

Is Paper on its Way Out in Academic Libraries of India?

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Abstract

Every library collection should be established for a definite purpose. The collection of the library should be developed keeping in mind three things: relevance, quality, and material. In recent years traditional formats for information have increasingly been supplemented by information which is accessible electronically through the use of computer technology. Time is of the essence for librarians to review the pace of change occurring within higher education and publishing industry and how information will be provided in academic libraries to their vastly changing student and faculty population and their information seeking behavior. This paper examines present scenario of Indian academic libraries, some of the reasons in support of electronic collection, and challenge, opportunities and new role of librarian in changing environment of digital librarianship in the twenty-first century.

Keywords: *Academic library, Library collection, Indian Academic Library.*

The world of Academic libraries is undergoing a churn. The "information revolution", particularly the Internet and electronic resources has had a profound effect on the way scholars do their work. One would probably remember not too long ago the drive to make the library the Third place- after the home and the workplace. Unfortunately the reality is that more than 80% of any survey would indicate that whenever the research scholar wants to find out about something, the first thing they would do would be to "Google" it. No one would think about asking a reference librarian or even logging on to a library website to use the inquiry service. Thus as libraries, we must recognize that the Internet and search engines are now the main ways in which people look for information.

Academic libraries are at a critical crossroads in terms of collecting, evaluating and managing resources. Not many years ago, most academic libraries acquisitions were limited to books, serials, micro forms, and audiovisual materials. Traditionally the academic

library's mission was to acquire, store and loan material to scholars. This mission implied that the user needed to come to the library to locate and use materials. Today library users expect access to virtual documents as well as to physical documents, and the concept of library "collection" is being redefined. Academic libraries are in a transition phase today, moving from the ownership to information access. A "collection" commonly extends beyond resources the library owns to include all the resources to which it can provide access.

Beginning with the current phase of information age and on the twenty- first century, the role of librarians in the academic setting is critical in collection, organization and provision of information services to the academic community. Technological advances are creating a number of problems and challenges with respect of resources collection and services. However, the most immediate challenge to academic libraries will be developing strategies to manage the transition years for there will not be a sudden transformation from the world of paper to the world of electronics. As at the present time, even as we enter the second or third decade of twenty-first century, we will be working with more than one information system: at least one print and one electronic, and academic librarians job is to make these two systems work together. A librarian who fails to keep pace with emerging technologies will be unable to adequately serve the basic information needs of the library patrons.

Academic Libraries in India: The Present Scenario

Higher Education in India has evolved in distinct and divergent streams with each stream monitored by an apex body, indirectly controlled by the Ministry of Human Resource Development. Universities and its constituent colleges are the main institutes of higher education in India. Indian universities constitute one

of the largest higher education systems in the world with 378 Universities and 18064 affiliated colleges. The number of students enrolled in higher education is approx 12 million. All the universities and colleges have libraries with full-time library professionals. Some state owned colleges and private colleges are running the library even today with the help of existing office staffs. After the implementation of UGC 6th pay commission, the library staffs starting from Asstt. Librarian to Librarian are getting almost all the benefits equivalent to teaching staff. But the staff below the rank of Assistant Librarians are still struggling for their identity.

The Academic libraries, particularly the old state and Central university libraries have large collection of reference documents, general type of documents and text books. But newly established university and college libraries are very poor in collection. Almost all academic libraries, especially university libraries, are members of INFLIBNET and the users of these libraries are getting the facility of accessing the online resources through UGC Infonet. The UGC Infonet is presently linking 172 universities in the country for resource sharing. The INDEST consortium is the most ambitious initiative taken so far in the country. The benefit of consortia-based subscription to electronic resources is not confined to 47 major technological institutions (core members) in the country but is also extended to all educational institutions under its open-ended proposition. At present 60 AICTE supported, 342 self supported, and 457 self-supported institutions under new scheme are getting access of electronic resources.

The concept of library automation and digital library in India began in the 1990s with advent of ICT in large scale and support by Central funding agencies. UGC, through INFLIBNET and AICTE have taken initiatives and supported academic libraries to automate library housekeeping jobs and create digital library. Most of the academic libraries at present have their web pages on their institutions websites and some are providing Web OPAC and digital library facility. But many academic libraries are still working traditionally due to absence of fund, basic infrastructure, action plans or priorities from authorities. However, the scenario is fast changing due to the changing information seeking behavior of academic library users and the authorities are now realizing the need for information sharing through the use of Internet /ICT.

