

# *Technology-Enhanced Library Services and the Librarian's Identity Crisis in Academic and Research Libraries of India*

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Libraries in India are progressing well in automating house-keeping operations, refining old services and starting fresh ones. There is also an increasing presence of electronic information sources, external and internal, and services based upon them. Libraries have progressively adopted library automation software, CD-ROM databases, and Web access to electronic journals and digital libraries. With each advance in technology the time of the user to retrieve information has shown a drastic reduction. The emergence and increasing availability of the Internet and Web has led to a lot of information outside the library tempting users to depend less on libraries and to explore these alternate routes to fulfill their information needs. The rise in number and variety of in-

formation resources and the inability of most libraries to acquire/access them also leaves the libraries less able to meet the needs of clients, forcing the library and staff to shy away from their new roles. Largely a service in many institutions that does not enjoy the power of research and teaching staff, the plight of library professionals in many of these institutions results in low morale and underperformance. This paper attempts to look into these issues and the cultures and conflicts faced by users, libraries and librarians in academic and research libraries in India. It identifies the library as a service and access centre, managing and enhancing information in a technology-enhanced environment rather than as a mere repository.

## *Introduction*

Libraries across India, as in other parts of the world, are facing sweeping changes on account of the media in which information is generated, transmitted, disseminated and archived due to the increasing presence of electronic formats. There is no doubt that information in electronic form is a potential asset, and that it can be vigorously applied in any environment. The advent and spread of electronic formats has made a major difference in the information processing and service environments in libraries, especially after the emergence of the Internet and Web as the dominant pathway and repository of electronic information resources. In an increasingly networked world, it is possible that universities may be able to take back control of scholarly information, and libraries may risk being cut out of the author-publisher-dissemination loop (Levy 2000).

Libraries act as facilitators to provide the right information to the right user at the right time. Us-

ers visit libraries to borrow identified documents, or to take photocopies/printouts of those documents from reference collections or journals not issued out normally. The advent of Web-enabled information resources, such as e-journals, e-books and e-reference sources, and their access through networks has taken the library to the users (instead of the users coming to the library) and a significant amount of information access is now taking place beyond the four walls of the library. In many cases users want a 'pinpointed precision' in the information search process whereas the library attempts for an 'exhaustive recall' to comply with the various ways in which an information source is approached and to satisfy each user's diverse interests. This information overload may cause doubts in the users regarding the relevance of information services as perceived from a professional angle. Along with quantifying use, it is equally important to assess the qualitative attributes of implicit and explicit use and examine the difficulties of users in properly framing their requests for

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information. The limitation on the part of library professionals to perceive and represent what is demanded by users in information systems, and the dilemmas of information organization and retrieval to handle these demands must be effectively addressed.

Libraries and professionals are equally concerned about the emergence of Internet as an information repository beyond the library's walls, as amply demonstrated by enhanced citations of Web resources. As library acquisitions are falling, information sources are increasing, and a single site library satisfying the user's needs is a doubtful proposition; users are forced to look beyond the library for their information needs. Thus the only option for the libraries is to enter into collaborations, networking and consortia and to reorient their roles as information services and access centres from their previous roles as information warehouses.

At the same time, the technical advances resulting from enhanced research in science and technology have made it possible to reduce drastically the time involved in information collection and identification. Also the extra time required in adapting printed information to client service through cumbersome manual routines of classification and cataloguing is considerably reduced by the availability of electronic information, leaving the professionals to concentrate more on tasks to support the extensive teaching and intensive research environment.

#### *Academic and research libraries*

The application of computing to library work in India has a history of at least three decades because since the time the computer entered premier academic institutions and selected R & D facilities, it has been explored for improving information processing and management routines. Information technology (IT) enriched library services arrived initially for science and technology (S&T) information handling and for the special libraries attached to research and development (R&D) centres and academic libraries in higher education institutions. In comparison to other libraries, academic and research libraries have better infrastructure and skilled manpower in greater numbers, making them able to offer information services comparable to advanced countries. Like qualified teach-

ing and research personnel and well-equipped laboratories, the right information service is another vital element in the trinity which completes a fruitful academic or research environment.

