Table 9 presents that the various problems associated with setting up of e-resources, followed by budget 60% management libraries, followed by infrastructure facilities 30%, trained staff 40%, networks 20%, library website 20%, internet bandwidth 40% and any other 30% libraries are covered in the study. The data clearly indicates that the different types of problems in development of e-resources are facing the study libraries.

**Table 9: Problems in Development of E-Resources**

Problem	Problems in development of e-resources									
	Name of the Library									
	Amity University	BIMTECH	Galgotia University	IIFT	IMT	IMS	IMI	MBA Dept. CCSU	Shobhit University	SVSU
Budget	NA	√	√	√	NA	√	NA	√	NA	√
Infrastructure	NA	NA	NA	NA	NA	√	NA	√	NA	√
Trained staff		NA	NA	NA	NA	√	NA	√	NA	√
Networks	NA	NA	NA	NA	NA	NA	NA	√	NA	√
Library websites	NA	NA	NA	NA	NA	NA	NA	√	NA	√
Internet bandwidth	√	√	NA	NA	NA	NA	NA	√	NA	√
Any Other	NA	NA	NA	NA	√	NA	√	NA	√	NA

Note: NA = Not Available.

## 6. CONCLUSION

Electronic resources are among the chief focus in collections today and collection development of digital libraries is greatly influenced by a number of stakeholders such as library and information science professionals, publishers, subscription agencies, database manager and information services providers.

It is clear that the process of transforming management libraries in National Capital Region (NCR) into digital libraries is painfully slow. The findings also revealed that tools and criteria used for selecting electronic materials are different from those used for printed materials. It is useful to point out that relevancy of tools and criteria used is somewhat influenced by the typologies of the library. For example, of the 15

criteria listed for selecting electronic materials, the study management libraries accepted only 4 criteria and 11 criteria partially.

The survey has revealed that select management libraries in NCR are lagging behind in strategic planning of e-resources collection development plan and its implementation. It is hoped that libraries at the institute of management study will attend to the lacunae.

For the good of the community and nation, management libraries in NCR have to strive hard to improve accessibility and diversity in the digital age. They can do it provided they possess affordable technology, the power to negotiate through a cartel, and unwavering support from the authorities. Otherwise, they are liable to fall by the wayside, as traditional as they are now.

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## Scientometric Analysis on Infertility Literature: An Indian Perspective

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### ABSTRACT

*This study reveals the research productivity in the field of infertility and the data was downloaded from the Scopus database for the period of 1985 - 2014. The collected records have been analysed to identify the distribution of records in terms of block-wise, author-wise, source wise and document wise and collaboration pattern among authors during the study period of 30 years. The growth rate has also decreased gradually and correspondingly doubling time has increased. The paper reveals high degree of collaboration with 96.03% contributions of joint authorship. The average collaboration coefficient is 0.62 and average collaboration index value is 3.6. High level of co-authorship exists among the two and three authorship pattern in infertility researchers in India. Most of the prolific authors have their publications with the co-authorship. Research findings are communicated through the journals to the community. Authors have collaboration with different departments of same institute or different institutes within country are higher than the international collaboration. From the study it understood that collaboration with developed countries helps to improve the research performance of India.*

**Keyword: Infertility, India, scientometrics, collaboration pattern**

### 1. INTRODUCTION

Infertility is a term used to explain the inability of a woman to conceive after two years of constant efforts. Infertility problems have been a source of concern in India lately. According to 2013 World Bank estimate, the drop in fertility started about 10 years ago in India, with a steady 17 percent decline from the year 2000. (TNN).<sup>1</sup> Infertility is growing at an alarming pace, especially in metros, says a recent report from the International Institute of Population Sciences. It is

estimated that of the 60- 80 million couples suffering from infertility globally every year, between 15- 20 million are in India alone. Latest research indicates that 10 percent of urban Indian couples in their reproductive age are infertile.<sup>2</sup> A recent survey has revealed that approximately 46 per cent of Indians who are looking for medical assistance for giving birth to a child and are in the age group of 31 to 40 years are sterile. This implies that they have been failed to give birth to a baby even after being at it for 2 years. The survey

was conducted across 9 cities in the country – Mumbai, Bangalore, Delhi, Hyderabad, Ahmedabad, Agra, Kolkata, Kochi and Chennai and took into account 2,562 patients. “It is believed that 10% of the general population suffers from some form of infertility.”<sup>3</sup>

Scientometric studies are useful in quantifying the growth of literature, status of research effort of a country, institution and an individual in various domains of scientific endeavors. It will help the policy makers and science administrators to have better insights in framing science policy and guiding the researchers. The purpose of the present study is to measure the productivity of Indian scientists contributing to world infertility research using various scientometric techniques.

## **2. REVIEW OF LITERATURE**

**Jeyshankar and Vellaichamy (2015)**<sup>4</sup> were analysed Indian research output in Lung Cancer. The analysis shows that majority (94%) of the scientists preferred to publish research papers in joint authorship. They found that USA was the major collaborating partner of India with a share of 24.66% publications. Tata Memorial Hospital, Mumbai is the most productive institution in India on Lung Cancer research. It has contributed 16.90% of the total research output. Indian Journal of Cancer was the most productive journal of Lung Cancer research and it has contributed 8.65% of publications. **Chitra and Jeyshankar (2012)**<sup>5</sup> studied growth of Neuroscience literature during 1972 – 2011 (40 years). The Scopus database has been used to retrieve data in the field of Neuroscience. 35869 records were extracted from Scopus database. They analysed RGR, Dt, authorship pattern, collaborative index, degree of collaboration, collaborative coefficient and modified collaborative coefficient. The quality of the journal is assessed by SJR and SNIP.

