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Centralization of Educational Resources in UGC Funded Institutions: A proposal for Open Online Catalogue

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Centralization of Educational Resources in UGC Funded Institutions: A proposal for Open Online Catalogue

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Abstract

Reducing duplication of works across library platforms is a highly discussed subject. Bringing together different bibliographic records of various types of documents (books, journals, theses and other types of materials) that are situated in particular libraries of UGC funded institutions would largely help in avoiding duplication efforts. In India, there are handful of such initiatives are taking place to make information services as centralized on a common platform and several similar activities are under work in progress. In-line with such developments having a common integrated centralized Online Public Access Catalogue (OPAC) across higher edcation sector is a must. In this article authors have made an attempt to put forward a proposal for developing a centralized OPAC for UGC funded institutions.

Keywords: Higher education, Catalogue, Union catalogue, Online catalogue, Centralized catalogue, Open catalogue

1.   Introduction

Libraries are called gateway of knowledge, and Online Public Access Catalogue (OPAC) is the window to library resources. As more and more library resources and services are getting on online platform, the importance of OPAC is gaining momentum. Online catalogue has got its importance due to its machine readability standards such as MARC. India is a large country with robust higher education system which comprises Central Universities, State Universities, Deemed Universities, institutions of national importance like IISc, IISERs, IITs, IIMs, IIITs, AIIMSs and Colleges catering the higher educational needs of the country. Govt. of India is spending a large chunk budget for upscaling higher education and continous growth of these systems.

S No	Type	2005-06 (as on Mar 31, 2006)	2015-16 (as on Mar 31, 2016)
	Table 1: Growth in Number of Higher Education Institutions (2005-06 & 2015-16)		
1	Central Universities	20	47
2	State Universities	216	345
3	State private universities	0	235
4	Institutions/deemed-to-be universities	101	123
5	Others	5	3
	Total Universities	342	753
6	Colleges	18064	41435

(Source: Duraisamy, 2008; UGC Annual Reports 2015-16; UGC Pay Review Committee, 2017)

2.   Concept note

There are several definitions have been adopted to explain Union catalogue. For example, Union catalogue is a combined catalogue of holdings of books or periodicals or both mentioning location, edition, number of copies by accession numbers, volumes, etc. of a number of homogeneous or heterogeneous participating libraries covering library materials in all fields or limited by subject or form of material arranged by subject, or author[1].

According to Collins Dictionary "a library catalogue combining the catalogues of several different libraries or different divisions of one library"[2]. International Encyclopaedia of Library and Information Science define Union Catalogue as "a catalogue that contains not only a listing of bibliographic records from more than one library, but also locations to identify holdings of the contributing libraries" [3]. According to the Harrods Librarians Glossary Union Catalogue is "a catalogue of the various departments of a library, or of a number of libraries, indicating their locations"[4]. International Encyclopedia of Library and Information Science define National Union Catalogue as "a generic term for a catalogue which aggregates records of the holdings of libraries in a particular country, so as to provide a particularly comprehensive national bibliographic tool, and to list locations of copies of publications held by the contributing libraries, to facilitate access and interlending"[5].

3.   What is Unique in Union Catalogue?

Union catalogue are little different form other catalogue species. Some of the unique features of union catalogue include:

Provides location of a given book or periodical held in specific participating libraries; Provides assistance in interlibrary loans to private persons; Enables better co-ordination in acquisitions (i.e. through co-operative acquisition) and processing (i.e. through centralized cataloguing) amongst participating libraries; Ensures resulting economy in co-operative procurement; Provides bibliographical information in either automated, microfiche, card or printed form; Conservation of the list of titles owned by the participating libraries works as a "shadow catalogue" or "standard catalogue" for collection destroyed by fire or war; Works as a book selection apparatus; Can control unnecessary duplication of books in participating libraries; Works as a combined record of library materials of the libraries of a region or of a nation; Being a combined list, the union catalogue can indicate the possible gap in collection of a specific library in any subject area. Union catalogue also help in getting high recall and readers have wide choices to select documents across larger geographical area.