#### *Market-driven collaboration*

Academic and research libraries, especially in developing countries, are passing through a very challenging phase in their existence due to unfriendly trends in the emerging information market. On the one hand, these libraries are still left with many of the old problems such as poor budgetary support and weak infrastructure, as well as staff in fewer numbers and often with less expertise. But the new information marketing techniques, like the possibilities of delivering and accessing electronic information in diverse channels, force these libraries to be very vigilant and cautious in their approach towards information acquisition and services. Libraries and professionals in India were quick to understand the emerging information environment was forcing their users to depend largely on those resources, which are becoming more expensive day by day due to the rise in production costs, fall in subscriptions and inflationary trends of Indian currency. When individual libraries found that alone they are not in a position to satisfy the information requirements of their clients, they formulated various collaborative arrangements with other libraries such as, interlibrary loan (ILL) services, document delivery services (DDS), resource-sharing, and consortia-based subscriptions.

#### *Present practices and emerging goals*

The special libraries attached to research and higher education were lucky enough to garner resources to automate their in-house routine operations and for hosting online public access catalogues (OPACs); some of them also set up facilities to search electronic databases. A few of them evolved the desired infrastructure for Internet surfing, for hosting of full-text database access, and for setting up digital libraries.

The major advantage of the progress in computerization is a considerable increase in the amount of information available online. We have experienced that at the start of computer applications only the surrogates (metadata) existed online, but

some full-text content has been made accessible online in recent years (online access to all content in the collection will continue to be an unattainable long-cherished dream of librarians). These libraries are experiencing the virtues of electronic information in different forms such as e-journals, e-books, bibliographic/full-text electronic databases on CD-ROMs and through Web access. Due to publishers' 'electronic plus' policies, libraries are able to access electronic versions of printed sources such as journals either for free (with the print subscription) or by paying an additional fee. However the goal these libraries in specialized research and academic centres should have set for themselves is to enhance their information facilities to fully functional digital libraries, comparable with similar facilities in the developed countries.

### *Cultures and conflicts faced by libraries*

The fixed roles suggested by Levy (2000) for researchers, publishers and libraries are either overlapping or changing in the electronic scene. There are cases where an author or a library is acting as electronic publisher, and there are publishers providing a wide variety of information packages beyond the contents of printed journals. The real question is: has the library really lost ground in the emerging information scene? Even the critics will not say so. The concerns expressed are only to revitalize the professional skills of librarians, rejuvenate the style of working and reorient the library towards its rightful place in effective dissemination of information. Maybe the common feeling that the library is a central place in the institution visited everyday by large numbers of users, like any public utility, has lost some ground in the electronic scene. Nonetheless, apart the continuing provision of information services for print sources, the electronic revolution has reaffirmed the library more as an information service and access centre than as an information storehouse.

### *Technology-enhanced library services*

#### *Technology advances*

The major technology breakthroughs in the context of libraries include:

- Advent of printing press and mass production of printed documents enabled democratization of information. Libraries had a major role in the print era, as no one can own a large number of books on a particular subject whereas libraries by their very purpose concentrated on doing so.
- Microforms helped to preserve less used information in a compact space and as a smoother delivery option for voluminous sources. Libraries had their unchallenged role even in the microform era as the special purpose readers for microfilms and microfiche were costly and exclusively housed in the library.
- The economical and affordable copying technology revolutionised the concept of information use as it spearheaded the trend of owning copies of relevant portions of library (printed) resources. The copying technology freed the user from sitting in the library for long duration for reading, since one can simply get a copy quickly and leave.
- Computing is the biggest technology revolution so far, as it is a major enabler in the information dissemination chain; also it is not a stand-alone technology unlike earlier technologies and can be networked and integrated with a whole lot of other devices and technologies. It not only revolutionized the production of books and microforms but also brought the arrival of online and CD-ROM databases, electronic information resources, Internet and the digital revolution.

### *Products and services*

Adapting IT for library applications is an ongoing process, right from procuring or developing IT-enabled information products through computer-aided processing and management to delivering IT-enriched services. Library professionals in India are already exposed to the different offshoots of IT for library organization and information services.