**Jeyshankar and Vellaichamy (2014)**<sup>6</sup> were discussed the worldwide productivity of Cervical Cancer research output. The data is retrieved from

SCOPUS database for the period of ten years from 2003-2012. They were analysed 18060 records during the study period. The study found that USA was the most productive country on cervical cancer research with 26.04% of publications. Indian researchers have contributed 730(4.04%) papers on cervical cancer research with seventh place. The study also revealed that Gynecologic Oncology (1079 papers) was the most productive journal publishing global research output on cervical cancer research and C.J.L.M. Meijer (119 papers) was the most productive author on cervical cancer research. National Cancer Institute (USA) was the most productive (13.61%) institution on cervical cancer research in the world.

**Bhardwaj, Raj Kumar (2014)**<sup>7</sup> attempted to make a scientometric assessment of research on dengue during 2001-12 from the data obtained from Scopus multidisciplinary database and analyzed. The study revealed that there were 9618 publications within the study period. During the period 2001-12 annual growth rate was 13.4 %, compared to 14.31 % in the period 2001-2006, and 12.48 % in 2007-2012. USA was found to be the leading country on dengue research with 24.88 % of world publications.

**Gupta and Bala (2013)**<sup>8</sup> retrieved the data for 10 years (2003-12) by searching the keywords “bone marrow” in combined Title, Abstract and Keywords field from the Scopus database. It observed that the Indian publications output in bone marrow research consisted of 2613 papers during 2003-12. The international collaborative share of India in overall bone marrow research was 11.56% during 2003-12, which increased from 10.43% during 2003-07 to 12.18% during 2008-12. It helps to understand that there is need to increase efforts in the R and D and improvement of supportive care and also need for establishing national data management system. **Gupta and Adarsh Bala (2012)**<sup>9</sup> analyzed the Indian research output in medicine during 1999-2008 and concluded that India holds 12<sup>th</sup> rank in medicine research with the global publication share. High quality research in India requires strategic planning, funding and resource

## Scientometric Analysis on Infertility Literature: An Indian Perspective

support and the improvement in the existing medical education system to enrich the research culture.

### 3. METHODOLOGY:

The infertility research publications were downloaded from the Scopus database which is the largest abstract and citation database of peer-reviewed literature. The publication output on infertility in India during the period 1985 - 2014 was taken for the study. A total of 1764 publications of the Infertility literature output by Indian scientist. Bibliographic details of the documents were exported to MS-Excel and analyzed based on the scientometric indicators.

### 4. OBJECTIVES:

- To identify the growth of literature and publishing pattern during 1985-2014;
- To analyze the collaboration pattern among authors;
- To find out the core journals in this research field and
- To identify the most productive institutes and most productive authors in this area.

### 5. RESULT AND DISCUSSIONS

**Table 1. Block-wise scientific productivity**

Year block-wise	No. of papers	%	Cumulative	%	APPB
1985 - 1989	57	3.23	57	3.23	11
1990 - 1994	68	3.85	125	7.09	14
1995 - 1999	110	6.24	235	13.3	22
2000 - 2004	239	13.55	474	26.9	48
2005 - 2009	405	22.96	879	49.8	81
2010 - 2014	885	50.17	1764	100	177
Total	1764	100			353

Research output on infertility in India during the period 1985 – 2014 consists of 1764 records with an

Average Publication Per Block (APPB) as 353. It can be observed that there was a steady growth in publications over the study period. Except during the block 1990 - 1994, the publications were almost doubled in each block shows a healthy publishing trend.

**Table 2. Relative Growth Rate and Doubling time of the Publications**

Year block-wise	No. of Papers	Cumulative $N_1$	Loge $N_2$	Loge	RGR	Dt
1985 - 1989	57	57	-	4.04	0.809	0.86
1990 - 1994	68	125	4.04	4.22	0.035	19.64
1995 - 1999	110	235	4.22	4.70	0.096	7.21
2000 - 2004	239	474	4.70	5.48	0.155	4.47
2005 - 2009	405	879	5.48	6.00	0.105	6.57
2010 - 2014	885	1764	6.00	6.79	0.156	4.43

The table 2 illustrate the RGR and Dt. From the study, it concluded that the Relative Growth Rate is from 0.809 to 0.156 showing a decreasing trend but doubling time is showing the increasing trend with the values of 0.86 to 4.43. The publications on infertility research are increased with the doubling time indicator.

The table 3. Provides the collaboration pattern among authors. To assess the pattern of co-authorship, the following formula suggested by **Garg and Padhi (1999)<sup>10</sup>**. The country's co-authorship effort for a particular type of authorship is considered as world average when  $CAI = 100$ . Additionally,  $CAI > 100$  implies that higher co-authorship effort than the average and  $CAI < 100$  means lower co-authorship effort than the average. From the study, it found that 96.03% of the publications were made with the effort of joint authorship whereas single authorship publications were found very low. The average collaboration index during the study was 3.6 and the average degree of collaboration was 0.89. The correlation coefficient and modified correlation co-efficient is same.\

**Table 3. Collaboration pattern among authors**

Year block-wise	No. of authors				Total		CI	DC	CC	MCC
	1	2	3	> 3	Papers	Authors				
1985 - 1989	5	12	23	17	57	172	3.02	0.91	0.6	0.6
1990 - 1994	6	18	25	19	68	220	3.24	0.91	0.6	0.6
1995 - 1999	17	19	30	44	110	370	3.36	0.85	0.58	0.58
2000 - 2004	27	52	65	95	239	846	3.54	0.89	0.61	0.61
2005 - 2009	39	60	79	227	405	1684	4.16	0.90	0.66	0.66
2010 - 2014	70	135	174	506	885	3786	4.28	0.92	0.67	0.67
Total					1764	7078				

