Chapter - II
Higher Education and University Libraries in India

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"Emerging Internet technology has provided global access to Information resources in a reasonably negligible cost. This outperforms even the sun. The sun can only shine on half of the globe at time, while Internet delivered education can cover entire globe and around the clock with knowledge.

- Kostopoulus, 1998
2.1 Introduction

Higher Education has undergone a radical transformation in the last few decades both in UK and the US. Education is one of the most crucial services in the economy. The quality of life of society at large and individuals in the society largely depends upon the quality of education. Higher education institutions in the country especially the Universities have been producing the required quality manpower as per demands made in the social system. Since the dawn of independence in India, higher education system has grown enormously. It has expanded in an unprecedented manner not experienced by any other nation in the world in recent times. The advent of Information Technology products like computer and Internet have further made it possible to spread the higher education even in remote corners of the country (Kamal, 2002).

The higher education in India provides information on degree and diploma awarding universities, institutions of national importance, deemed universities, and colleges imparting general, technical and professional education. In the Indian system, higher education includes the education imparted after the 10 + 2 stage – ten years of primary and secondary education followed by two year higher secondary education. The first degree, the Bachelors degree, is obtained after three years in normal case for arts, science, commerce and four years in the case of professional degrees (four and half in case of medicine and five /
The Master’s programme is usually of two years duration. The post-graduate programmes except engineering involve 2 years of study after first degree, the M. Phil. Programme is of one-and-half year duration and is a preparatory programme for doctoral level studies. Ph. D programme is research study for 2 years, while D. Sc. and D. Litt are awarded by some universities after Ph. D for the original contributions. (Universities Handbook, 2002).

During the last 53 years we had a very rapid expansion of Higher Education. The Table – I shows the growth of higher education in India (Dongaonkar, 2002).

<table>
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<th>Type</th>
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### 2.2 History of Higher Education in India

India’s indigenous education was built up through various periods of the country’s history, namely, the Hindu period, the period of Buddhist influence, and the early Muhammadan and Mughul periods. In each of these periods, there was a specific addition to the indigenous system of education, which consequently became comprehensive and complex. The educational progress
was a further deeply affected by the country's political events. Nevertheless, education was kept alive because of the people's support. The whole period of Indian history can be broadly divided into four parts i.e. Ancient India, Medieval period, British rule and the post-independence era. (Mani, 1967)

The history of education during ancient period, medieval period and British period has been briefly dealt herewith.

2.21 Ancient India

The Ancient India encompasses a very long period of nearly twenty five centuries. Therefore, the history of Ancient Indian education can further be roughly be divided into three periods broadly;

a. The Vedic period from earlier times to 600 B.C
b. The Buddhist period of great empires from 600 B.C. to about 550 A.D and
c. The Post - Gupta period from 550 A.D. to about 1200 A.D.

2.22 Education during the Medieval Period

During the long regime of both the early Muhammadan rulers and the succeeding Mughal rulers, Indian Education as set up in the Hindu period was subject to a chequered course. It was helplessly exposed to the political
upheavals brought about by ambitious and greedy seekers. Its welfare was entirely dependent on the tolerance and intolerance of individual rulers.

2.23 Education during the British Rule in India

It was not until the modern period that some western powers gained permanent footing in India and had chance to influence this country's education, the developments that led to their having a share in moulding modern Indian education (Paranjoti, 1969). During this period the first three universities were established in 1857 viz. Calcutta, Bombay and Madras. During 1921-1937, a satisfactory improvement and expansion in university education took place. The establishment of the university board adds five new universities and reorganizations of the existing universities, provision of research facilities and emergence of some national universities are some of the important features of this period.

2.3 Development of Education in Free India

Though India got independence in 1947 and fulfilled our manifold cherished dreams in various other fields but there has not been a decided change in education to match the political change. Indian began a new chapter in history when national Government took charge of the reign of the administration at the centre as well as in other states, not enough attention was given to the development of education between 1946-47 to 1950-51. After independence,
India adopted the approach of planned development of the country. The first five year plan focussed on agriculture, the second five year plan on industry and the third five year Plan again attempted to focus on agriculture and agro-based industry for the development of the country. This approach for development called for development of the education system in the subsequent five year plans, to meet the challenges of development and the needs of agriculture, industry and society in general.

