University Libraries in India in the Digital Age

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ABSTRACT

The paper deals with the current trends of university libraries in India and highlights major roles these are playing in the digital age. The role of INFLIBNET, UGC-INFONET Digital Library Consortium and National Knowledge Commission has been discussed in the context of changing academic library environment. The paper also advocates the skills needed by the library professionals to meet the challenges of modern librarianship.

Keywords: University libraries; skills of university librarians; ICT application in university libraries, library skills

1. INTRODUCTION

A university library is the heart of a university. Dr Shankar Dayal Sharma, late President of India, while inaugurating the Eighth World Book Fair on 5 February 1988 in New Delhi, said, "A library is more important than a university because a library can function without a university whereas a university cannot function without a library"[1]. Lenin, emphasised the importance of libraries by stating that, "without libraries and without an efficient use of books by readers there can be no cultural revolution"[1].

The library is the heart of a University that actively performs the activities related to learning and teaching, research and generation of new knowledge, dissemination of research results and conservation of knowledge and ideas along with the extension of services[2]. At present, India has 430 universities of different categories and 20,000 colleges of various types catering to the needs of around 110 lakh students and 5 lakh teachers[3].

This progress is spectacular particularly when we compare the status of present day universities, colleges, students and teachers with those on the eve of our freedom in 1947. At the time of India's independence, India had 18 universities, and 600 colleges[3]. The university libraries in India have gone through tremendous changes. The change in traditional document delivery services, from print to electronic, has come about quickly, and the university libraries in India have undergone significant transformations to effectively deliver electronic resources to the academic community. Moreover, the rapid advancement of information communication technology (ICT) has brought a revolutionary change in the information scenario giving rise to number of options to the users' community to handle varied information sources conveniently and effortlessly as a result of which e-resources have become the lively substance to the modern library's reserves in satisfying varied needs of students, teachers, and researchers with minimum risk and time. Electronic resources are rapidly replacing print resources as the largest consumer of library and information centre's acquisition budget is spent on electronic information resources.

2. FACTORS RESPONSIBLE FOR PARADIGM SHIFTS IN UNIVERSITY LIBRARIES

The factors that are responsible for the paradigm shift in the university libraries in India are:

(i) Advent of ICT and its use in library operations has changed information needs and behaviour of the users especially looking to have the information in the multi-disciplinary and multi-lingual nature,

(ii) Change in the mindset of the authorities both at national and university levels thereby changed perception and image of the library and that has

resulted into the setting up of high power committees and commissions to improve upon the library collection and services,

(iii) Change of work environment such as teamwork, job sharing, tele-work, outsourcing, staff downsizing, and re-engineering, among others. These developments have necessitated the acquirement and development of new skills in librarianship along with the adequate knowledge of the use of ICT tools.

The above have helped University libraries in:

(i) Identification, assessment, and evaluation of the information needs of the readers;

(ii) Need-based collection development and collection building;

(iii) Analyse, evaluate, and organise information contents of various types of sources as a content manager;

(iv) Marketing LIS products and services to promote the underutilised information resources and enhancing the use of library resources and services;

(v) Consolidation and repackaging of information products and services in a fashion that suits and meets the information hunger of the library readers;

(vi) Intranet and Internet potentiality be used extensively by organising training sessions, information literacy programmes;

(vii) Developing the e-learning modules and train the staff and the readers to make use of these for their research and development activities;

(viii) Establish or participate in the library consortium for mutual benefits, especially in the area of journals subscription through electronic environment and for this develop the skills of negotiation while signing the contracts with information providers having adequate knowledge about licensing and other legal arrangements for access to digital resources.

3. DYNAMIC TASKS OF UNIVERSITY LIBRARIAN IN DIGITAL AGE

The basic aim of the university library is to support the aims and objectives of the university, for which the university librarian should have a clearcut understanding of the information needs and requirements, both current and prospective. This involves understanding the structure of the university, its functions, its mission, and its several departments engaged in teaching and research. In the changing environment, the job of selecting documents is becoming complex because of various reasons such as information explosion, regular exclation in price of publications, multi-facet nature of information resources, multi-disciplinary approaches of the users, different electronic format of the documents, etc. Since, university libraries are also switching over to electronic information resources, there is a need to consider several factors carefully.

Singh[4] proposed following points to be considered for this purpose:

⌘ *Contents*–print, CD ROM and online version of a product may have different contents, quality, scope, indexing, referencing and illustrations.