**Table 4. Co-Authorship Index**

Year block-wise	Single author	CAI	Two authors	CAI	Three authors	CAI	> 3 authors	CAI	Total
1985 - 1989	5	94.4	12	125	23	180	17	57.9	57
1990 - 1994	6	94.9	18	158	25	164	19	54.3	68
1995 - 1999	17	166	19	103	30	121	44	77.7	110
2000 - 2004	27	122	52	130	65	121	95	77.2	239
2005 - 2009	39	104	60	88.3	79	86.9	227	109	405
2010 - 2014	70	85.1	135	90.9	174	87.6	506	111	885
Total	164	666	296	695	396	761	908	487	1764

Table 4 shows that the co-authorship index for single, two and three authors are declined from the block year 1985 - 1989 to 2010-2014. For more than three authors, co-authorship index is increased from 57.9 to 111 during the study period. It means that high level of co-authorship exists among the two and three authorship pattern in infertility researchers in India.

**Table 5. Document Type**

Document type	No. of papers	%
Article	1315	74.5
Review	276	15.6
Letter	80	4.54
Editorial	22	1.25
Conference Paper	20	1.13
Short Survey	20	1.13
Note	10	0.57
Book Chapter	4	0.23
Undefined	17	0.96
Total	1764	100

During the study period, Out of 1764 publications most of the publications (74.5%) were found as articles followed by 15.6% review; 4.54% letter and other type of publications like conference papers, short survey, note, book chapters were below to 1.5% in table 5. It makes to understand that most preferred publishing channel of the researchers were journal articles.

Dominance factor formula in bibliometrics has been developed by **Keerti and Kumar (2011)<sup>11</sup>**. Dominance is the proportion of number of multi-authored papers as first author to number of multi-authored papers of the author. From the study, top 10 contributors were considered as most prolific authors with more than 20 publications in the infertility research in India during the study period. Among them Dada, Rima was the most prolific author with 49 publications as first author for 13 publications with dominance factor 0.265 followed by Kumar, R with 38 papers as 17 first authored with dominance factor 0.472 over the study period.

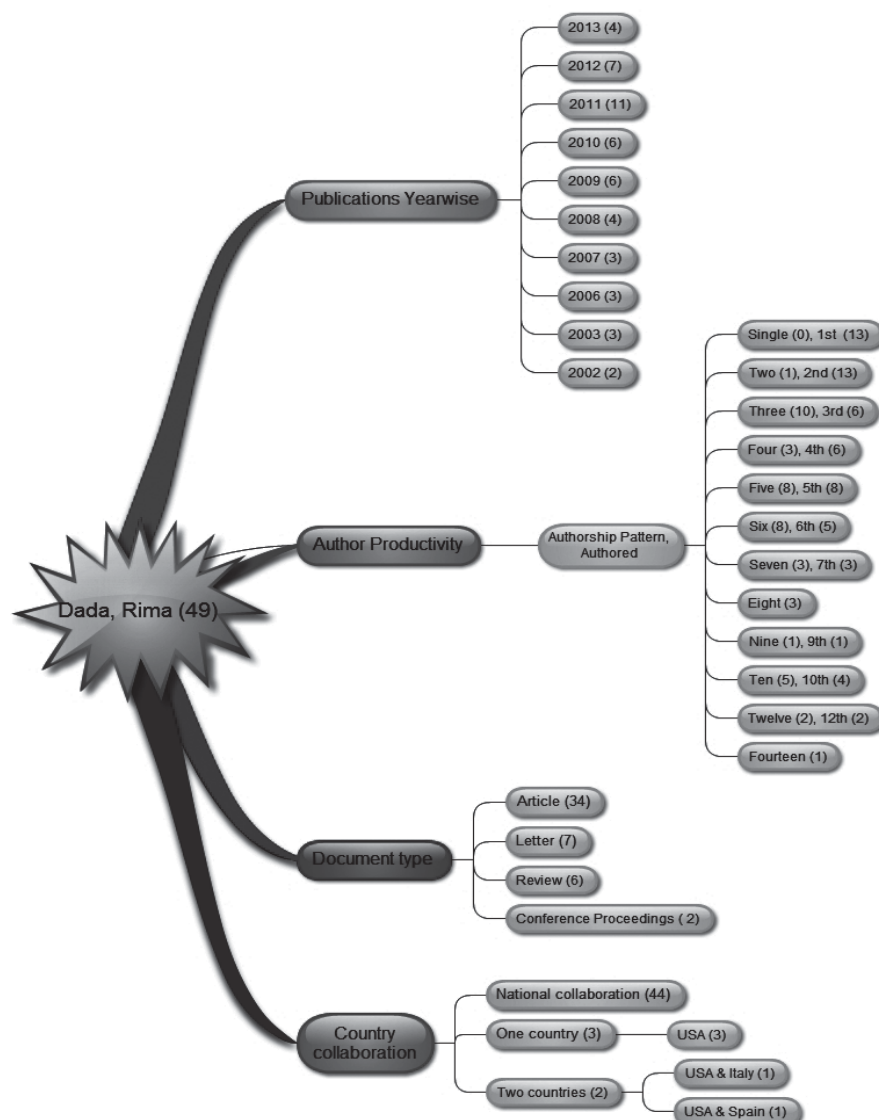
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**Table 6. Most Prolific Authors (top 10)**

Author	No. of papers	Single authored	Multiple authored	1st authored	Dominance Factor	Rank
Dada, R.	49	0	49	13	0.265	V
Kumar, R.	38	2	36	11	0.305	IV
Malhotra, N.	35	0	35	8	0.229	VI
Mittal, S.	34	0	34	2	0.059	X
Gupta, N.P.	31	0	31	3	0.097	IX
Chakravarty, B.N	28	2	26	4	0.154	VII
Singh, N.	28	0	28	13	0.464	II
Kumar, S.	26	4	22	18	0.818	I
Agarwal, A.	26	0	26	3	0.115	VIII
Shamsi, M.B.	24	0	24	8	0.333	III

Mapping of Research Profile of Dada, Rima

Among these 10 authors, only Kumar R, Chakravarty B N and Kumar S have single authored papers with 2, 2 and 4 respectively. All these authors have collaboration among them in producing their research effort than the single authorship. It shows the performance of the research can be achieved well by the team work. Authors are ranked with their dominance factor and highest dominance factor value represents that their first authored papers are high with respect to their number of publications.