After Independence in 1947, India inherited a system of higher education, which was not only small but also characterized by the persistence of large intra / inter-regional imbalances. Determined efforts were made to build a network of universities, and their affiliated colleges, which provided tremendous outreach to a country of vast diversities in language as also in the prevailing standards of education at the lower levels. The feeder schools differentially impacted on the higher education system leading to significant qualitative imbalances within it.

When India became independent, it had only 20 universities and 500 colleges located in different parts of the country. It enrolled around a hundred thousand students in higher education. Participation of women was limited and those who graduated annually were no more than a couple of dozens or so. The policies and aspirations of people influenced the development in the following decades.
In the post-independence period, higher education has expanded fast, and it is mostly public in nature. Today, India ranks very high in terms of the size of the network of higher education institutions, with 6.75 million students enrolled. The teaching force numbers about 321,000. Student enrolment increased from 263,000 to 6,755,000 by 1996-97. It grew at an estimated rate of 7 per cent between 1987 and 1993 but has now declined to 5.5 per cent compound rate of growth, with 14 states (out of 23 States and 1 Union Territory in India which have Universities) having a lower rate (Country paper for UNESCO, 1998). In spite of this phenomenal growth, the total enrolments however, forms only about six percent of the relevant age-group (17-23) population.

India’s higher education system compares favourably with the other countries of South Asia and Africa in its enrolment, while South East Asian neighbours have shown much higher enrolment viz. Philippines (27.8%), Thailand (19.0%), and Malaysia (10.1%). Hence, in spite of the rapid expansion of the system in 50 years, access to higher education still remains an issue as the pressure of India’s very youthful population continues to bear on it.

With this scientific and technical manpower India has the potential to become the largest reservoir in the world. Compared to the situation that the country
inherited from the colonial rulers about half a century ago, these numbers mark a phenomenal expansion of the system.

2.4 Growth of Higher Education in India

Prior to independence, the growth of institutions of higher education in India was very slow and diversification in areas of studies was very limited. After independence, the number of institutions has increased significantly. Today in our country there are 273 universities and institutions including 52 deemed to be universities of these 162 are conventional universities including 34 institutions for specialized studies. 40 are agricultural universities, 33 technical institutions, 18 medical institutions, three information technology institutions, 6 law universities. This vast academic community needs a wide variety of information services in the changing academic environment (Universities handbook, 2002). In addition, there are more than 10000 colleges where 80% of undergraduate and 50% of postgraduate education is imparted. The number of students has reached the level of 6.75 million and there are 3,21,000 teachers in the higher education system.

This massive development has been guided by a process of planning and recommendations of several national commissions set up by the Government of India. The objectives of higher education have gradually become more and more precise and a system of governance is developing in the direction of
increasing autonomy and accountability. In spite of vast efforts over the last 50 years, it is only now that the country is slowly emerging out of the fetters of old ideas and rigid structures, built during the colonial rule. There is at present a demand for radical changes, which have the potential to actualise a national system of education that was visualised during the freedom struggle.

2.5 Objectives of Higher Education

While addressing the graduates of the Allahabad University in 1947, Jawaharlal Nehru, the first Prime Minister of India, has eloquently stated that; "A university stands for humanism, for tolerance, for reason, for the adventure of ideas and for the search for truth. It stands for the onward march of the human race toward higher objectives. Universities are places of ideals and idealism. If the universities discharge their duties adequately, then, it is well with the nation and the people." This statement effectively initiated the formulation of the essential purpose of university education in independent India.

The higher education system in India has constantly striven to build universities as places of culture and of learning open to all and, above all, reinforcing the theme of learning throughout life. The first major step taken by the Ministry of Education after independence (1947) in higher education was to appoint a Commission on university education under the Chairmanship of
Dr. S. Radhakrishnan to report on Indian University education. In its report, the Commission said: "Democracy depends for its very life on a high standard of general, vocational and professional education. Dissemination of learning, incessant search for new knowledge, unceasing effort to plumb the meaning of life, provision for professional education to satisfy the occupational needs of our society are the vital tasks of higher education." (Country paper for UNESCO, 1998).

