

# Information Technology enabled Library Services for Distance Learning: Threats and Opportunities

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## Introduction

The terms “distance education” and “distance learning” are used to ‘cover any situation when the student and teacher are not in the same place’ (Forbes, 2000). In contrast to the erstwhile correspondence courses where the student and instructor communicated by mail which was a ‘pretty paltry imitation of a real college class’, the radical improvements in educational technology transformed distance learning to a ‘key delivery channel for educational content of all types’ (Coffman, 2001). Modern technology notably the Internet provides opportunities for really high-quality distance education (Arms, 2000). Distance Learning has become an important stream for providing educational opportunities to a wide group of the community who would not engage in formal regular education channels. Now distance education is offered using various forms of technology such as interactive tele-classrooms, videotapes and the Web (Casado, 2001). Through distance education, ‘adult learners can take control of their education and have the opportunity to learn at their own pace, at times and places compatible with the commitments of family, work and leisure’ (Forbes, 2000). These days the term distance learning receives vital and enriched importance as it is being used even to encompass the continuing education activities as professions and disciplines are getting increasingly intertwined in a complex fashion and progressing rapidly due to inter and intra disciplinary research activities. Gone are the good old days where the education of a person stops when s/he receives a degree/job. The knowledge intensive work environment stipulates continuously to keep abreast of fast pacing developments in one’s fields of specialization.

## IT for library services

The library professionals in India are already exposed to the offshoot of Information Technology (IT) for information services such as library software systems to handle the in-house operations, CD-ROM and electronic databases for bibliographic as well as numeric and full text/image information. The availability of a wide variety of library automation software on different platforms (both hardware and software) to suit the needs of libraries of various sizes itself is a reflection of the progress our libraries have made in this important attempt to fine tune the manual operations

of procuring, processing and providing information sources. CD-ROM is common nowadays and libraries hold a good amount of them not only of databases, but also those that comes with books and other reference sources. Managing and servicing these high capacity discs were a problem as they are to be serviced only through stand-alone devices. Now, the onset of networking and hard disk cached solutions provide an effective and functional way to enable access to a considerable set of information in electronic form. With the emergence of Internet and web as the global information superhighway, librarians like other professionals are experiencing the benefits of ever-pervasive electronic information. More libraries have now a website and they use the site to inform others about the strengths of the library and to clients as a one-stop forum to receive certain services such as OPAC, on-line access of electronic information. Though the professionals are concerned with the poor search efficacy of Internet search engines, they know the utility of web as a first stop for answering reference queries, and to use it as a platform to furnish electronic information such as web access of subscribed journals.

Another development that has received much enthusiasm in recent times is that of hosting digital libraries on general and special information resources. Libraries in India are also getting engaged in the development of prototypes of digital information resources. There are certain types of contents which lie inaccessible or less used now, due to its present physical form, may be put into a more visible and enhanced use as a result of digitization. Also heavily used contents in limited physical copies can also be identified for conversion to electronic form. To demonstrate the efficacy of digital libraries and collections, libraries must be able to identify materials in the public domain, sources generated in-house etc., by easily bypassing the constraints of copyright. Thus, IT adaptation for library applications is an ongoing process right from procuring IT enabled information products to their computer aided processing and management to IT enriched services.

### **Library services for distance education**

Real learning requires students to explore materials that they have found for themselves and hence colleges and universities have general-purpose libraries, not canned collections of materials tied to individual courses (Arms, 2000). The distance education students' only necessity provided by the university is information (Hooke, 1999) but how many are able to provide this crucial entity is the big question. At a 'closer look at the services offered to distance learners reveals a simple re-marketing of the services that have existed earlier' (Pace, 2001). The ACRL guidelines for distance learning library services consider philosophy, management, finances, personnel, facilities, resources, services, documentation, and library education (ACRL). The Open University Library's research project, OPAL (Online Personal Academic Librarian) attempts to develop a 24-hour fully automated reference service for distance students (D-Lib Magazine, 2001). The National Science Foundation's (NSF) National Sciences, Mathematics, Engineering, and Technology Education Digital Library (NSDL) program seeks to create, develop, and sustain a national digital library supporting science, mathematics, engineering, and technology (SMET) education (Zia, 2001). The status of library services for distance education (though renamed correspondence courses to this glossy term without redoing much of the erstwhile practices) in the country is not at all a matter of pride. Till the start of the Indira Gandhi National Open University (IGNOU), distance education was provided by supplying materials by post or through contact classes at the University's location or in exceptional cases in major cities. The provision of library services, like those rendered to regular students at the conventional universities, were part of the facilities provided to distance students, if at all present, only during the brief contact classes. The IGNOU

enriched this practice by opening regional centres in all states and study centres in major cities. However even today, the libraries attached to all these function as independent entities at least to the point of online information sharing. Ultimately, the issue to be highlighted is students in the country tend to use the library just on-campus, the only difference being the distance education students will get this benefit only during a brief intermittent period of their course.