**Table 7. Most productive journals in infertility research in India**

Journal title	No. of papers	%
Journal of Human Reproductive Sciences	87	0.05
Fertility and Sterility	72	0.04
Indian Journal of Medical Research	39	0.02
Journal of the Indian Medical Association	37	0.02
International Journal of Gynecology and Obstetrics	34	0.02
Archives of Gynecology and Obstetrics	31	0.02
Journal of Clinical and Diagnostic Research	28	0.02
Human Reproduction	26	0.01
Indian Journal of Urology	24	0.01
Andrologia	24	0.01

Table 7 depicts most productive journals in infertility research in India. During the study period Indian researchers were published their research findings in 160 journals. Out of those 160 journals, with more than 20 publications were considered as top 10 productive journals in India. “Journal of Human Reproductive Sciences” was the top most with 87 publications; “Fertility and Sterility” was in the next position of most widely used journal by the researchers to publish their research findings.

**Table 8. Communication channel of the Researchers**

Source type	Contributions	%
Journals	1752	99.3
Book Series	5	0.28
Books	4	0.23
Conference Proceedings	2	0.11
Trade Publications	1	0.06
<b>Total</b>		<b>100</b>

The table -8 shows the Communication channel of the Researchers. It has been observed from the study that researchers are finding the journals as their publishing medium to communicate their research findings with the community. Book series, books, conference proceedings and trade publications were rarely used to communicate the research findings.

**Table 9. Top ten Indian Institutes in Infertility Research**

Most Productive Institutes in India	No. of publications	%
All India Institute of Medical Sciences	223	0.13
National Institute for Research in Reproductive Health	48	0.03
Post Graduate Institute of Medical Education and Research	45	0.03
National Institute of Immunology	39	0.02
Chhatrapati Shahuji Maharaj Medical University	39	0.02
Centre for Cellular and Molecular Biology	36	0.02
Central Drug Research Institute	33	0.02
Kasturba Medical College, Manipal	32	0.02
Institute for Research in Reproduction	32	0.02
Vardhman Mahavir Medical College and Safdarjung Hospital	29	0.02

Table 9 provides the top ten India institutes in infertility research. Out of 160 institutes were affiliated in the research output of infertility research in India, ten top most institutes which were contributed more than 25 publications were considered. Out of those 10 institutes, All India Institute of Medical Sciences is the top most with 223 publications followed by National Institute for Research in Reproductive Health with 48 publications; Post Graduate Institute of Medical Education and Research with 45.

## 6. CONCLUSION

Even a survey says infertility rate is declining in slow pace over the years research on infertility has not been done much in the earlier decades. It may be the cause of beliefs, traditions and customs of our country. Since it is a multidisciplinary subject, the team effort among the authors from different departments could be found. From the study, we could found that in early stage all the researches were done without country collaboration. In later stage, India collaborated with other countries, mainly with United States it has performed well in the infertility research. It understood

that with the advanced technologies and infrastructure facilities, our research can be much better to compete with declining rate of the infertility of our country. The policy makers and administrators take initiatives to provide the support for the institutions to do their researches well.

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## LAW COLLEGE LIBRARIES OF PUNJAB

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### ABSTRACT

*The survey attempts to explore and evaluate the resources and services available in law college libraries of Punjab. Data Collected through distribution of a questionnaire to 13 colleges, highlights their infrastructure, collection, technical processing, services, finance, personnel and computer usage. The data is limited to 13 colleges established till 2008.*

**KEYWORDS : Law Colleges; Libraries; B.A, LL.B.; Punjab**

### INTRODUCTION

Legal education is fundamental for the progress of a nation aiming at all round development of learners. Colleges being the first doorstep en route for higher education, libraries act as the hub of their academic activities. Among various types of colleges, the colleges of Law are centres grooming for future judges, lawyers, legal advisers and law teachers.

Punjab is one of the 28 states of India, located in its North-West. According to Statistical Abstract of Punjab (2014), in 2013, Punjab had 12 Universities, 240 Arts, Science, Commerce and Home Science Colleges, 84 Engineering, Technology and Architectural colleges, 08 Medical Colleges, 187 Teacher Training Colleges (B.Ed./M.Ed.), 4178 Senior Secondary schools (10+2 Pattern) and 4632 High Schools. If we consider the percentage of literates, Punjab has seventh rank amongst the states of India. In the beginning of 21<sup>st</sup> century, a number of law colleges/institutions have proliferated in Punjab. These institutions can be categorized into following which are given below:

1. Law University	01
2. University Colleges of Law	05
3. University Regional Centers	04
4. Law Colleges (LL.B.) & (.B.A, LL.B.)	13

### OBJECTIVES

The objectives of the study are:

- To understand physical facilities, collection and finance of the libraries.
- To take stock of services and personnel of the libraries
- To understand use and utility of computers in these libraries.

### REVIEW OF LITERATURE

A number of studies have been conducted on different types of libraries. However, selective studies on library services confined to India are reviewed here.