Reasons to be electronic/online

Determining whether a library's collection meets the needs of the user and the educational goals of the institute should be considered part of the core mission of the library. Academic libraries exist in order to "work with other members of their institutional communities to participate in, support, and achieve the educational mission of their institutions" (ACRL 2003). If the library does not critically analyze its collection in order to determine how well it is supporting the mission of the university, then the

purpose of the library's existence could be called into question. The key for academic librarians is to think in terms of their role in overall institutional effectiveness.

Usage statistics compiled by university libraries shows that the most frequently used electronic services are always almost the same in each library: library home page, (full text or bibliographic) databases, electronic journals, electronic books and electronic news. Now the library staff also realize that the electronic and online resources are easy to maintain and can be made accessible in less time to the users. The following are just a few reasons which support the academic library's to include electronic and online resources in their collections.

Change in Information Seeking Behavior of Users

As academic libraries, we must recognize that the Internet and search engines are now the main ways in which students, research scholars and faculty members look for information. Young users, who are growing up in the digital era, expect that everything they need will come to them on their screens. They are not eager to go to the dusty stacks and look at old-fashioned books. As a result of change in user behavior, libraries today should be more concerned about the question of access rather than validity. The new generation academic library users want answers and he wants them now, in the most convenient manner to him. A scientist wants faster and easier access to other's research. Rather than try to change users habits, the library should change its approach and meet users where they are-on the web, using the tools they enjoy using.

Changing mode of publications

Libraries have always been dependent on development in the publishing industry and in scholarly research and communication. Changes in this industry have a direct impact on the collection development and services of academic libraries. Technology has altered the mode of publication in such a way that though the traditional sources of information continue to be produced, by and large information market has been flooded with the attractive electronic and online form of publications. In the course of world wide web's first decade, at the close of the twentieth Century, it has been estimated that some 75 per cent of academic journals are offering some form of online access with more than a 1000 peer-reviewed journals publishing only online. (Willinsky,2003). Worldwide, more than one million peer-reviewed published articles appear in some 23,000 academic journals, about 90 per cent of which are available online.(Sietmann, 2008).

The initial concern for publishers was to support an electronic version of each of their journals and they experimented with free online access on first going electronic. That utopian moment soon passed, and online editions were restricted to subscribers, and

prices rose for print-plus -on-line access subscriptions, while revenue innovations, such as pay-per-view and site licensing were introduced. Once the electronic journal was a reality, the open access movement pressed for free public access to scientific research. Open access appear to be the perfect counter-measure to the ongoing serial crisis of increasing subscription prices and journal proliferation. Why do libraries subscribe print or online even though their faculty can access articles for free? Such type of questions may be asked from librarian in near future.

Serials Crisis

The price of journals is increasing every year. Since late 1980s journal subscription prices outstripping library budgets. Scholarly communication in India has been increasingly examined over the past two decades, due to the acceleration of the costs of scholarly communication. The academic library budget today is held hostage by the spiraling cost of serials acquisition, resulting in a “serials crisis”. The price of journals is increasing every year. According to a survey, US research libraries spent 227 per cent more on journals in 2002 than in 1986. The average number of serials subscribed by university libraries in India is 250. (PremChand and Arora. 2008). The increasing costs of the print format and devaluation of Rupee to US Dollar have forced libraries to discontinue their subscriptions to some journals. The central Library, BHU, which is one of the largest academic library systems, has imposed a cut of 20 per cent of titles in 1994 to 1995. (Library Committee Meeting, Agenda: 01-08-2009)

The developments in scientific publishing and the pricing policies of the publishers posed new challenge and opportunities for academic libraries in purchasing and managing the serials within their restricted budget. Libraries have explored various alternative models of subscription, i.e. consortia, alliances, licensing, and reciprocal schemes but a consortium-based subscription is an appropriate solution to providing access to peer reviewed journals. The INFLIBNET intervened, in a timely manner, and initiated a programme to subscribe to scholarly journals for all the universities of India. INDEST consortium is the most ambitious initiative taken so far in the country for providing online resources for technical institutions.