The Commission set out the following aims of university education in terms of: (country paper UNESCO, 1998)

- Higher education policies and programmes should be in line with the social purposes, which we profess to serve;
- There should be a sufficient unity of purpose in the diversity to produce a community of values and ideas among educated men and women;
- Institutional forms may vary as time and circumstances require, but there should be a steadfast loyalty to the abiding elements of respect for human personality, freedom of belief and expression for all citizens, a deep obligation to promote human well-being, faith in reason and humanity;
- Mere vocational and technical education, important though they do not necessarily serve the spirit. We might have a number of scientists without conscience and technicians without taste who would find a void, a moral vacuum, within themselves;

We should preserve the values of democracy, justice and liberty, equality and fraternity. Universities must stand for these ideals which can never be lost so long as men seek wisdom and follow righteousness;

• The Indian Constitution lays down the general purposes of the State. The universities should educate people on the right lines to make the understanding and vision of the framers of the Constitution, the common possession of all the Indian people.

2.6 Structure and System of Governance

The structure of higher education consists of three years of education (after 12 years of school education) leading to a bachelor's degree in arts and science and four years in professional fields like engineering and medicine. This is followed by two years study for a Master's degree; and three years at least beyond the Master's degree for a Ph.D degree, which generally takes longer. There are also postgraduate diploma programmes open to graduates, and certain professional programmes like those in education, Library Science and law require a first degree as a pre-condition for admission in most places.

The universities are of various kinds: with a single faculty, or multi-faculties; teaching or affiliating, or teaching-cum-affiliating, single campus or multi-campus. Most of the universities are "affiliating universities", which prescribe to the affiliated colleges the courses of study, hold examinations and award degrees, while undergraduate and, to some extent, postgraduate instruction is
Colleges in India established by the respective State Governments and private agencies. In some cases, universities themselves establish colleges. Most of the colleges seek support from the State Governments for their maintenance. Universities have been set up by the Central or State Governments by means of a legislation.

2.7 Governance and Management

Higher education in India is coordinated by several agencies. While the university system falls within the jurisdiction of the UGC the University Grants Commission. The All India Council for Technical Education (AICTE) is responsible for coordination of engineering, technical and management education institutions. The other statutory bodies are Medical Council of India (MCI), Central Council of Indian Medicine, the Homeopathy Central Council, the Indian Council of Medical Research (ICMR), Indian Nursing Council, the Dental Council, the Pharmacy Council, the Bar Council of India, the Indian Council of Agricultural Research (ICAR), etc. There are also bodies at the state level, such as State Councils of Higher Education that were established recently. There is yet another type of coordinating agency called Association of Indian Universities (AIU), which was earlier known as Inter-University Board of India. All the universities and other equivalent institutions of higher
education are members of the AIU. The AIU has no executive powers, but plays an important role as an agency of dissemination of information and as an advisor both to the government and/or UGC and universities.

2.8 Problems in higher education

Higher education in India faces a number of problems. These include decline in the standard of education, disparities in higher education, unemployment among the educated, increase in the number of students, frustration among teachers and students etc. A number of seminars and conferences conducted on various occasions in India and various commissions on education have repeatedly stressed these issues and provided a number of recommendations to overcome these problems. The present education system faces a number of challenges such as globalisation, privatisation and liberalisation. Any discussion on higher education should take into consideration these perspectives. Information technology can be considered in the context of globalisation of information.

Information technology is the boon of the present century. It is the combination of several technologies and systems. In-fact it is the technology of technologies. Today the information generated at the global level is flowing through information super highways. New knowledge would get disseminated at the global level in no time. The promising and diversified possibilities of
information technology have reduced the space and time between people, countries and continents. The possibility of information technology in disseminating information from the generator to the recipient at a faster rate has high relevance in the present day education. The various aspects of education such as learning, teaching and research, which need radical changes and are amenable to the application of information technology.

2.9 History and development of University Libraries in India

The history of university libraries in India is closely associated with the development of the universities, which in turn owe their progress to the advancement of higher education in India.