⌘ *Cost*–the cost of each format will vary and may not relate to the quality and scope of the document. One should understand that carefully.

⌘ *Bundling*–"it's a package deal", that is, when one title in electronic form is purchased, one may have also to take a variety of other titles or modules, "bundled" together as a deal product, whether you need them or not.

⌘ *Full text/abstract/citation*–is full-text database required? If the database does not contain full-text, does it have document delivery option? If not, are the given citations complete enough for placing an order?

⌘ *Coverage*–is the subject area covered adequately? Is the scope clearly stated? What is the retrospective coverage of the database? Is the coverage balanced, if not, are the biases clearly stated? Are there links to further sources of information?

⌘ *Different versions*–are there different versions available for the database and is the information the same in each one?

⌘ *Currency*–how current is the information and how frequently and regularly it is updated? What is the time lag in the print version and in the electronic version?

⌘ *Reliability*–is the information compiled from valid sources? What is the authority?

⌘ *Format*–can documents be viewed and downloaded in a variety of formats?

⌘ *Ease of use*–is it user-friendly or requires end-user training?

- *Support and backup*–what level of support and backup is provided by the producer, online help, support documentation and help desk and training? Is local support available?

- *Free trial*–is a free trial offered to allow a complete evaluation of a product by the users?

- *Terms of license*–restrictions placed on access, downloading and distribution?

- *User behaviour*–assessment of user behaviour has been treated last, but it is absolutely essential, particularly when moving from print publications to e-resources because user's ability to search, browse and jump across the titles via hyperlinks in an e-environment is the pre-requisite for such sources.

4. APPLICATION OF ICT IN UNIVERSITY LIBRARIES

According to Oketunji[5] the role of ICT in university libraries can be looked into the context of its application in various tasks that are being performed by the university libraries such as:

(i)   cooperation and the formation of library networks;

(ii) easy integration of various activities within a library and between libraries in a network;

(iii) elimination of some uninteresting and repetitive work in a library system;

(iv) increasing the range of services offered;

(v)   provision of marketing opportunity of its services;

(vi) ultimately saving or even generating money; and

(vii) increased efficiency and effectiveness. Alasa and Kalechukwu[6] opined that the benefits of ICT in university libraries are:

(i)   quick and convenient information exchange;

(ii) access to experienced and expert individuals in many fields;

(iii) access to regular updates on topics of interest;

(iv) enhancement of teamwork across geographical distance;

(v)   transfer of data between machines;

(vi) promotion of a great platform to have fun and be entertained;

(vii) facilities for sending and receiving e-mail;

(viii) facilities for electronic search;

(ix) facilities for transacting electronic borrowing.

Acceptance to use ICT in libraries has revolutionised the entire perception of the university libraries in India especially in the past one decade. University libraries are now moving towards electronic resources for which they are now getting the benefits of UGC-Infonet Digital Library Consortium. But for getting the maximum benefits of the ICT, it is imperative for the librarians working in the university set up to acquire new skills to be competent enough to work in this new environment.

5. APPLICATION OF INTERNENT IN THE UNIVERSITY LIBRARIES

Statistical data available reveals the fact that there is a increasing trend of Internet users in India. Their number is doubling speedly. It is being used for both academic as well as commercial purposes by a large segment of Indian masses. The university librarians in India are now advocating Internet connectivity even at the places like recreational rooms, clubs, hostels, playground and at every public place in the university for maximum utilisation and feeding the information appetite of the users community. But, at the same time they need to develop more skills and strategies that can help them to retrieve information from the Internet with more precision than recall which is need of the hour. Since technological developments are fast, these call for regular training to learn more and more new skills and competencies, which need an intense focus on users information needs and continuous assessment of their skills to remain updated.

6. LIBRARY NETWORKS AND CONSORTIA

The ICT has facilitated the libraries all over the world to establish networks for resource sharing. Further, the emergence of e-journals has forced libraries to opt journals' subscription in the electronic format due to variety of reasons. One of the reasons for opting subscription of e-journals through library consortium is the best possible bargaining of the prices and saving attractive segment of money in comparison to the subscription in the print format. Government of India consented University Grants Commission to allow its organ, INFLIBNET, to establish a library consortium namely 'UGC-INFONET Digital Library Consortium.' This consortium is providing access facilities to e-journals and databases to majority of the university libraries in India. INFONET has helped libraries meet their users' diverse information needs.