**Prasher (1991)** in his book titled 'Managing University libraries' evaluated the organization and working of the five libraries of agricultural universities of northern India. He studied the place of the library in the organizational set up of the university, objectives and functions of the libraries, internal organization, budget, staff, resources, building and readers' services.

**Tadasad and TaliKothi (2000)** in their paper examined the awareness and utilization of resources and services of City Center Library, Gulbarga. The study was based on

the survey of two hundred and twenty nine users. It was found that a majority of the users were aware of resources and services in the library. The study highlighted that majority of the respondents were satisfied regarding the resources, services and facilities provided in the library. Some users were unaware of non-book material and inter-library loan. The authors suggested regular awareness programs so as to increase the optimum utilization of the resources, services and facilities in the libraries.

**Mishra and Satyanaryana (2001)** conducted a study on Tagor library of Lucknow University for uses of internet in a university library. The study was based on primary data collected through questionnaire method from a sample of fifty respondents. The main focus of the study was to assess the purpose of using internet and its impact on their working. The study concluded that internet was a useful tool for the library and information professionals for performing their duties.

**Varma et.al.(2008)** in their paper discussed the details of the organizational structure and communication pattern of the Agriculture College Library, Gawalior . The study revealed that structure of the college library was divided into three parts : sections of library, collection of the library and services of library. The communication facilities available in library were Intercom, Telephone, Telex, Fax, Satellite, E mail, Internet, Mobile, photocopy etc. The study suggested the improvement in the networking facility and full automation of the library for its efficiency.

**Arjun and Kumar (2009)** in their research paper analysed the user's satisfaction level with the departmental libraries in Punjabi university Patiala. The study was based on primary data collected from a sample of 150 respondents taken from 23 departments having independent libraries in the university. The study found that the condition and arrangement of library materials in most of these libraries was good. The study recommended for more funds for the departmental libraries so as to improve their condition and user's satisfaction level.

**Street and Runyon (2010)** in well written article examined the response of academic law libraries to the call for more practice-oriented legal education. The authors compared trends in collection management decisions regarding secondary sources at academic libraries and law firm libraries. The study highlighted that the academic libraries and firm librarians could work together to provide law students with materials needed in practice. It was pointed out that multiple factors should be considered while choosing the collection for the law libraries and also while making cancellations and adjustment to existing collection. The authors emphasized on the importance of print material along with the increased reliance on electronic media. Finally it was recommended that the academic law libraries should provide law students with the tools to understand research in the practical setting and the contact with the law firm libraries, court and other government law libraries should be promoted. Thus, the academic law libraries should provide the law students both the theoretical as well as practical material in the broader context.

**Cervenka (2011)** discusses how she brought the maximum utilisation of space in library and services of library staff. "Library without walls" has a literal meaning in the sense that it had great workspace with windows for every office. It also has a metaphorical meaning in the sense that the staff members were cross – trained in various services and they could work in different sections without any restrictions. Thus the staff members could work on circulation or reference desk

and not so critical jobs were assigned to students. The building supervisor group took care of building hours, maintained the online study room reservations and controlled building access. Self – checkout stations were placed on upper floors. The materials needed most often were housed at the first floor, whereas, the materials in less demand and most likely to be replaced by digital counterparts were placed on third and fourth floors. The mail used to come up through elevators, but new practices like opening the packages in the mailroom, attaching invoices packing slips, and disposing of the cardboard packaging there and then made the work less cumbersome.

**Mohinda and Kumar(2013)** explore the type and nature of e- resources in law discipline under UGC – INFONET consortia. With the advent of internet, information is expanding, prices of e-resources are rising and simultaneously libraries’ budgets are shrinking. The libraries have responded to this by forming consortia and one such consortium has been launched by UGC i.e UGC – INFONET digital library consortium. The paper discusses the objectives, advantages and resources available under this consortium. The authors find that only 132 journals available under the consortium are listed in the highly respected Washington and Lee University, School of Law, Journal Ranking Project. Out of these only 11 are among top 50 ranked under the project. There is need to include more journals with high impact factor in the consortium.

**Stiverson (2013)** in this article advocates the application of UELMA (Uniform Electronic Legal Material Act) to determine whether an online legal material is authentic or not. Many U.S states have enacted it and the writer wants others to follow suit. As about “authentication”, its sole purpose is to assure the reader that whatever primary legal material he is viewing online “is the officially published version”.

**Chiorazzi (2014)** dwells on the evolution of the profession of law librarianship in USA and the current challenges faced by it. This article is an edited version of the lecture that author gave at AALL annual meeting. Professor chiorazzi starts by reminiscing about his

association with some of the doyens of profession. Next he gives a history of library education in USA delineating the major events and their significance since its birth purported to be in the year 1853. The latter half of the article is devoted to the present issues facing library education and profession in the face of economic downturn and its interdisciplinary nature, particularly the dichotomy between library science and information science.

**Cleland (2014)** discusses an innovative training programme that was implemented at Wilmer Hale’s Library and Research Services. Apart from providing research and reference services law librarians are required to organise training sessions for their patrons so as to promote the use of library resources and services. At Wilmerhale, a core committee was created for this purpose and each committee member was assigned a topic. The presentations were improved by conducting mock sessions and incorporating vital feedback. Final courses could cater to the whole range of law firm’s Learning Management System (LMS). Though it was a challenge to market the courses to appropriate patron groups, but overall the training programme was quite a success.

**Narayan Uma (2014)** in ‘The Role of Law Libraries in Legal Education’ takes a look at the changed role of law librarians in the present circumstances. There has been a spurt in legal information due to evolution of online format and globalization. Therefore, law librarian’s responsibility is to teach the users to navigate and sift through the legal sources. He has to be aware of the latest technologies, legal terminologies, information needs and learning behaviour of the students. Law is increasingly becoming complex, interdisciplinary and there are changes in its practice. Hence there is need to start an advanced course in law librarianship in India to train the law librarians.