#### *Library automation packages*

The availability of a wide variety of library automation software to suit the varied needs of libraries themselves is a reflection of the progress libraries have made in automating the operations of procuring, processing and providing information sources. Procurement is the end of the story for many other software/databases used in a library, whereas library automation systems will open a floodgate of issues. What the vendor provides is a structure to build information concerning the collection and users, to conduct various aspects of organizing the collection and offering information

services. Thus software needs to be evaluated for its suitability for the target library before purchase. This may include case studies from other libraries using the software, evaluation of hardware and operating system required, computer awareness among staff and users, network as well as computer infrastructure in the institution, and above all estimation of cost and charges for after-sales support. Using suitable software for library automation will significantly reduce manual operations and enable professionals to dedicate more time for professional jobs.

#### *CD-ROM and electronic databases*

Due to the poor communication infrastructure prevalent in India and to the immense costs involved, online database services were used only by few institutions. The distribution of the same content of online data repositories subsequently in CD-ROMs made it affordable (minus communication costs) to a larger number of institutions. While the library automation package gave search-and-access facility to information sources present in the local collection, CD-ROM databases attempted consolidated access irrespective of holdings to the bibliographic data of publications in a discipline. CD-ROM databases have also freed library professionals from conducting searches and allowed the end user to conduct the searches. CD-ROM is so common nowadays that a library holds a good number of them not only for bibliographic, numeric and full-text databases, but also those received along with printed books and other reference sources. Managing and serving these high-capacity discs was a problem earlier due to the stand-alone software required, whereas the onset of networking and hard-disk cached solutions provides an effective and functional way to enable access to them through the intranet.

#### *Web*

Since the 1990s, the Internet has changed the dissemination of information, such as electronic copies of traditional paper-based journals and conference proceedings, free electronic-only refereed journals, haphazard copies of all kinds of material on home pages and a handful of electronic pre-prints archives (Bjork and Turk 2000). Most libraries in India now have a website and they use

the site to present the basic strengths of the library and to host services such as the OPAC and Web access to electronic information. The 'size of the catalogue card' and the field lengths of primitive database technology are surpassed in the Web era. Types of information resources on the Web also vary from authentic primary information about the latest research results to ephemeral product catalogues. Issues worth consideration are often the content of the sites that are deleted, modified or changed to new machines without proper redirection and the extraction mechanism through search engines, when a flood of sources is retrieved against a query, of which few are relevant.

The Internet and Web demonstrate that a large amount of electronic information can be hosted in a decentralized fashion in a cost-effective manner. The Web has also freed the user's dependence on library resources for finding information related to address and contact details of a person/institution, contents pages of books, journals, etc. As far as possible, especially for reference and information services, looking at the Web has become an innovative trend in the reference service to complement dated print sources. Many publishers visibly feel the benefits and reach of the Web, and have considered it as an alternate medium for delivering information sources; some publishers even permit unrestricted access of tables of contents and abstracts of their primary journals. As a result of these initiatives, the 'print and distribute' paradigm is challenged by 'distribute and print' paradigm.

#### *Consortial licenses*

The term 'consortial licenses' designates library groupings to negotiate access rights to (print and) electronic information with publishers and vendors aiming at enhanced access to more resources at better pricing. "Consortia can be a means to introduce products to a previously untapped market" for vendors and "consortia provide shared expertise, access to new electronic and print resources, professional development, new sources of funds, and safety in numbers" for libraries (Helmer 1999). In contrast to earlier library collaborative arrangements such as ILL and resource sharing, the publisher and trade community are parties in the consortial agreements. In resource-sharing, libraries concentrate on collaborative subscriptions

by avoiding duplication, where as in consortial licenses, the emphasis is to strike the 'best deals' even if the library suffers some duplication. The publisher community experience is that increased subscription costs lead to a reduction in the total number of subscriptions, further raising the subscription cost every year (ACS 1995, 2). Publishers also found it difficult to enforce ownership rights with electronic sources, even after adopting the latest technology tools and forcing libraries to sign the toughest of the legal clauses. The good marketing wisdom of the publisher and trade community prevailed to open up information access rights through consortial licenses for a large part of the product spectrum to at least those libraries or groups of libraries which procure products beyond a certain threshold value.