The importance of library services for distance education can be summed up as “when you study physically and geographically alone, any glitch in the supply of reference materials is doubly frustrating” (Hooke, 1999). Library services for distance learning have to take extra care in information organisation, retrieval and dissemination to supplement the contact classes and self-learning modes to achieve the necessary progress. It is not only the off campus location of distance learners that libraries have to face as a challenge, but also the wide variation in their intellectual level as they come from a more varied spectrum in comparison to campus learners, comparatively lesser time and resources than regular learners etc. Since electronic and IT tools are being applied for information services in the country too, some of these barriers must be broken to some extent.

### **IT for distance education library service**

The distance library services include virtual reference services, simplified remote access to licensed indexes and full text purchases of electronic texts, document delivery, reciprocal borrowing with other libraries, etc. (Pace, 2001). The real question to be asked is: are we any way near these services practiced in the industrially advanced regions of the world? ‘Unfortunately, advances in distance librarianship have not always kept pace with the rapid developments in distance education’ (Coffman, 2001) though ‘tailored electronic-delivery methods could facilitate better usage and remuneration levels for the publisher’ (Hooke, 1999). To understand the needs of remote users, focus either on interactions with individuals or inferences drawn from statistics of web site usage by remote users (Guenther, 2000). The fruits of IT enabled library environment could be better applied for distance education as we have to service clients located off-campus and electronic access must be better attuned than print access in this environment. Apart from seamless access of contents, electronic contents can be shared easily over many users as their access will not be restrictive like printed sources. Another advantage with electronic contents is the multi-channel access through internet/intranet/modem/video/broadcast rather than personally visiting a library to issue a printed book. It may be difficult to highlight the IT application for distance library services since library services for distance learning itself may be seen as a luxury than as a necessity. There may be cases where the library attached to the distance learning university or its regional centres may be computerized or offering electronic databases locally. But equitable access to all students when they are stationed in their places of domicile/work is a matter of distant propensity. Libraries and publishers need to work together to make off-site licenses a reality to provide better access to library resources for distance-education students (Hooke, 1999).

Inter-library loan and making readers find their own resources on the Internet are bleak prospects for publishers, too, as library revenues are being spent on administration and postage, and readers tend to use free material rather than pay for it (Hooke, 1999). Patrons of all stripes now want information access that is convenient to their life styles and their working needs and if librarians try to ignore this fact, users will want to replace them with the infamous internet (Dempsey, 2001). If you don’t have good access to the web, you can attend class via telephone

or packet radio and broadcast television (Coffman, 2001). The same situation must be tried for information access also only when distance learning libraries were in a position to offer their resources and services accessible through these channels. 'The libraries should set a priority on acquiring' (books and) 'journals that have electronic versions, to meet the needs of off-campus distance education students as resources tied to one location will become less useful and therefore less marketable' (Hooke, 1999).

## **IT enabled library services for distance education**

### *Information sources required*

#### Bibliographic

- Online Public Access Catalogue of the Library and/or Union databases from other similar facilities
- Subject/Discipline specific commercial electronic databases such as EconLit for economics, ERIC for education etc.

#### Full text

- Lecture notes, research reports and course materials produced by the University.
- Proceedings of conferences held locally.
- Resources from friendly/collaborating Institutions.
- Full Text access of subscribed journals, commercial electronic databases.
- e-journals, e-books etc. both free and paid.

### *Server infrastructure*

- *Database server* to hold library automation system and to conduct house keeping tasks.
- *CD-ROM server* to provide on-campus and off-campus access (after validating user name and password plus other security restrictions if any) to bibliographic and full text databases.
- *Web server* to hold and service locally generated digital collection, e-journals, e-books.
- *Multimedia systems/VCP/VCR* to service sources in VCDs/Video cassettes.

### *Client infrastructure*

Multimedia machines set up within the university through LAN as clients to provide access to regular students may also act as clients for distance education students during contact programmes. However, the prime necessity is to arrange these client resources in the student's place either by providing this infrastructure in regional centres and in other places by making an alliance with private computer centres/internet cafes after incorporating the necessary security mechanisms for such public machines to access protected servers of the University. Students would need access to a computer that can send and receive e-mails, that permits access of university's servers with reliable connections to an Internet Service Provider (ISP). They should also need access to a VCR/VCP to play videotaped instruction.