Universities want a better return on their investment in intellectual capital

The effects of electronic growth on the print side of the house have been less well documented. The common assumption seems to that print use would decline, especially if users were given a choice between a printed copy of a journal and an online equivalent, and particularly if presented with convenient links to full-text. It is very difficult for university administration to get the usage of scholarly journals and documents of print format. The same may get easily in the case of online documents by sending a

request to the concerned publisher or the consortium from where the university is subscribing these resources. The data regarding the usage of each title can help university and library administration to take decision whether to stop subscriptions to those journals which are low in use and subscribe to new journals from the amount saved. INFLIBNET discontinued the subscription of BIOSIS and Encyclopedia Britannica from 2008 due to poor usage. However, the consortium has expanded the subscription base by offering selected e-resources from Springer Link, the Institute of studies in Industrial Development (ISID, <http://isidev.nic.in/>) and the J-Gate Custom Content for Consortia. The total amounts of Rs.3.7 crore were saved by the universities on account of drop in print subscription in 2007. The 100 universities save Rs.936.68 Crore in 2007 subscription through INFLIBNET. Such types of saving are not possible with print collections. (Annual Report, INFLIBNET Center 2007)

Publishers want robust and profitable communication

The bepress (Berkeley Electronic Press) founders saw three major problems with traditional journals: slow turnaround, limited access, and high costs. (O'Doherty, and Boissy, 2009). Publishing in traditional journals can take months and years from manuscript subscription to publication and these are also limited to readers at subscribing institutions. Since late 1980s journal subscription prices outstripping library budgets and libraries started canceling journal titles and this situation forced publishers to think for the other model of subscription and they started to promote consortial deal. The usual result was a legal agreement guaranteeing that the participating libraries in consortial deals received access to far more titles than they have ever been able to purchase in the past with a capped custom price pegged to their historical spending, thus bringing per capital cost down, while the publisher got a multiple year revenue security blanket with limited cancellation.

Changing physical spaces

Library is a growing organism. All the academic libraries in the country are facing space crunch to house the printed materials. The traditional printed material, particularly those, that are over-sized like reference sources, bound volume of periodicals, indexes, and abstracts not only occupy large space, but also they are heavy in weight to be stored in shelves and on upper floors and above all to be handled by the users. Electronic and online form of these resources needs no space. But it needs additional space to install IT infrastructure. Hardware and software limitations are very real at many institutions. But the main thing is that the present user wants to access these resources from their desktop without visiting library. Although there has been a move from the provision of physical library buildings to virtual libraries there will

still be a need for libraries physically designed to function in the electronic age. (Bazillion and Braun, 2001)

Web 2.0

The last two decades have witnessed the rapid transformation of the library in applying information technology, and libraries have developed and diversified their services based on advanced ICT. Web 2.0 has recently emerged as a second generation of web-based technologies for communication. However, it has not been a widely applied technology in the library community. (Maness, 2006). The library community has just begun applying this new technology in the library. The use of Web 2.0 technologies in higher education is still a new phenomenon and its integration into teaching and learning is in the initial phase. But such technologies have just created a new wave of technological applications in libraries, and also drew the attention of researchers, scholars and the library community. According to Hanson and Cervone, four major interactive technologies of web 2.0 in the library are wikis, blogs, RSS, instant messaging and podcasts. Wikis are being used as a quick reference source by the students, researchers and academic community for information. While Wikipedia is without question a valuable and informative resource, there is an important concern to take into account when using it: Because anyone can add or change content, there is an inherent lack of reliability and stability to Wikipedia. Authors of articles may not necessarily be experts on the topics they write about, leaving a lot of room for errors, misinformation, and bias. Libraries are using blogs as a way to share information, to encourage feedback from their patrons, to highlight services or new materials, and more. It's all about inviting opinions and getting input from users to collaborate on making library the best that it can be. RSS is also one of the web 2.0 technologies that interest researchers and library. RSS can be used as updating information tool for new books, new e-journals, new databases, library news and events, custom catalogue search etc. Instant messaging is mostly used by the library as a tool for virtual reference service.

Web 2.0 technology may be nothing more than just new tools of technology for academic libraries. However, how we use these tools and what we use them for will determine whether academic libraries can survive this new E-volution. Web 2.0 technology has the potential to change not only how knowledge is communicated, but what knowledge is and how it is produced and use as well. Could we use the internet's interactivity to allow viewers to participate in and experience experiments, rather than read about them?