2.9.1 University libraries in India in pre-independence era:

Indian scriptures (Vedas', etc.) give a glimpse of the education system of the Priestly and Ruling classes in ancient India. ‘Guru’ imparted the principles of ‘Vedas’ to the pupils from these classes. They resided in the huts of the ‘Gurus’, invariably situated far from human habits, in order to acquire knowledge. Many historians speculate that these residential learning centres mark the genesis of University education in India, and find in them a striking resemblance to the much later European medieval Universities. With the advent of Buddhism, teaching was practiced with the help of written scriptures, which were preserved for future reference. This is probably the
beginning of the libraries in ancient India. Fahien, a Chinese pilgrim, visited India during 405-411 A.D. While writing about educational system of India, he mentioned about four Universities – Gaya, Taxila, Ujjain and Nalanda. Nalanda was the most important and renowned University. It had a six storied building and was an International University. Students from various parts of the world came to study here. About 10,000 students received higher education and 1,500 teachers imparted education. It contained several colleges and three great libraries (Dutta, 1970). During the medieval period the Muslim rulers did patronise libraries in their own places. In early part of nineteenth century Lord Minto, Governor – General (1807 – 1813) in his minutes of the 6th March, 1811 wrote, “Library be attached to each of the colleges under the change of a learned native with a small establishment of servants for the care of manuscripts. This was the first statement on the records relating to libraries in academic establishment in India. The Hunter Commission, while assessing the usage of libraries observed that, the information obtained seems to show that among the students of some colleges a perceptible taste for general reading has sprung up. Yet, the Bombay, the Bengal, and the North Western Provinces reports agree in saying that the general reading of students confined to a very narrow range, being almost entirely limited to the books which have some bearing on the subjects of examinations, though an exception to a limited extent is made in Bombay in the case of the Elphinstone College”. The library had a collection of 13,000 books, with a librarian (H.M. Grawold) to administer it and it was kept opened
twenty four hours. It helped promote the habit of self-study and stimulated general reading outside the prescribed text books (Bose, 1978). In the second half of nineteenth century three Universities, one each at Calcutta, Bombay, and Madras were established in 1857 on the model of London University. In the beginning, these Universities did not have the role to play for teaching and research and as a result, libraries were not attached to them. But later on the concept was changed and they became the heart of the University. In the beginning of twentieth century Indian Universities Commission was established in 1902 and the Commission recommended many good things for University libraries: “Good reference libraries should be provided in connection with Universities and colleges in the order that students may have an opportunity of forming the habit of independent and intelligent reading.” The Indian University Act was passed in 1904 and it contained a specific statutory provision for the Universities to maintain well-equipped libraries. But most of the University authorities did not pay any attention towards the said provision and as a result, the University libraries were not considered as the heart of the Universities (India, 1902).

The Calcutta University Commission during 1917-1919 also surveyed the position of libraries and found that they were inadequate for meeting the needs of the students. It recommended as follows: “To maintain a library on the ampest possible scale and to make it as useful as it may be to all teachers and serious students. The University Librarian should have the salary and status of
a professor and should be ex-officio member of the Academic Council".

Eight new Universities along with their associated libraries were established during 1919 to 1930. After wards during 1931 to 1947 only two Universities were set up – Utkal University in 1943 and Saugar University in 1946 (Viswanathan, 1972).

On the whole, the concept of library as a more or less useless accessory and just an administrative section under the control of the Registrar or an Honorary Librarian continued to dominate through out the period before independence. The result was that even in the most well-established Universities, the libraries were not properly organized and the status of the librarians was pitifully low (Kishore, 1981).

2.9.2 University libraries in India in post-independence era

2.9.2.1 Impact of Information Technology in the university libraries in India

Information technology is the boon of the present century. It is the combination of several technologies and systems. Today the information generated at the global level is flowing through information super highways. New knowledge would get disseminated at the global level in no time. The promising and diversified possibilities of information technology have reduced the space and time between people, countries and continents. The possibility of information technology in disseminating information from the generator to
the recipient at a faster rate has high relevance in the present day education. The various aspects of education such as learning, teaching and research which needs radical changes are amenable to the application of information technology.

With the advent of the space programme and communications satellites, the growth of photonics and optical fibre technology and the modes of communications have enormously expanded in efficacy and power (Jayant Narlikar, 1999). The Internet has already shown us how information transfer can proceed fast, painlessly and at relatively low cost. Keeping these aspects the following emerging scenarios for the future of higher education are derived.