The following are the conditions for successful union catalogues; firstly standardization, cataloguing contributed to the union catalogue is done in accordance with national and international standards. Second, that every participating library commits to cataloguing according to their means—that is playing their part in doing original cataloguing for the benefit of all—while using already created records according to their needs. Third, that cataloguing is not only standardized but also done in a timely manner. No one, local or remote, can have access to an uncatalogued resource. Fourth, a willingness to share local resources with others as well as to take advantage of remote resources through inter-library lending and document delivery services. That is, to contribute to as well as take from the resource sharing system. Finally, adequate financial support that maintains the union catalogue and the resource sharing system that is based on it. As most the rules also have some extent of customization according to local conditions, by using these same priniciples centralized online catalogue can be evolved.

4.   Types of Union Catalogue

There are two major types of union catalogue;

-   Centralised union catalogues: The traditional way is to establish a centralised database into which records may be contributed either directly (create records in the central database) or indirectly (local catalogue first, then upload to union catalogue), or both.

-   Distributed union catalogues: The distributed union catalogue has become a popular concept in some library circles in recent years. In this model, the local catalogues are linked through their respective servers, probably using Z39.50, while the Z39.50 client searches each catalogue in turn, creating "on the fly" a virtual union catalogue.

5.   Selected Union Catalogues in India

There are several examples and efforts for building union catalogue are seen in India. Some of the prominent successful examples are discussed below;

5.1   IndCat - Online Union Catalogue of Indian Universities[6] is unified Online Library Catalogues of books, theses and journals available in major university libraries in India. The union database contains bibliographic description, location and holdings for 14127338 books, 35248 journals and 271581 theses in all subject areas available in more than 181 university libraries across the country. A Web-based interface is designed to provide easy access to the merged catalogues. The IndCat is a major source of bibliographic information that can be used for inter-library loan, collections development as well as for copy cataloguing and retro-conversion of bibliographic records.

5.2   NUCSSI (National Union Catalogue of Scientific Serials in India) is the first indigenous database that serves as an ideal tool to access journal holdings information. This is a product developed by NISCAIR. Journals are the main source of Science and Technology information. NUCSSI [7] is a data repository of a large number of unique journal titles and library holdings belonging to major universities, S&T institutions, R&D units of industries, institutes like IISc, IITs and professional institutes spread all over the country. NUCSSI has total 5632 journals and other holdings with a total of 67881 documents covering 72 libraries.

5.3 AgriCat[8] **-** is another good example for union catalogue in the area of agriculture. This cover holdings of 38 major partner libraries of the ICAR (Indian Council for Agricultre Research) under eGranth Consortium Project with headquarters at IARI, New Delhi. The data is being contributed to OCLC in standard MARC II format for the preparation of union catalogue of National Agricultural Research System (NARS). AgriCat is fully financed by the eGranth Consortium and is being executed with arrangements from OCLC. It is a sub set of the world's largest union catalog –WorldCat. Under the "Related Link", a hyperlink has been provided to AgriCat as "eGranth". Accessions of the partner libraries may be searched in AgriCat using powerful search engine of WorldCat. Records in AgriCat are fully complying with MARC II standard, better searchable and their cover page view gives the look and feel of a document. It offers the access to the widest possible range of resources and the people associated with these libraries are able to search each others' collections and the collections of many other libraries worldwide using WorldCat.

6. Similar On-going Initiatives

6.1 National Academic Depositary (NAD)
National Academic Depository (NAD)[9] is a 24X7 online store house of all academic awards viz.certificates, diplomas, degrees, mark-sheets etc. duly digitised and lodged by academic institutions / boards / eligibility assessment bodies.