Library 2.0: the new e-world order

Library 2.0 is a new way of providing library service through new Internet technologies, with emphasis on "user-centered" change and interaction. The main

characteristics of this new order are that information management and provision are no longer under the purview of the librarian. For example, cataloging may be a fundamental skill of librarianship but the art of social tagging on the Net turns that upside down because it is the reader who is now categorizing and defining information based on her or his own terms. The phenomenon of Wikipedia breaks yet another golden rule of librarianship: that of content validation. Tagging, blogs, wikis and RSS feeds (to name but a few) are changing the traditional library functions of indexing, cataloging and information dissemination. As a result of changes in user behavior, libraries today should be more concerned about the question of access rather than validity. Libraries must give up control and make use of collaborative tools and technology to engage and share information rather than just provide it.

Abstracts & Indexes – replaced by Google scholar

Google scholar provides a simple way to broadly search for scholarly literature. From one place, a user can search across many disciplines and sources: peer-reviewed papers, theses, books, abstracts and articles, from academic publishers, professional societies, preprint repositories, universities and other scholarly organizations. Google scholar helps users to identify the most relevant research across the world of scholarly research. It is similar to the subscription-based tools, Elsevier's Scopus and Thomson ISI's Web of science whose annual subscription cost is much more than the annual budget of some academic libraries of India. Google scholar is freely-accessible through Internet. Some searchers consider Google scholar of comparable quality and utility to commercial databases like Scopus and Web of Knowledge. A significant problem with Google scholar is the secrecy about its coverage. Some publishers (Elsevier journals till mid-2007, American Chemical Society recent years journals) do not allow to crawl their journals.

Indexing and abstracting periodicals are the main bulky physical resources for the academic libraries to manage after some years of their arrival. Now the readers want access abstract and indexes from their desktop. The accessioning and storage of these documents are expensive for libraries. The Google scholar is getting popularity among academic community and this will force the academic libraries to think about the expensive purchase of abstract and indexes. Why do libraries subscribe even though their faculty can access abstracts and indexes for free?

Open Access Movement and Academic Institutional Repositories

Open Access is a knowledge distribution model by which scholarly peer-reviewed journal articles are made freely available to anyone, anywhere over the Internet. The core essence of open access movement is to "make research articles in all academic fields

freely available on the Internet” notable among these initiatives are the working models of open access journals and institutional repositories. The open access journal models were experimented at the publisher and organizational level, and institutional repositories were experimented by the educational institutions and more notably the universities.

Academic Institutional Repositories make it easier for faculty to obtain previously scattered or restricted-access materials in a single centralized location. Repositories also make sense for universities from a competitive business standpoint. When researchers publish their findings in academic journals a substantial portion of the prestige value of the research goes to the journal instead of to the sponsoring institution. When scholarship is posted on the institution’s own servers, however, the institution can gain increased recognition. Academic libraries can save the physical space provided for stacking research theses and master degree dissertation by developing Institutional Repository.

The Directory of open journals now lists more than 4298 freely accessible journals amounting to about 16 to 18 per cent of all scientific journals. Currently 1626 journals are searchable at article level. As of today 307189 articles are included in the DOAJ service. (<http://www.doaj.org/>). OA journals are getting recognition among academic world and some academic journals have got impact factor equivalent to peer-reviewed journals. Open access allows both the retention of traditional quality assurance by peer review and the development and deployment of a whole variety of supplementary or alternative quality assurance procedure.

The Directory of Open Access Repositories already lists more than 1400 repositories, about half of which are operated by research institutes and libraries in Europe, and one third in North America. Indian academic institutions and libraries have taken initiative late because of the academia feared over the uncertainty of intellectual theft and the administrators feared the exposure of their institution’s scarcity. The concept of Institutional Repository in India has made a tremendous progress compared to other developing countries. More and more institutions are setting up their digital repositories. Registry of Open Access Repositories (ROAR) lists Indian 45 IRs including institution based ones like those of IISc, NAL, INFLIBNET, IITD, IITB, NCL etc. (<http://roar.eprints.org/>) The UGC has also taken initiative to make available theses and dissertations online by making it mandatory to deposit soft copy to INFLIBNET. (Gazette of India, July 11, 2009.)