The Indian National Digital Library in Engineering Science and Technology (INDEST) is the first and the major consortium in India. It is under the aegis of the Ministry of Human Resource Development (MHRD) (Arora 2003). Before the creation of the consortium, access to electronic journals in these institutions remained at 60% of subscribed titles, but the number of online journals has increased 10 times after the establishment of the consortium. The rates for access offered to the consortium are lower by 50% to 90% depending upon the category of institution and the consortium paid only 11% of the list price to access these resources (Arora and Agrawal 2003). Infonet, another consortium, floated by the University Grants Commission (UGC) for Universities, is also gaining strength. Similar consortia are also operational for research institutions under the Council of Scientific and Industrial Research (CSIR) and the Department of Atomic Energy (DAE).

### *Digital libraries*

Libraries in India are engaged in the development of prototypes of digital information resources, as influenced by developments in other countries. There are certain types of content which lie inaccessible or less used in their present physical forms that can be put to more visible and enhanced use through digitization. Also heavily used content presently available in limited numbers of copies can be identified for conversion to electronic format. The linear text in many of the print sources presents difficulties for providing a

hypertext approach or a multimedia feeling, for simulating learning by doing; sustaining attention and interest for long duration calls for using electronic technologies to enable content to be more functional. The static content in printed sources fails to attract users who are increasingly exposed to the widely appealing features of broadcasting and IT-intensive presentation tools. Multimedia-enabled digital information will be useful to a large percentage of illiterate and older population also. There are cases such as papers in journals and conferences in print form that never get their deserved visibility and often end up without reaching the target population. The digital dissemination of this content may lead to very effective teaching and more focused research in most areas. To demonstrate the efficacy of digital libraries and collections, libraries must be able to identify materials in the public domain, sources generated in-house, and similar materials to overcome the constraints of copyright.

Digital library (DL) development needs a two-pronged strategy to digitize local content as well as to devise options for providing access to external resources obtained as free or as part of existing subscriptions or access licenses. The typical academic or research library in-house digital library on an Intranet must include the following components:

- Consortial access to electronic journals and electronic databases;
- Free/paid Web access to journals subscribed in print format;
- Subject gateways and virtual libraries;
- Free/paid e-books from publishers and portals;
- Intranet access to bibliographic and full-text databases, and CD-ROM publications;
- Local archiving of free and paid e-books;
- LAN serving of e-supplements of purchased books;
- In-house digitization of copyright-owned and copyright-free printed books in the collection;
- Born-digital in-house publications such as research reports, annual reports, convocation reports, teaching materials, theses and dissertations, in-house journals, proceedings of conferences, seminars, workshops, etc., conducted by the institution;
- Preprints and post-prints of research papers sent for publication to journals, conferences, and books, espe-

cially with respect to the Open Archives Initiative gaining ground to provide further access to research published in toll journals and to make the results of publicly funded research available to those who need them;

- Publications in the public domain, such as government publications, publications from non-profit institutions, etc.

But many libraries are unable to provide these components due to lack of awareness or due to the hurdles invariably faced by libraries in India. The lack of interest on the part of parent institutions and the absence of action plans or priorities is the major hindrance. Though computer and communication infrastructure is improving, their availability for information work is not appreciated in many organizations. Paschoud (2004) commented how several of the speakers and many of the delegates at the International Conference on Digital Libraries (ICDL) 2004 conference in New Delhi focussed on addressing what most European libraries would consider very basic issues such as network/Internet connectivity and management. Even in places where infrastructure is available, there is an acute shortage of competent labor to take up the task of digitizing local content and evolving digital information repositories. The students, faculty, curriculum and training methodology at the disposal of library schools have to be improved visibly to meet this challenge. Coupled with this is the need for continuing education for retraining the working professionals. Institutions, individuals, or private publishers have rights over content, and motivating them to ease these rights when they are not inclined towards digitization is not a simple task. Levying charges for access is a distant proposition; instead sponsorships from institutions, government bodies and library suppliers can be explored. Even when hosted as a free facility, enough security mechanisms must be evolved to prevent any trespassing by hackers. Selecting useful content requires careful review and evaluation by subject experts, as digitization will only help to preserve the record, and not its enhanced and continued access. Internet bandwidth in India has to be sufficiently augmented to allow faster access to Web content as more content is being hosted on the Web. The different funding agencies, research councils and institutions are not currently offering monetary support to the desired extent for digital library development.