6. 2 National Digital Library of India (NDL)

The National Digital Library (NDL India)[10] is an all-digital library that stores information (escpecially metadata) about different types of digital contents including books, articles, videos, audios, thesis and other educational materials relevant for users from varying educational levels and capabilities.

6.3 ShodhGanga: Repository of Indian Theses

Theses and dissertations are known to be the rich and unique source of information, often the only source of research work that does not find its way into various publication channels[11].

6.4 ShodhGangotri - Shodhgangotri hosts synopsis of research topic submitted to the universities in India by research scholars for registering themselves for the Ph.D programme. This structure facilitates research scholars from universities to deposit their theses in the respective Department/ Centre[12].

6.5 SWAYAM (Study Webs of Active Learning for Young Aspiring Minds)[13] is a programme initiated by Government of India and designed to achieve viz., access, equity and quality. The objective of this effort is to take the best teaching learning resources to all, including the most disadvantaged..

6.6 e-PG Pathashala[14] **-** The Ministry of Human Resource Development (MHRD), under its National Mission on Education through ICT (NME-ICT), has assigned work to the UGC for development of e-content in 77 subjects at postgraduate level.

6.7 InfoPort - The INFLIBNET Centre promotes open access to Indian scholarly content through the InfoPort[15].

6.8 National Institutional Ranking Framework (NIRF) is an approved system by the MHRD and launched in the year 2015[15].

6.9 Know Your College - The MHRD has launched a Know Your College (KYC)[17] portal that promises to be a one stop shop for students and parents to know about various colleges in the country.

7. Overview of Higher Education Sector in India

India has well built higher education system. That includes, Central Universities, State Universities, Open Universities, Deemed Universities, Institution of National Importance, Autonomous Colleges, Aided & Unaided Colleges, and Stand alone Institutions. The below table show a detailed breakup;

Table 2: Higher Education System

Sl No.	Type of Institutions	Type of Institution	No.	Total
1.	Universities	Central Open University	01	903
		Central University	45	
		Deemed University (Public)	33	
		Institution Under State Legislature Act	05	
		Institution of National Importance	101	
		Deemed University-Private	80	
		State Private University	262	
		State Open University	14	
		State Public University	351	
		State Private Open University	01	
		Deemed University-Government Aided	10	
2.	Colleges	Colleges	39050	39050
3.	Stand Alone Institutions	Technical	3239	10011
		Teacher Training	3691	
		Nursing	2676	
		PGDM Institutes	269	
		Institutes under Ministries	136	
Grand Total			49964	49964

(Data Source: All India Survey on Higher Education (AISHE) 2017-18)

When there are several projects of centralization and standardization for upscaling Indian higher education system, the need of the hour is to upgrade library and information centres. As the focus of the study is amalgamation of centralized catalogue, the following model has been suggested as an add on to existing work-in-progress initiatives.

8. Proposal for Centralized Catalogue

For a better understandig of proposed prototype, the following example has been quoted[18].

> Kerala State Library Council (KSLC) launched a project for the modernisation of public libraries. This was to facilitate IT infrastructure, training for librarians, development of library management system, make available bibliographic details from all libraries in the software at various stages of the project. Kerala State Library Council constituted a committee in 2012 to develop a blueprint for the modernisation project. Representatives from Kerala State Library Council, library professionals and ITexperts were the members of the Committee. The Committee decided to select Koha (an open source software for library operstions) for the networking of public libraries. This automation programme is planned to be rolled out in two phases. In the first phase the Koha Open Source Software will be customized in Malayalam and deployed in selected affiliated libraries on the basis of e-readiness. The Koha instance is hosted in the cloud platform offered by the software service provider. Kerala State Library Council has selected six hundred libraries with bibliographic details to add in the Koha platform. The online catalogue of public libraries now available at http://kslc.in. Nonetheless KSLC is the successor of 'Kerala Grandhasala Sanghom' formed by the amalgamation

of libraries which were functioning in the erstwhile Travancore, Cochin and Malabar regions in Kerala.