## Services

Apart from any/all services of academic libraries meant for regular education (such as OPAC search services, database search services-current as well as retrospective), the distance learning libraries can think of the following:

- Provision to access the library resources and avail library services through various means of WAN.
- Off-campus access to electronic resources for valid distance education students who wish to access them from their home/place of work.
- Web/remote access of course materials.
- Receipt and answer of queries about information sources, services etc., through email/chat.

## Threats

The problems the libraries must address to render effective services to distance learners are unstable budget, lesser amount of copyright free contents, inferior IT infrastructure, meagerly increasing national network bandwidth etc.

Distance education programs suffer from the financial dilemma known as “the tragedy of the commons” and many have a separate budget for each course, with no funds available for general services that benefit all students, and this hinders in providing good library services for distance education (Arms, 2000). Also ‘as collections and reference services move online, colleges and universities doubt about maintaining expensive physical facilities and staff’ (Coffman, 2001).

Since the copyright holder has ‘absolute control over any use of every single bit of content’, the course designers paid a fee to get over the problem of copyright infringement mooted by a publisher. As the main resource is the process of knowledge exchange, not the knowledge products, then protection of the latter constraining the former looks very odd (Ishii & Lutterbeck, 2001).

There is no doubt about the resourcefulness of Internet/Web, but the crucial issue is the availability of quality content like refereed journals. While there is currently no lack of “great piles of content” on the Web, there is an urgent need for “piles of great content” (Zia, 2001).

The new web based courseware programs permit interactivity, but they are designed to mimic the classroom environment and not for one-on-one reference use because you could have many people in line (Coffman, 2001). Most courseware programs have a limited ability to share content online and make no provision for knowledge bases, scripted chat messages, book marks or other tools that would help a reference librarian (Coffman, 2001).

Normal reference services provided face to face interaction and enough context to understand the user’s needs (Guenther, 2000). However electronic reference services have to profile the user based on online interaction and other use characteristics. Email reference services do not offer the instantaneous response and immediate gratification provided by Web (Coffman, 2001). Interactive chat solves the problems of email; however it is primarily designed for one-on-one conversations and not for high-volume question answering services (Coffman, 2001). Videoconferencing requires bandwidth and the connections are too slow to have normal interaction (Casado, 2001).

Though praised from many corners as an IT giant/superpower, inferior IT infrastructure and meagerly increasing national network bandwidth are to be addressed seriously. This is limiting the significant utilization of IT for various social applications.

## Opportunities

But as a country with a large number of research and academic institutions as well as manpower with substantial intellectual activity, it is high time for libraries attached to different institutions in India to gather and conserve the research output lying ill-disseminated outside the formal publishing channel such as research/status reports.

Web based contact centre software based on the call centre model which queues and routes calls to the next available agent, and supports built-in knowledge bases, customer profiling, and usage tracking tools (Coffman, 2001) may be better applied for automating reference services for distance learners.

Voice over Internet Protocol (VoIP) allows the librarian and user to browse the web and talk back and forth at the same time. Coffman (2001) dreams about the arrival of virtual libraries with well selected electronic content coupled with online reference services to help students which schools may be able to subscribe them just like electronic databases. Virtual reference services integrate more easily the wealth of print and online resources that are available rather than current reference services which focus on local collections.

Offering basic materials online gave students to choose what and when to read leaving much more time for classroom discussions (Ishii & Lutterbeck). Massachusetts Institute of Technology Open Course Ware (MIT OCW) attempts to make course materials used for teaching undergraduate and graduate subjects available freely on the Web (MIT). MIT OCW will only provide the content of MIT education as the cornerstone of the learning at MIT is the interaction between faculty and students and amongst students (MIT).

With the Internet, the web and digital libraries, distance education programs can mount sets of materials on web servers to support each course and as the materials are accessible only by specified students, licensing problems are unlikely to be a serious barrier (Arms, 200). It is possible to have richer interaction in the digital environment not only as more content is put within reach of the user, but also as more tools and services are put directly in the hands of the user (Zia, 2001).

## Conclusion

It is unclear which kind of rules should govern the potentially extraordinarily valuable education market and what issues of sustainability, democracy and public access have to be taken account of and how as the current answers are largely based on the assumption that knowledge is a commodity and education is a product (Ishii & Lutterbeck, 2001). As distance learning at least in the country is followed by capsules of course materials with little or meager library support, it is unclear what sort of track the distance library services in the country would pursue. However, the expression and intent towards IT enabled library services for regular education support might be applied to distance learning too, provided the distribution of clients beyond the campus is properly placed in information acquisitions, organization and services. Such a set up requires

enough monetary support and can only be generated by entering into some sort of a consortia approach among the different distance education entities in the country. Let us hope that distance education may not distance library and its services from learners.

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