• In an extension of the open-university system one can have an interactive classroom where pupils singly or in groups, scattered in different places listen to lectures, demonstrations and panel discussions while interacting with the resource persons.

• Due to shrinking library budgets and escalating prices of books and journals, the networking of resource libraries with electronic transfer of information can supply the needed browsing facility to the users and provide access to books or journals remotely.
• The electronic mail facility will gradually replace the conventional 'hard copy snail mail'. It also allows two or more than two persons to 'converse' on their computers, to access databases in different parts of the world, by saving physical travel and money, hence it can make the future educational system much more efficient and cost effective.

• Technology provides new ways and methods of sharing the resources. What an individual cannot achieve can now be achieved by the way of sharing.

Even in advanced countries with greater prosperity, the shrinkage of available funds and the utilization factor have forced universities in a sharing mode, with expensive facilities like telescopes or accelerators shared by many institutions. A similar culture needs to be popularized in India. A beginning has been made by introducing the Inter-university Centres (IUC's) in the areas inadequately covered by universities. This mode has to address and circumvent a resistance from the universities themselves for whom it is intended. They tend to see it as diversion of funds, which would otherwise have come to them. Actual demonstration of its success would be more effective than any argument put forward in favour of such mode, and it is very much depends on the few IUC's created so far to show how effective the shared mode can be (Jayant Narlikar, 1999).
2.10. University Library of the Future

In recent years libraries worldwide have been affected by an uncertain financial environment in which resource buying has been restricted, causing them to look at ways of extending their purchasing capabilities to compensate for reduced budgets. In this circumstances one has to look for an opportunity to work for cooperative programmes.

The pace with which the world wide web has developed, becoming the delivery medium of choice within a few years of its invention, should serve as an example, and perhaps a warning, of the way in which a technological innovation can affect the delivery of library services. The ability of anyone with a low specification PC and an Internet connection to publish their own material in a way that makes it accessible throughout the world is perhaps the most revolutionary aspect of the web.

One of the possible areas of impact for libraries is the development of the electronic journal. Most of the electronic journals have essentially been electronic copies of paper-based journals few have been truly electronic products, taking advantage of all the possibilities of the medium. For example, as yet there are few multimedia electronic journals, despite the scope for incorporating still and moving images, sound clips and the like in content. There are a number of reasons for the relatively slow progress that has been
made in this area, including the economics of parallel and electronic publishing, uncertainties over copyright protection, the complexities of electronic peer review processes and sheer conservatism. However, it is quite possible that a single event could trigger a major shift from print to electronic.

If the situation with regard to journals is uncertain, that for books could be equally unpredictable. A number of current technological innovations could threaten both textbooks and scholarly monographs. These include:

- The widespread acceptance of a standard for electronic books, enabling publishers to reach a worldwide audience through a single format
- The successful production, at economic cost, of 'electronic paper' which enables data to be displayed using reflective light (as normal paper) with the ability to refresh the display.
- Hand held e-books, exploiting these technological innovations and providing the capability of holding the equivalent of the contents of several paper-based books, perhaps using plug-in modules
- Internet sites from which the contents of books can be downloaded for a small payment.

Although the mission of academic libraries will remain a constant that is, to support the curriculum the ways in which libraries fulfill this mission will be very different in the future. Librarians, faculty and academic administrators
have an unusual opportunity for rich collaboration in establishing strategic visions for their libraries and working together towards the realization of their vision. The Academic library of the future is made up of several essential ingredients, all of which work in combination to provide users access to knowledge and the ability to record, manipulate and analyse the knowledge by comparing and contrasting it with other resources.

With the advent of the space programme and communications satellites, the growth of photonics and optical fibre technology and the phenomenal rise in the computer technology, the modes of communications have enormously expanded in efficacy and power. The Internet has already shown us how information transfer can proceed fast, painlessly and at relatively low cost. Keeping these aspects in mind the following scenarios emerge for the future of higher education.

1. In an extension of the open-university system one can have an interactive classroom where pupils singly or in groups, scattered in different places listen to lectures, lecture demonstrations and panel discussions while interacting with the resource persons.