7. SUBJECT GATEWAYS AND PORTALS

Though Internet is considered a boon for present day librarianship and undisputedly, considered as an essential technology for the research and development activities almost in every discipline. Its huge information resources, both available in commercial domain as well as in public domain, have made it as the first choice to anyone working in the digital environment. But one of the biggest problems people are facing while using the Internet is the vast amount of junk information. To overcome this problem, a lot of efforts are being made globally. In addition to many of the workable solutions on which the professionals are working, the available solutions are the formation of subject gateways and subject portals. For example, SOSIG, now known as *Intute* is the information gateway in the field of social sciences. The research in the field of semantic web is also going on to solve the problems of garbage and provide more precision than of more recall.

8. DIGITAL TECHNOLOGY

Creating a digital library is the latest phenomenon being observed and advocated by the group of librarians, especially the librarians working in the academic environment. Digital technology has become the answer to the problems of preservation, add new life to rare, brittle and fragile documents in addition to its potentialities of providing access to information speedily, accurately, and efficiently. The philosophy of library cooperation and resource sharing is executed in best possible manner through the digital technology as it enables creation of networked libraries.

The big university libraries like University of Delhi, Jawaharlal Nehru University, Jamia Milia Islami, IGNOU and many more in India have already started positive efforts in creating a digital library of their own and having the mission to put their resources in the Web-enabled environment to provide access to their resources from anywhere in the world in 24x7 environment. Greenstone Digital Library, E-prints Archives and Dspace are the popular software used by these libraries.

9. MARKETING LIS PRODUCTS AND SERVICES

Though little late, the university libraries in India have realised that if the image building is to be done, if the maximum fruits of the library services are to be taken to the doorsteps of the readers, if the problem of underutilisation of numerous resources of the university libraries is to overcome, and over and above, if the present day libraries have to survive and sustain, there is no other way except to accept and adopt marketing as one of the strategic solutions and promotional tool for making the role of the libraries much more meaningfull for the 21st century.

In fact, marketing is not about persuading people to buy or use something, which they do not really need or want. Similarly, it is also not a strategy to increase the sale of the product or service. The Chartered Institute of Marketing[7] defines it as, "management process responsible for identifying, anticipating and satisfying customer need profitably". Thus, the strength of marketing philosophy is undisputedly recognised and thus, university libraries should start to make use of this philosophy for the overall benefit of library users.

10. INFORMATION CONSOLIDATION AND REPACKAGING

Days have gone when the reader would have been satisfied simply by providing him/her the book he/she wanted to read or to just guide him/her the location of book on shelves. In the present day environment, he/she is more concerned with pin-pointed exhaustive information, and that to in the format which suits him/her best. This change in the information-seeking behaviour of the users has forced the university librarians to adopt the mechanism to consolidate and repackage the information. The information repackaging process involves several tasks like selection, analysis, evaluation, restructuring, and synthesising the information to provide specific information to users in a bespoke, tailored manner. In the changing scenario of librarianship in India, the restructuring and repackaging of existing information and knowledge is considered as highly essential to meet the information hunger of the users with utmost satisfaction.

Seetharama[8], in this regard, opined that "knowledge is the objective of the parent organisation and, thus, the expressed or established needs of users play a very crucial role."

11. OUTSOURCING

One of the new trends at university libraries is to outsource the various jobs. Though, the downfall in the work culture in the government organisations is one of the major reasons to opt outsourcing, yet slowly and gradually, this is becoming identifiable feature of university libraries, especially for the jobs such as cataloguing and classification, retro-conversion, stocktaking, compilation of bibliographies, automation of the library, etc.

12. FLEXI-WORKFORCE

Another trend which is being witnessed is the adoption of the philosophy of flexi-workforce. Flexi-

workforce means employing temporary or part-time professionals and semi-professional staff to save on fringe benefits and employment costs. Instead of employing the staff on regular basis, under such a system, the employees are employed as and when needed and that to on day-to-day basis.

13. KNOWLEDGE MANAGEMENT

Knowledge management (KM) is one of the hottest topics of debate amongst librarians. Though, there is a dispute on the nature of job involved in the KM when performed in a library environment in comparison to the environment of the industrial houses. However, university libraries have also started to take care of certain issues related to specialised areas of knowledge. KM is understood to be the efforts of the organisations to identify, capture, and retain the tacit and explicit knowledge. In other words, management of intellectual capital within the organisation, for which, the parent organisation creates and maintains a database of expertise about employees, their experiences of handling the difficult moments and tasks, decisions taken in the adverse circumstances that resulted into the best solutions and benefited the organisation, etc. along with their complete biographical details and their contact address, etc., so that as and when the organisation need their services and valuable guidance, they can be contacted.