## *Culture and conflicts faced by users*

### *Manual and electronic search*

Searching for manual sources required scanning catalogue cards or indexing and abstracting sources. As cross-references often increase the number of cards or pages, there was a difficulty in being very exhaustive. Conducting selective dissemination of information (SDI) services had been extremely difficult as the document profiles must be matched with user profiles with the aid of semi-mechanical systems. Most of these limitations are easily eliminated in the electronic environment due to the very nature of information processing and organization in electronic form. The inherent advantages of indexing electronic information help the user to search for any or all the fields in a timesaving manner. Since document profiles are already stored in the database and search software supports creation of user profiles, current awareness services (CAS) and SDI services are achieved more easily.

The concern for end-user searching was dominant right from the beginning of early CD-ROM database systems since the time spent for searching does not involve communication costs as is the case with online searching. Also with the universe of knowledge getting increasingly complex as a result of continuing advances in research in intra and inter-disciplinary areas, vitiating the search conducted by a generalist like a librarian may not be effective in amassing the user's information requirements completely or not achieving the desired results expected by the user. The convoluted information requirements of present day researchers require sufficient knowledge of their disciplines and since the users are increasingly exposed to the computerized work environment, they feel very confident to conduct information searching on electronic systems. The professional ethos and egos also plays a part as users find more satisfactory results from electronic systems than manual systems, and in a relatively easy and convenient way. The librarians should recognize the confidence and maturity of users to conduct searches on their own as they have better knowledge of their disciplines, more exposure to the different keywords and their relationships and because of the inherent advantages of locating related sources serendipitously while scanning the retrieved re-

sults. There should be closer interaction and effective communication between library professionals and users to understand each other's views about information needs and use. Library user meetings, orientation sessions for new users, special help for research scholars, training programmes about usage of print and electronic resources, a help desk at reference counter, holdings locator services, interacting with users through phone and email, encouraging users to approach the librarian, ask a librarian, and user friendly websites are some options practiced in libraries in India.

### *Information use*

Information services provided by a library are primarily based on subjective input from users and hence justify users commenting about misses or noise in electronic information service outputs. An information need is what an individual *ought* to have; an information want is what an individual *would* like to have; an information demand is what an individual *asks* for; an information use is what an individual actually *uses*; and an information requirement denotes what is *needed*, what is *wanted* or what is *demande*d (Line 1974). Information needs are affected by a variety of factors such as the range of sources available, the uses to which information will be put, individual characteristics of the user, social, political and economic systems surrounding the user, and the consequences of information use (Paisley 1968). Accessibility of information resources is usually assumed to depend on a range of cognitive, social, and physical factors, such as whether a person is aware of a resource, has the knowledge and skills needed to access it, and has the resource close at hand (Bishop 1998). Scientists spend 50–60% of their time communicating (Bjork and Turk 2000). The computerised environment has increased the quantum of information available nearby, but it has not enhanced a person's information consumption skills. There is a burden of effort in information storage and retrieval that may be shifted from author to indexer to index language designer to searcher to user (Batty 1998). Though the user is exposed to more microfilms, Xerox copies, and electronic information on desktop/ Intranet/Web, ready to display at the touch of a button, the more time one spends in searching and collecting information, the less time s/he gets to use the information. Scholarly articles are iden-

tified for reading in five basic ways: browsing, automated searches, citations found in the literature, mentions by other people, and current-awareness tools (Tenopir 1998). How much information one requires to work on a particular problem is also subjective as human beings observe the 'principle of least effort'. Perhaps one may easily deal with an information crisis by identifying a part of the total references and by using few of what is identified.