2. In the era of shrinking library budgets and escalating prices of books and journals, the networking of resource libraries with electronic transfer of
information can supply the needed browsing facility to the student and the teacher as well as the facility to access the book or journal remotely.

3. The electronic mail will gradually replace the conventional 'hard copy snail mail'. It also allows two or more persons to 'converse' on their computers, to access databases in different parts of the world, to operate telescopes remotely, etc. By saving physical travel and money it can make a future educational system much more efficient and cost effective.

No country planning for the future of its education can afford to ignore this potential. For country like India with its far-flung difficult to access areas this will be a boon, it will indeed be a tragedy if our planners fail to cash in on this mode.

4. Technology provides new instruments especially in scientific disciplines. The astronomers have their telescopes, the nuclear and particle physicists have accelerators, for example, In each discipline there are sophisticated facilities. Unfortunately they cost a lot and providing an expensive facility to each and every university becomes economically unfeasible.

Even in advanced countries with greater prosperity, the shrinkage of available funds and the utilization factor have forced universities into a sharing mode, with expensive facilities like telescopes or accelerators shared by many
institutions. A similar culture needs to be popularized in India. A beginning has
been made by introducing the inter-university centres in the areas inadequately
covered by universities. This mode has to address and circumvent a resistance
from the universities themselves for whom it is intended. They tend to see it as
a diversion of funds, which would otherwise have come to them. Actual
demonstration of its success would be more effective than any argument
forward in favour of such a mode.

The University community can help themselves by taking a lead position in
deploying and using advanced information technologies as part of their efforts
to become more efficient and cost-effective in administration and program
delivery. High speed networks for education can generate more information
exchange among members of the global academic community. More efficient
use of resources can be achieved through initiatives such as shared programs
and distance learning. Videoconferencing and virtual classrooms can lower
costs while increasing accessibility to key programs.

2.12 Change and the professional role of the librarian

Technology is far ahead of information literacy education. Few users of
today's libraries are effective and efficient, and no matter how sophisticated
interfaces and search engines become in future information access systems,
people will still need to be educated regarding their use.
Network Literacy is another area, which seems very important in the future. It is defined as the ability to identify, access, and use electronic information from the network. It is possible to predict an educational role were the librarian serve as electronic intermediaries, navigators, and instructors actively involved in helping people best use the network. A change to the professional role of the librarian frequently featured in the LIS professional media is the transformation from information provider to information interpreter.

Change, will not be a single event, but a continuing process, as the library and the university improve and enhance the academic mission through technological innovation. The extraordinarily rapid technological revolution will not diminish in speed or effectiveness. It's not quantity but quality that count. The user that leaves the library with the feeling that quality time was spent there is a satisfied user. This and nothing less should be the mission of every librarian and if we can succeed in seeing that more and more users leave the library with this satisfied feeling no library need to fear the future, after all we need our users and they need us (Martie, 1999).

2.13 Conclusion

Time is ripe now for librarians to review the pace of change occurring within higher education and how information will be provided in academic libraries to their vastly changing student population. The integration of technology in higher education has an impact on academic libraries in two direct ways:
changing material formats and the scholarly communication options; and changing how information is delivered, beyond the classroom experience (Martie, 1999).

Changes in organizational structure appear to be on the horizon for many libraries. New technological developments, the continuing trend toward access over ownership, customer focus, and restructuring in higher education are forcing libraries to look afresh at their operations and organizational structures.

The way that higher education and library services are viewed, planned and managed must change radically if they are to survive and thrive in future. Advances in technology, economic and political pressures, and socio-demographic factors have combined to create an environment posing unprecedented challenges and opportunities. Electronic communication will transform service provision, with significant shifts. There are several interrelated factors such as socio-economic, political and cultural factors that are hurdles in the way of application of IT in higher education in India. But we cannot ignore the avenues of IT as pathways for the progress of the nation. For revamping education and enhancing its quality and above all for a total quality management (TQM) in higher education it is imperative to utilize the tools and facilities of IT to the maximum possible extent.
2.14 References


14. Frances Groen, The Change in the University Library : Towards the Twenty-First Century in Peking university conference – References to be updated.