Interest in the IRs remains very high, and most institutions of any size have either implemented a repository or are considering it. However, if these repositories are to serve a valuable function within the academic community, they will have to evolve beyond

their current status. The collection in IRs should not be limited to self-archiving of published papers but should focus on encouraging new and innovative forms of scholarly communications. In Lynch’s vision, the repository serves not just as an archive of journal articles, but as a place that houses experimental and observational data; research and teaching materials; and documentation of events, performances, and other elements of the intellectual life of the institutions. (Lynch, C)

Challenges, opportunities and new role

There will always be changes in the environment (mode of publication, information seeking behavior of users etc.), and these changes will affect librarians: their role, job opportunities, self-image, motivation and even survival. Technological advances are creating a number of problems and challenges with respect to resources collection and services. However, the most immediate challenge to universities will be developing strategies to manage the transition years for there will not be a sudden transformation from the world of paper to the world of electronics. As at the present time, even as we are in the twenty first century we will be working with more than one information system: at least one print and one electronic, and our job is to make these two systems work together.

Librarians are often reported to be slow in adopting new technology. Keeping up with new technologies becomes a matter of necessity rather than choice in the present electronic age. The challenges for librarians will be to learn to strike a balance between collecting and providing access to print and electronic resources. Creating environment that are dynamic-both physical and online is another challenge for librarians. We need libraries and librarians more than ever before in order to make effective use of the information that is available. The librarian’s role is to establish the library as a trusted brand and provider. How to integrate electronic resources with print resources, on a finite budget, without reducing services is again a challenge for academic librarians in online environment. A Library service that operates according to the expectations of today’s library users is need of present day. Now we should think to use the Internet’s interactivity to allow viewers to participate in and experiments, rather than read about them. Another challenge for librarians is to provide library services to remote users and distance students.

Electronic resources have actually created more opportunities for patrons as well as for the library profession. In addition, librarians must keep in mind the needs of users as well as the resources of the library as they build collections and prepare for access. A librarian who fails to keep pace with emerging technologies will be unable to adequately serve the basic information needs of the library patrons. Especially as we head into the twenty-first Century, keeping pace with the changing technology becomes

a matter of necessity rather than choice. (Gessesse, 2000)

The role played by libraries in the past in providing information has changed to one of providing access to information. This requires the selection of information (e.g. for electronic collections, Intranets and portals), the offering of access services to remote users, as well as new types of tailor-made information services. It reflects the move from just-in-case to just-in-time to just-for-you. (Morris and Blagg, 1998).

Conclusion

Predicting the future state of Publishing, Jason Epstein has put it in a more fitting manner as follows: "Today's costly, dedicated handled readers will either become or be replaced by relatively inexpensive multipurpose mobile devices with extended battery life and more legible screens, a process already apparent, serving not only passive consumers of texts but active creators perhaps on the model of Japan's cell phone novelists." (Epstein, Jason, 2009).

The Library of future will be more a portal through which students and faculty will access the vast information resources of the world and less a place where information is kept. International publishers will come in the market of publishing with new mode of publications and different types of subscription models which will certainly affect the library existing collections and new collection. With the closing of Kodak company which manufacture Kodachrome slide film will no longer be manufactured. The same type of situation may occur with scholarly communication. As we know, the publishers want robust and profitable communication and if the business of print will not be profitable then they may close to print scholarly communications. In this period of shrinking or stable university library budgets, and or rising cost in serial print subscriptions, it is important for academic libraries to understand the trends and implications of the digital information revolution.

The question arises whether or not we should feel apprehensive about the disappearance of the printed form. Global statistics seem to indicate that today the annual quantity of books published is well over one million, and a hundred and fifty thousand periodicals are printed. Is, thus, paper on its way out? Predicting the future state of research and academic libraries, Connie McCarthy has put it in a more fitting manner as follows: "While the character of the library's services and operations will change in the electronic age, not all future research libraries will be identical in scope, structure, and service emphasis. Some will be founded to retain their national/traditional resources mission, and remain relatively unchanged in continuing to focus on the acquisition of comprehensive collections. At the opposite end of the spectrum, some will dedicate most of their efforts and funds to providing electronic access to information resources (McCarthy, 1996).

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