### *User bypassing*

Though libraries in India are progressing well on the automation and information access front, there is a definite case of fewer users present in the library due to different reasons. The real question is whether electronic services of libraries have in any way affected the user interests or have the users found more confidence in an information superhighway beyond the library. The same proportions of scientists still browse to identify scholarly articles to read, but more are using online searches and the proportion of readings identified through online searches appears to be increasing (Tenopir 1998). Library acquisitions suffered a serious setback in recent years unable to withstand the price rise and these budgetary constraints forced users to look beyond the library for their varied information requirements. Hence research publications in some disciplines now cite more Web resources. Librarians are not yet acting as true consumers and hence cannot blame predatory publishers for taking advantage of the situation (Reenen 1998). Another issue involves the very large and rapidly increasing number of articles obtained through photocopying, interlibrary loan, document delivery, preprints, and reprints (Tenopir 1998).

The right step in assessing whether there is a depleted user interest in libraries is to study use patterns over the years and, in a populous country like India, just going by the numbers will not address the qualitative aspects. There has not been much reduction in book issues in an academic library, but are the new acquisitions being used to the same extent? But what is seen is the fall in library attendance, as observed and reported by many library managers. It is evident that fewer users actually visit the library, and very few still spend more time, a lot of others use the library through lending, photocopies, electronic access

through networks, etc. It becomes difficult to quantify use as the library has statistics only about explicit use, but there are also implicit uses through browsing or reading inside the library, which are difficult to quantify. There are also vital questions about whether mere issuing a book or taking a photocopy of a journal article attribute to use and hence comes the need for a qualitative assessment of use. Perhaps professionals are afraid to look at these issues as the results of such assessment may force the authorities to examine critically the investments in a service institution like the library. Like Reenen's comment about false consumers, it seems that librarians fear self-assessment of library usage or to undergo a performance audit.

### *The Librarian's identity crisis*

#### *Education and training*

As stated previously, the students, faculty, curriculum and training methodology at the library schools have to be visibly improved to meet the challenges posed by electronic information and impatient, highly demanding users. There are also problems of infrastructure and a directionless attitude in the teaching and research sector often forgetting the interdisciplinary aspect of the subject. Working librarians have good exposure to new databases, their acquisition and use, pragmatic implementation of various routines etc., which are not accessible to library schools. Thus apart from teaching faculty, expert practitioners in the discipline would also be involved in education programs to bridge the gap between preaching and practice. The existing courses must always look at the sweeping changes in the library workplace and adapt well to enable the students to face the challenges with confidence, giving ample opportunities for improving reasoning, communication skills, general awareness, and other characteristics identified for a multi-tasking service organization. The age-old teacher-centric teaching has to be circumvented by student oriented and professional (job)-centric teaching.

#### *Job opportunities*

Though the major employer, the government (national and states), is not recruiting many, more and more universities/institutions are offering library

courses in the regular and distance modes. And this upheaval in quantity does not contribute in any way to the quality of these courses. For a prospective student/parent, the job advertisements provide an impression of plenty of jobs in the field, as library jobs at different levels in different institutions do not follow standard designations. But only when one finishes the course and looks for job openings, does the actual state of affairs come to light. Actually the increase in library-related jobs is merely additive, and not multiplicative, like computers, management or engineering, and should not show an exponential rise at any point of time.

#### *Continuing education*

Since the mode and rate at which information is generated, organized and used is witnessing sweeping changes in the perfectly wired information age, a continuously evolving discipline like LIS is meant to tackle the intricacies of information for societal development; thus it shall not be learned effectively and practiced perfectly by exposing students to a framed curriculum in formal education only. The discipline has changed drastically from being based totally on print sources; aware of the increasing richness of information in electronic forms and available over networks thus is leading to embracing vigorously other disciplines like computers, management, and information and communication technology. It is imperative for the information practitioners to continuously monitor and augment their professional skills through continuing education (CE) to discharge their duties to users, employer and profession. The present initiatives on CE are generally being made by national institutions and suffer limitations such as: they are of short duration, generally infrequent, claiming comparatively high fees, working professionals finding it difficult to get sponsorship from their institutions, involve travelling to far off destinations hampering their regular work, etc.