14. PARTICIPATIVE MANAGEMENT

Participative management works on the philosophy of taking every one into confidence to work as a team to achieve the goals of the organisation in the best possible way. It is comparatively a new concept and was first adopted in the United States and then slowly and gradually attracted the whole world. Now, participative management is taught almost in every management school. The basic characteristics of participative management is to give an equal opportunity to each one to understand and learn new things and it does not have scope to induct anything of disputed nature. It utilises energies in a more personally responsible manner, to achieve the goals of the organisation.To perform the above mentioned tasks effectively, the librarians need to have skills and unique competencies. Some of the important skills and competencies needed by the librarians are discribed.

14.1 Technical Skills

University librarians and other senior professionals working in the libraries should be capable to do the work by using HTML and other languages. In addition, they should have the ability to work on OPAC, and emerging technologies to find quality online resources along with

giving training to the users to make use of technological facilities available in the library.

14.2 Time Management Skills

University librarians need to be good managers to manage the library more effectively. They, thus, be adequately trained in management skills, management philosophy and made capable of implementing management principles and functions like planning, organising, staffing, directing, coordinating, reporting, and budgeting.

14.3 Presentation and Communication Skills

University librarians must have effective presentation and communication skills. It is found that many a times, librarians or senior library officers have to train the junior staff, market the LIS products and services, handle the anguish of the staff as well as readers in one context or the other, and convince the higher authorities for higher allocation of funds and other facilities for the library, etc. Further, they have to negotiate with publishers, vendors and customers for which effective communication skills are needed.

14.4 Evaluation and Assessment Skills

University librarians and senior library officers need to understand the existing problems and should be capable to do the evaluative exercises for the assessment of the work done in the library so that pitfalls, if any, can be removed and new things for the betterment of the library services can be done. In fact, their skills for using SWOT (strength, weakness, opportunity, and threat) analysis will affect stakeholders.

In addition, they should have good understanding and knowledge of policies, procedures, issues and standards so that whenever they are communicating with the authorities or the stakeholders they are in a better position to winover their faith. Similarly, good knowledge of information sources, portals, information available in public domain, etc., is a boon for their own stability, value and existence in the organisation. Skills of marketing and promotion of library services, project management skills, digital rights management, KM skills, etc., will make them strong enough to meet the challenges of the modern librarianship.

Apart from the trends discussed above, the landmarks of the development of academic libraries in India can best be seen in the efforts and initiatives taken by the UGC since its inception. However, worth mentioning initiatives of the UGC responsible for the development of college and university libraries in India are the establishment of INFLIBNET and UGC-INFONET Digital Library Consortium. Information and Library

Network (INFLIBNET) Centre is an autonomous Inter-University Centre of the UGC. It is a major National Programme initiated by the UGC in 1991 with its HeadQuarter at Gujarat University Campus, Ahmedabad. Initially started as a project under the IUCAA, it became an independent Inter-University Centre in 1966[9]. Its objectives are[10]:

✻ To promote and establish communication facilities to improve capability in information transfer and access that provide support to scholarship, learning, research and academic pursuit through cooperation and involvement of agencies concerned.

✻ To establish Information and Library Network (INFLIBNET), a computer communication network for linking libraries and information centres in universities, deemed to be universities, colleges, UGC information centres, institutions of national importance and R&D institutions, etc. avoiding duplication of efforts.

INFLIBNET performs following major activities[11]:

✻ Provides grants to universities to automate the libraries, establish network facilities and create an information technology environment.

✻ Has developed and distributed integrated user-friendly library management software for University Libraries (SOUL). The latest version of the software is compatible with the latest technologies and international standards such as MARC21, and Unicode and NCIP-2.0 based protocols for electronic surveillance and control.

✻ Indian Catalogue of University Libraries in India (IndCat) is an online library catalogue of books, theses and journals available in major university libraries in India. It provides bibliographic description, location of the material in all subjects available in more than 112 university libraries. Thus, IndCat has over 10 million bibliographical records of books from more than 113 universities. In addition, the database of theses, expert databases, project databases and SEWAK-OFFLINE database access facilities are also extended to the libraries of higher learning institutions.