**O, Leary (2014)** in this article discusses the challenges posed by a skype interview for a librarian. The research committee members may prefer this type of interview to a telephonic interview as it gives them



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chance to interact face to face with an interviewee. Indirectly they can also judge his technical competence. The failure of the connection may be construed to be a candidate's fault. So instead of home internet connection, the author preferred the campus network. An expensive wireless headset with microphone, took care of the problems related to sound. Proper lighting and undergoing mock skype interviews in advance were other precautions that he took. In the end he got a handsome job, but he advises the readers to be prepared for any unforeseen problems.

## SCOPE

The study is limited to all the colleges affiliated to Punjabi University, Patiala (PUP), Panjab University, Chandigarh (PUC) and Guru Nanak Dev University (GNDU), Amritsar offering five year courses in the subject of Law and approved by Bar Council of India (BCI). The present study has been restricted to institutions offering five year courses because after visiting many law libraries where three year law courses are offered, it has been observed that Law College libraries where five year integrated courses are offered, are far better equipped in terms of finances, services and use.

## METHODOLOGY

A questionnaire as a tool was compiled and distributed among the select colleges by personally visiting their libraries so as to get the data instantly and with more precision. The data is presented, analyzed, interpreted and supplemented with tables for realizing the objectives.

## FINDINGS

The results of the survey, after an analysis of data collected, are discussed below:

## INFRASTRUCTURE

A separate reading room with sufficient seating capacity and free from disturbance is the essence of all types of libraries.

**Table 1 Separate Reading Room**

Separate Reading Room	No. of Libraries			Total
	PUP	GNDU	PUC	
Yes	3 (42.86)	3 (100.00)	-	6 (46.15)
No	4 (57.14)	-	3 (100.00)	7 (53.85)
Total	7 (100.00)	3 (100.00)	3 (100.00)	13 (100.00)

Survey revealed that only 06 (46.15%) libraries had separate reading rooms for users, while in remaining libraries chairs were arranged within stack area. Similarly, 05 libraries had separate librarian's offices to perform the documentary work. In remaining libraries these were in the form of tables or cabins in corners of libraries. Out of 07 law colleges of Panjabi University, Patiala (PUP), 03 college libraries had reading hall facility. All 03 law college libraries that come under GNDU had reading room facility. No college library under PUC had reading room facility.

According to Bar Council of India Inspection Manual (2010), library shall have adequate reading space for at least 25% of enrolled students. These standards were found to be not met by 08 libraries.

## COLLECTION

Ten libraries have reported to adhere to book selection policy of the institution but none of them possess any written document thereof. It is found that teachers and principals of colleges play main role in book selection process. The book collection strength of the libraries is shown in Table 2.

**Table 2: Total Book Collection of Libraries**

Total number of books possessed	No. of Libraries			Total
	PUP	GNDU	PUC	
0 – 5000	4 (57.14)	2 (66.67)	3 (100.00)	9 (69.23)
5000 – 10000	3 (42.86)	1 (33.33)	-	4 (30.77)
More than 10000	-	-	-	-
Total	7 (100.00)	3 (100.00)	3 (100.00)	13 (100.00)

It reveals that a majority of libraries (9) had a collection of upto 5000 volumes each, while four

libraries possessed 5000 to 10,000-volumes each. No college library received grants from either University Grants Commission (U.G.C) or State Govt. Textbooks comprised major portion of library collection. Textbooks comprise major portion of library collection. Three libraries have book banks to help poor and needy students. Majority of libraries are subscribing for legal databases like Manupatra and SCC online. Libraries have non-book material in inadequate quantity, mainly CD's that come free with books. There were only two libraries subscribing to foreign journals.

### **BOOK PURCHASE COMMITTEE AND STOCK VERIFICATION**

The colleges constitute a committee called 'Book Purchase Committee'. The respective Principal of the college is the Chairman of library committee in eight libraries whereas in two colleges lecturer heads the committee and in these two colleges chairman does not exist at all. In one college, Management plays role of the chairman and it comprises Principal as convener and lecturers and librarian as members. Librarian acts as the member secretary of the committee in 08 libraries and these committees are advisory or executive in nature. 11 libraries undertake stock verification on regular basis whereas one library undertakes stock verification once in two years and the remaining 01 library carries out the same every three years.

### **TECHNICAL PROCESSING AND ACCESS**

There are five libraries with a collection not arranged according to any classification scheme. Eight libraries possess either fully or partially classified collection. All the 08 libraries use D.D.C (22<sup>nd</sup> edition). The libraries catalogue their collection either fully or partially using either AACR-I or AACR-II. Four libraries follow open access system in stacks area, another four libraries undertake open access partially and five libraries have closed access to collection

### **SERVICES**

Our education system is becoming more and more complex. The classroom instruction alone cannot be considered sufficient to attain educational objectives. College libraries exist to supplement their parent institutions in achieving educational goals, therefore they are expected to provide the necessary services and facilities to users. Services provided by libraries under study are discussed here.

### **OPENING HOURS OF LIBRARIES**

Opening hours of libraries have direct bearing on the use of their resources and services. Survey brought to notice that 06 (46.15%) libraries were being kept open for 6-7 hours a day, while remaining 06 (46.15%) libraries were being opened for 7-8 hours daily. Working hours of majority of the libraries coincided with class hours. All libraries remained closed along with their parent colleges on Sundays and holidays, but were kept open during vacations. It has been found that during vacations also majority of the libraries were kept open for 6-7 hours a day. Only 01 library under PUP remained open for 12 hours during routine days and for 14 hours during exam days. This library remained open on Sundays and holidays also.