#### *Cultures and conflicts faced by librarians*

Gone are the days of close-minded librarians and the quality of candidates entering the profession is continuously improving. As technology-intensive librarianship is gaining ground in the country,

working librarians are getting much exposure to new technology tools for providing better information products and improved information services. Working librarians in at least the major academic and research institutions have better computer infrastructure and possess better expertise on the latest information products and services. It is quite natural in the emerging print plus electronic hybrid library scenario that a library professional right from first job is expected to be conversant with the electronic apart from the manual means of information collection, processing, management and servicing. But there are also apprehensions about the level of technology appropriate to conducting well in the challenging and demanding academic and research setup. A library professional must be distinct from a computer professional due to the very nature of their profession and the expected deliverables. But the acute emphasis on technology has created a situation that a professional can hide many of his/her professional ignorance by a little computer knowledge which is not going to be good either for the profession or for the libraries. Google cannot and will not be replacing libraries because both can co-exist with their diverse functionalities catching the attention of users at different occasions. The professional nature of the librarian's job always motivates him or her to help the users unlike administrative staff in the institution who are always rule-based; sometimes this may lead to not so proper upkeep of administrative procedures and records, and in some cases cause unnecessary rivalry with the administrative staff.

There are also personnel problems as the librarians fail to command a leadership role in many institutions thereby eclipsing their role in strategic planning. Institutions attach prime importance to libraries but are they doing the same towards the personnel in their libraries? It is a strange case of all the virtues are of the system and the problems are due to the staff. Largely a service wing in many institutions, not enjoying the power, visibility, service conditions, and career prospects of the research and teaching staff, the status of library professionals in many of these institutions is not a morale booster, leaving many of them underperforming. It is not uncommon to see non-professionals heading many libraries, maybe just because they are senior teachers or good administrators or researchers and not because they are good as librar-

ians. There are also problems of the lack of a peer group in the profession resisting such attacks on the profession as many senior professionals have become self-centred, and professional associations compete for minor issues. The professional staff members working in many libraries in developing countries are totally engrossed in administrative and routine jobs related to library operation and administration. Many institutions do not demand their library professionals to pursue an offensive role.

The users always need quick services and they never respond to any of the reasonable operational or managerial delays. The real situation is that the libraries have very little control over their suppliers whereas their consumers have too much control over them. Users are not patient enough to interact constantly with the library staff to tune their profiles to improve the relevance of information services, maybe due to time constraints on their parts. Again by a rough assessment, it seems that less than 10% of the users usually respond to SDI results and the remaining are either using it as it is or rejecting it straightaway. Out of those responding, only a few show their willingness to give feedback to modify their keywords to improve the utility of such services. Users may sometimes get so arrogant with the helpful nature of library staff and doubt it as their weakness.

### *Conclusions*

Like building collection and providing services, improving access to information should be the guiding criteria for libraries in the electronic era. Apart from hosting external information, they should also evolve local digitization ventures to give more visibility to internal information. We have to design a new set of parameters to judge operational efficiency and performance effectiveness of libraries. Traditional libraries boasted that they attracted a lot of users to stay inside their premises for comparatively longer duration whereas a modern librarian will be more concerned about carrying information to users' desktops. No library, no matter how rich its budget allocation and collection may be, is in a position to satisfy all the information needs of its users. As a person well versed in the intricacies of the emerging information market, the librarian should be frank enough to admit that the information needs of all users are

not met by the library alone. Collaboration with other libraries through consortia or networks increases the amount of resources available to users. Most academic and research libraries spend a lot of public money for information needs of a small percentage of the population and optimizing that spending for the benefit of more number of users is the need of the hour. Library professionals have a major role in the emerging print plus digital hybrid information environment that is looming large in many academic and research libraries. This role can be properly identified and refined only through constructive interaction of administrative heads of institutions, library professionals and professional associations. There is no doubt that we are passing through a severe phase and this is the right time to have a close introspective and critical look at collections developed, services offered and professional skills required in the light of complex user needs, hazy use patterns and the ever-increasing spread of Internet, electronic databases and digital libraries.

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