With regard to present study, the proposed model for centralized open cataloguing project need support of projects like NMICET, NKN and Campus Connect etc to acess backbone Internet. As on date most of the Universities and Colleges are connected through the Internet facility. As per the AISHE report 2017-18, 95% of Universities 97% of Colleges & 98% of stand alone institutions have full-set libraries[19].

With the use of open source software like Koha[20], and UGC inter-university agency like INFLIBNET, it is possible to develop a Centralized Catalogue consolidating all academic institutions which are coming under the purpiew of UGC. Koha is compatible with Unicode, so regional languages can be used for cataloguing. It makes easy for searching in regional language books and it reveals the cultural creations of each language.This can ease duplication of catalogue entries when various libraries buying same titles of books or other documents. By hosting distributed servers at regional levels the load of workings can be shared. This will not only help in duplication of efforts but also standardization of catalogue entries at national level. This can make further value addition as national catalogue of higher education institutions. Creating various events such as circulation, reservations etc. in Koha can be regulated by configuring servers at apporiate levels.

At the same time cloud computing platforms for easy updation and retrieval of information may be explored. Today, cloud computing is being used in every domain like business, industries, corporate sectors. However, application of cloud computing in libraries is a relatively in nascent stage as compared to its applications in business and corporate sector. Libraries all over the world are moving towards cloud computing implementation to use the features and services of it to make their infrastructures and services better. The ownership for updation and maintenece of catalogue database would be a shared activity in which nodal agencies can play major role. Every institution may designate a person to take care of these activities at institutional level. However, for example, out of 47 central universities only 15 universities are using open source software for library automation. Balance universities are using enterprise edition of commercial software, a large chunk of money they are spending for their software maintaince yearly can be saved and re-channleized.

Fifteen Central University Libraries are using Koha – which is a free and powerful open source software. For remaining universities UGC is spending large amount of money for the software maintenance regularly. With the establishment of open source software like Koha in all University Libraries, UGC can deviate the fund for the establishment of centralized open catalogue at national level. This will also ease the burden of repetitive tasks by the library and information professionals. For example, Library Classification is an intellectual work which invloves placing an document at its exact parking place. Further, in India there are thousands of qualified library professionals working in different institutions, but there are less number of classifiers who thoroughly know the classification schemes. With the use of centralized catalogue in all the institutions can maintain a standard classification scheme for arranging

books in stack. For the advantage of higher education institutions in India application like Z39.50 protocols would largely help in downloading the bibliographical information from the centralized catalogue.

9. Conclusion

Changes in models of cataloguing practices have witnessed radical transformations over the years due to the introduction of ICT in library operations. The centralized catalogue that is organized according to standardized rules and compatability should allow users and library professionals to transact in an effective manner, quickly, effieciently, and ultimately to maximize the usage of the collection anywhere in the country. Resource sharing in an IT era is made possible by uploading institutional catalogue on Internet. These kind of open catalogue are like tools to list, according to a protocol, the print and digital resources available in the library. This should also help users in direct to similar materials, collection development, indicate the location of the resources, crowdsourcing and assist users in obtaining maximum information. This further supplements value addition to resource sharing activities as a way of managing change. By developing centralized cataloguing systems the concerns like; time-consuming, lack of library professionals, in-experienced cataloguers and cataloguing as an expensive process etc. can be solved at some extent. A particular library creates a bibliographic record for an item such as a book and many other libraries can replicate and update central database. Thus, saving time, energy, manpower and tedious processs of maintaing local databases. Ultimately this will satisfy the library's objective 'perfect record' for every reader. This may be implemented in full spirit by having proper policies in place for the opertions, evaluation and sign-off. Data analytics utilities such as Google Analytics are helpful in analyzing the library transactions, reports from the centralized catalogue and in decision making for funding agencies.

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