✻ To enhance the skills of university library staff for implementation of INFLIBNET programme, it conducts training programme for library staff, on-site training for member library staff, training on SOUL, holding CALIBER convention every year and workshops for senior level staff of the university libraries are conducted.

✻ It has brought out a document entitled 'INFLIBNET Standards and Guidelines for Data Capturing' prepared by a taskforce of experts based on Common Communication Format (CCF).

Another very important and significant landmark in the history of higher education and development of libraries in India is the establishment of "UGC-INFONET Digital Library Consortium" by the UGC on the concluding day of its Golden Jubilee Celebrations by His Excellency, the then President of India, Dr A.P.J. Abdul Kalam at Vigyan Bhawan on 28th December 2003.

UGC-INFONET is an innovative project launched by UGC to facilitate scholarly e-resources to Indian academies through joint partnership of UGC, INFLIBNET, and ERNET. This includes interlinking of universities and colleges in the country electronically with a view to achieve maximum efficiency through Internet-enabled teaching, learning, and governance. The UGC- Infonet is overlaid on ERNET infrastructure to provide assured quality of service and optimum utilisation of bandwidth resources. The network will be run and managed by ERNET India. The project is funded by UGC with 100 per cent capital investment and up to 90 per cent of recurring costs. UGC and ERNET India have signed the necessary MoU for this purpose. A joint technical and tariff committee, has been setup to guide and monitor the design, implementation and operations of UGC-INFONET. Information for Library Network (INFLIBNET) an autonomous Inter-University Centre of UGC, is the nodal agency for coordination and facilitation of the linkage between ERNET and the universities. Under this programme, information and communication technologies (ICTs) and Internet will be used to transform learning environment from a mono-dimensional one to a multidimensional one[10]. This was created to help and benefit more than 310 universities and about 14,000 colleges affiliated with these universities and approximately 10 million students with the e-journals, and therefore is a boon to higher education system in many ways[12]. The UGC-INFONET digital Library consortium has the following objectives[13]:

✻ To subscribe electronic resources for the members of the consortium at highly discounted rates of subscription and with the best terms and conditions.

✻ Promote the rational use of funds.

✻ Guarantee local storage of the information acquired for continuous use by present and future users.

✻ To impart training to the users, librarians research scholar and faculty members of the institutions on the electronic resources with an aim to optimise the usage of the electronic resources.

✠ To have more interaction amongst the member libraries.

✠ To increase the research productivity of the institutions in terms of quality and quantity of publications

✠ Strategic alliance with institutions that have common interests resulting in reduction of information cost and improved resource sharing.

The futuristic academic libraries in the higher education system must globalise if they want to add value to the academic enterprise, was concluded in the International Conference on Academic Libraries–ICAL 2009. The academic libraries in India and other developing countries are at least a decade behind their counterparts in the developed countries. The ICAL 2009, which was specifically called to reposition academic libraries as the next generation libraries, recommended 'globalising academic libraries' in the network environment. The new model proposed by the Conference in essence envisages collaboration between libraries at all local, state, national, and global levels on all library dimensions, for instance, performing library functions of resource building, cataloguing, and back-end operations at consortia level and not at client level. Technologically, the new model envisages integration of all participating university libraries in open systems environment for facilitating management of library operations, functions and services at consortia level, and building common resources for sharing and access.

The pre-requisites of the new model include setting up of a major centralised facility equipped with the state-of-the-art ICT infrastructure at the consortia level offering online avenues for managing library functions. This sort of new set-up would essentially be helping client libraries relieving them of the hassles and burden of managing local library management systems as well as obviating the need to undertaking capital intensive and time consuming activity of building cataloging databases at local level. In the context of recommendation of the National Knowledge Commission (NKC) to expand the number of universities in India from 475 to 1500 in the near future, the new model is considered highly relevant in terms of economy and performance, in offering low-end investment options in the ICT infrastructure at client level, in offering academic community access, not only to local resources but to resources of all other university libraries as well, and in addition opening up new opportunities for libraries to play more effective, strategic and educational roles to add value to the academic enterprise.