### **REFERENCE SERVICE**

Responses revealed that all libraries were providing reference service. Librarians were further asked to indicate the type of reference service being rendered.

#### ***Type of Reference Service***

Only 11 libraries were providing short-range as well as long range reference service like helping the students to find case laws and helping them in using databases while 02 libraries were providing only short-range reference service to its users.

#### ***Current Awareness Service (CAS)/Selective Dissemination of Information (SDI)***

Current Awareness Service is aimed at keeping users abreast with the latest developments in the concerned

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field. Most of the libraries were providing CAS as well as SDI services. Librarians were further asked about the methods of providing CAS. The responses received for multi-choice options are tabulated below:

**Table 3: Method of Providing Current Awareness Service**

Methods of CAS	No. of Libraries			Total
	PUP	GNDU	PUC	
Display List of Recent Acquisition	4 (57.14)	1 (33.33)	1 (33.33)	6 (46.15)
Routing of Periodicals	2 (28.57)	2 (66.67)	2 (66.67)	6 (46.15)
Library Bulletin	1 (14.29)	-	-	1 (7.70)
Total	7 (100.00)	3 (100.00)	3 (100.00)	13 (100.00)

Table 3 reveals that 06 (46.15%) of the libraries were providing CAS through display of recent acquisitions and 06 (46.15%) were rendering it by display of recent acquisition lists. 01 library of PUP was providing services to users by library bulletin and librarian shared that he provided CAS through verbal discussion with the users. Out of the remaining 06 colleges of PUP, 04 were providing CAS services to users through display of recent acquisition and 02 were providing it through routing of periodicals. Out of 03 libraries under GNDU and PUC each, 01 library of each university was providing CDS services through display of recent acquisition and 02 libraries of each university were providing it through routing of periodicals.

### *Photocopy Service*

Only 06 (42.15%) libraries had provision of photocopy service, while remaining 07 (57.84%) did not. In majority of the libraries it was offered at a genuine rate of @ 1 per copy to students and free of cost to teachers.

### *Resource Sharing*

Resource sharing enables libraries to provide access to users to the resources and services beyond their

means and help them to overcome the problem of paucity of funds. Only 03 libraries were participating in resource sharing programmes with other libraries. It has been found that resource sharing was limited to books only. These libraries were co-operating with the libraries of other institutes run by the same management.

### *Referral Service and Newspaper Clipping*

Survey revealed that 07 libraries were providing referral service, while library staff of remaining 06 libraries responded otherwise. Staff of 07 libraries had maintained newspaper clipping files of important newspaper articles on education and news related to their colleges.

## ORIENTATION

Responses revealed that library staff of all libraries give orientation to users towards libraries. Library staff was asked about the method of providing orientation. Responses received are tabulated below:

**Table 4: Method of Providing Orientation**

Methods Used	No. of Libraries			Total
	PUP	GNDU	PUC	
Through Lecture	7 (100.00)	3 (100.00)	3 (100.00)	13 (100)
By Library Tour	02 (28.57)	01 (33.33)	-	03 (23.00)
Through Written Document	-	-	-	-
In any other way	-	-	-	-

It is evident from table 4 that all the 13 libraries give orientation to users through lecture method. In three libraries, a combination of lecture method and library tour was used to give orientation. In some of the libraries, users were given orientation individually at the time of giving them membership.

## CIRCULATION AND USAGE

All the 13 libraries have a practice of lending books instantly on demand. Different Libraries issue different number of books to users which are shown in Table 5.

**Table 5: Number of Books Entitled to Borrow (Students)**

No. of books books being issued at a time	No. of Libraries			Total
	PUP	GNDU	PUC	
1 – 3	5 (71.43)	2 (66.67)	2 (66.67)	9 (69.23)
4 – 6	2 (28.57)	-	1 (33.33)	3 (23.07)
7 – 10	-	1 (33.33)	-	1 (7.70)
Total	7 (100.00)	3 (100.00)	3 (100.00)	13 (100.00)

No uniformity was found among libraries on the number of books that students were entitled to borrow at a time. Majority of the libraries i.e. 09 (69.23%) entitled students to borrow 03 or less books at a time each, 03(23.07%) libraries allowed students to borrow 4-6 books each whereas remaining 01 (7.70%) library had this limit between 07-10 books. Out of 07 colleges of PUP, 05 allowed 1-3 books to a student at a time and 02 colleges allowed 4-6 books at a time. Out of 03 colleges of GNDU, 02 allowed 1-3 books to a student at a time and 01 college allowed 7-10 books at a time. 02 colleges of PUC allowed 1-3 books to a student at a time and 01 college of the same university allowed 4-6 books at a time to a students.

## TEACHERS

05 libraries (38.46%) had not fixed any loan period for teachers. They were entitled to keep books with them as long as desired. 05 libraries (38.46%) had practice of lending books for one month while in 03 libraries teachers were privileged to retain books with them for the full session.

### *Users Visit to Libraries*

Libraries exist to meet the information needs of users. The strength of users, their information needs and subjects of study etc. greatly influence the resources and services of libraries. Table No. 3(c) reveals the average number of visitors to libraries.

**Table 6: Average Number of Visitors to Libraries**

Number of Visitors	No. of LibrariesTotal			PUC
		PUP	GNDU	
0 – 40	2 (28.57)	1 (33.33)	2 (66.67)	5 (38.46)
41 – 80	4 (57.14)	2 (66.67)	1 (33.33)	7 (53.85)
81 – 120	-	-	-	-
More than 120	1 (14.29)	-	-	1 (7.69)
Total	7 (100.00)	3 (100.00)	3 (100.00)	13 (100.00)

It is evident from the above table that 05 (38.46%) libraries were being visited by 40 or lesser no. of users in a day-02 under Punjabi and PUC each and 01 under GNDU University. 07 (53.85%) libraries were being visited by 41-80 users everyday-04 under PUP, 02 under GNDU and 02 under PUC each. One library of Army Institute of Law under PUP was being visited by more than 120 users daily on the average. The number of daily visitors to libraries varied due to variation in the students' strength in colleges.