15. LIBRARIES IN INDIA IN THE 21ST CENTURY

The NKC was set up by the Government of India on 13th June 2005 with a time-frame of three years. As a high-level advisory body to the Prime Minister of India, the NKC has been given a mandate to guide policy and direct reforms, focusing on certain key areas such as education, science and technology, agriculture, industry, e-governance etc. Easy access to knowledge, creation and preservation of knowledge systems, dissemination of knowledge and better knowledge services are core concerns of the Commission[14]. The Commission envisaged the future roadmap for the growth and development of academic libraries by imbibing core issues such as setting a national commission on libraries, prepare a national census of all libraries, revamp LIS education, training and research facilities, re-assess staffing of libraries, set up a central library fund, modernise library management, encourage greater community participation in library management, promote ICT applications in all libraries, facilitate donation and maintenance of private collections, and encourage public private partnerships in LIS development, etc[15]. In this context, the ICAL-2009 recognised that the long era of secluded, stand-alone libraries is now over and also recognised that things happen differently with togatherness. The future of academic libraries, therefore, lies in their coming together with a view to collaborate in managing their functions, operations, and services from a common platform, building and sharing common resources, and exploring and executing future programmes and activities of common interest. It is from such a common pool of resources that academic libraries could think and hope of adding value to the academic enterprise.

The ICAL-2009, therefore, gave a call for 'globalising academic libraries' in the network environment as the academic library vision for 2020. Given the challenges on how to develop academic libraries as the next generation libraries and on how to enable them to cope with imminent expansion planned in the higher education sector (as per the NKC recommendation) from 475 to 1500 universities in near future.

The ICAL-2009 call for globalising academic libraries is very timely and relevant. The globalised academic libraries are to be seen as another but different library model that advocates futuristic library development based on collaboration between libraries at local, state, national, and global level and on all dimensions of academic library activity. The new model promises to offer several inherent advantages over the current library model such as strategic, operational, and economic on the following lines:

✠ Enabling utmost economy and performance in the library operations at the client level.

✠ Enabling libraries to build common resources at the consortia level as opposed to current practice of building resources at client level in the distributed environment.

✠ Enabling libraries to go in for minimal ICT infrastructure at client level compared to high-end requirements mandated at present.

✠ Enabling access not only to local resources but also to resources distributed across university libraries.

✠ Enabling professional staff sufficient opportunities of develop expertise in core library and information science areas and not be bogged down with the requirements to necessarily develop high-end expertise in the ICT.

✠ Enabling libraries to play strategic and educational roles to add value to the academic enterprise.

The ICAL-2009 proposed 11 points for making the roadmap for globalising academic libraries. These are:

(i) To ascertain the strengths and weakness of libraries under the central and state universities in India in the form of a status report.

(ii) To identify alternate modes of managing traditional library functions in the global academic library mode.

(iii) To identify the new dimensions that could be added to academic library services by exploiting common pool of resources.

(iv) To identify the strategic and educational roles that libraries and librarians could play to add value to academic enterprise and in the knowledge society.

(v) To undertake new initiatives such as building digital resources of indigenous knowledge of unique character.

(vi) To formulate ICT plan for systematic development of futuristic global academic libraries.

(vii) To formulate plans for ensuring quality and standards in the functioning and performance of futuristic global academic libraries.

(viii) To encourage international collaboration on all library fronts for bringing about qualitative change in the functioning and performance of futuristic global academic libraries.

(ix) To identify and formulate appropriate policies, programmes, and systems for ICT integration at library client level and consortia level.

(x) To identify the priority areas for talent development and formulating talent development plans for the purpose.

(xi) To evolve suitable strategies for change management, library advocacy and marketing essentially with a view to change the public image of the academic libraries.

16. CONCLUSION

The study reveals that university libraries are switching over from print to electronic information resources and highlights the role of University Librarian in the changing environment and requirements of necessary technical skills, time management skills, presentation and communication skills, and evaluation and assessment skills. The creation and formation of networks and consortia, use of digital technology to provide access to e-journals and databases to meet the users' and marketing of LIS products and services coupled with information consolidation with outsourcing, flexi-workforce, and re-packaging for resource generation to effectively meet out the diverse information needs. In addition, it is also undisputed fact that the rate of growth of information and knowledge which is faster than ever before and is still accelerating, the subscription rates of foreign periodicals, which are continuously increasing, the continuous increase in the publishing cost of reading material and the devaluation of the Rupee are the most important factors influencing, in one way or the other, the entire university library system in India and, therefore, necessitated establishment and development network and networking systems like INFLIBNET and UGC-INFONET Digital Library Consortium. The result of such developments in India's academic library environment and acceptance to such a dynamic change in the library environment by the academic library personnel, the library professionals of the university libraries are creatively and comparatively managing the information and research resources much more efficiently and effectively.

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