## FINANCE

All the thirteen libraries have provision for annual budget of Rs. 50,000 to 1 lac. It is disappointing that none of the libraries got any financial assistance from state Govt. /U.G.C for purchase of reading material during the period. It is found that every library spends 2-4 lac. in the initial years of college. The other sources of finance for these libraries are library fee, library development fund and amalgamated fund etc.

## PERSONNEL

It is found that 11 libraries have sanctioned post for librarians while two libraries have a post of assistant librarian. For instance library of Rayat&Bahra College of Law, Kharar under the aegis of Rayat and Bahara group of institutions is headed by an assistant librarian. Like wise library of Bathinda college of Law is managed by an assistant librarian. Rayat College of Law, Ropar has a post of regular teacher for library. Most of the libraries have not sanctioned posts of restorers while only 04 libraries have sanctioned post



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of Assistant Librarian. Similarly only 09 libraries have sanctioned posts for library attendants. Educational Qualification of librarians has a greater impact on the organizational health of libraries. The academic and professional qualification of librarians can be deciphered from the table below.

Educational qualification of librarians influences the organizational health of libraries. Higher academic and professional qualification leads to better library management and hence better library services. The academic and professional qualification of librarians working in the colleges under study can be known from table 7.

**Table 7: Educational Qualification of Librarians**

Sr. No.	Qualification		No. of Librarians			Total
	Academic	Professional	PUP	GNDU	PUC	
1.	M.A., M.Sc., Mphil	M.Lib.&I.Sc.	-	1(33.33 )	-	1(7.69)
2	M.A./M.Sc.	M.Lib./Inf. Sci.	3 (42.86)	1 (33.33)	3 (100.00)	7 (53.85)
3.	M.A./M.Sc.	B.Lib./Inf. Sci.	1 (14.28)	-	-	1 (7.69)
4.	B.A./B.Sc.	M.Lib./Inf. Sci.	3 (42.86)	1 (33.34)	-	4 (30.77)
	Total		7 (100.00)	3 (100.00)	3 (100.00)	13 (100.00)

It is evident from the table that out of 13 librarians, 07 (53.85%) possess both Master degree in Arts/ Science and Master degree in Library and Information Science, 01(7.69%) librarian possesses Master degree in Arts/Science and Bachelor degree in Library and Information Science, 04(30.77%) librarians are having Bachelor degree in Arts or Science and Integrated Master degree in Library and Information Science, and 01(7.69%) librarian is M. Phil. in History alongwith having Master degree in Library and Information Science. The Bar Council of India Inspection Manual (2010) requires each college library to be under a qualified librarian.

### USE OF COMPUTERS

The study discloses that 07 libraries have computer facility where as one library has E- granthalaya. Two libraries are using Libsys. Three libraries are using Lib guru and another two Libsoft. Six libraries do not make use of any software. However, out of these one library has compiled database of books and periodicals in 'MS-Word'. One library has acquired computer system without putting it to any use. It is clear that libraries use computers primarily to perform housekeeping operations. Out of 13 libraries, 12 (92.31%) law libraries under survey were subscribing to "Manupatra" legal

database for online research service. Supreme Court Cases online (SCC) was being used by 02 law college libraries-one of Punjabi University and one of GNDU. Westlaw, LexisNexis and one other database was being used by Army Institute of Law that comes under Punjabi University in addition to Manupatra and Supreme Court Cases.

### CONCLUSION

A study of law libraries has brought forth quite a few interesting results. With the onset of IT revolution, the traditional law library along with print material is also providing non – print material. Contrary to speculations that law librarian will vanish from the scene, his role has actually expanded. The Bar Council of India has provided the minimum library requirements under BCI education rules for the law libraries. But, Bar Council of India has not paid desired attention that it should have. Its norms and standards about libraries are not detailed and these have not been revised from time to time. Bar Council of India has merely mentioned that there needs to be a qualified librarian and other library staff. But it has not specified what minimum qualifications they need to have.

In the surveyed libraries, though the librarians were qualified and experienced, yet they were not keeping



themselves updated with the latest developments in the profession as, as many as 85% of them had not participated in refresher courses and workshops. 4 of the surveyed libraries had no library committee, and even where there were library committees, librarians had little say in selection of books. Principal and teachers enjoyed monopoly in this regard. The surveyed libraries were short of the supportive staff as well. The analysis makes it clear that overall picture of these law college libraries is not satisfactory. Books are not properly housed, which poses problems for future expansion. Size of collection of different categories of college libraries is hampered by finances available for the purchase of reading material. In large number of libraries, reference collection is found to be very small which needs immediate attention. Libraries don't have a proper book selection policy to keep the things on right track. While interacting with librarians it was noted that many of them are unaware of the many innovative services used in libraries. This indicates the urgent need to update Personnel in professional skills. In some libraries, it is observed that staff is not sufficient, which has impact on the organization and services of these libraries. In many libraries, supporting staff is inadequate and the personnel serving at a lower hierarchy are less qualified and even in cases illiterate which is harming the quality of library services. While interacting with librarians a few disclosed that they are not given the status equivalent to teachers. Further, the norms and standards of Bar Council of India (BCI) for library staff are not followed and there is need to follow these in letter and spirit and give library personnel status due to them.

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