Chapter I

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1.0 Introduction

Academic scenario, over the years, has undergone a tremendous change assuming new dimensions influenced by the technology driven applications. Management education is no exception to this. Traditional commerce and management education methods, though theoretical rigor, are observed to be inadequate. Quality service package delivery is a formidable task for all institutions of business education. The long-term sustainable advantages in the business education require more attention to the issue of service, quality and cost in the national and international markets.

Libraries are mainly entrusted with a host of predetermined tasks like acquiring, organizing, preserving, retrieving and disseminating information to the users. Right from ancient times to the present Internet era, the primary objective of library has always been this. However, the way this purpose has been achieved has drastically changed.

Information technology has influenced the very nature of business and management libraries. The conventional set up of brick and mortar libraries that store information within a constrained physical space have given way to data centers that integrate data sources around the globe by way of networking.

With the advancement in technology and its direct application to libraries, business and management libraries are becoming lean and agile libraries that streamline information supply. The pervasive nature of Internet, coupled with platform independent database connectivity is turning library portals more and more effective.
The technological tools for disseminating information have progressed from conventional books and journals to electronic journals, online databases, etc. With Internet, it is possible to explore the worldwide pool of knowledge sitting at one's desk or home.

It is an accepted fact that quality of business education depends on the resources that the institute has. These resources are: highly qualified faculty, well-designed curriculum, good physical ambience and the very crucial support of well-stocked and maintained library and information center.

1.1 Management Education in India

A growing percentage of young people in recent decades have been going to colleges and universities for higher education, and a steadily increasing fraction of them is enrolled in private management institutes. The surge in enrollments has led to a rapid increase in the number of institutes offering management and business education. As per the latest AICTE Annual Report, there are over 602 approved management institutes in the country. There are several hundred other institutes and colleges, which are private and offer unaffiliated courses. Many of these institutes came into existence to fill the void that was created in the job market as a result of the globalization of Indian economy. Today, the situation seems to be settling in and many of the institutes may be heading for trouble in the years to come.

In order to put management education in its proper perspective, it is essential to believe that knowledge is the result of a dynamic process of thinking. It is thus essential that management education have to be made more
proactive and responsive to the needs of the industry and the society at large. This requires that all the stakeholders: teachers, students, parents and the management of public and private institutions should work together to evolve a system where responsibility is shared.

At the outset, there is a need to create a balance between the revenue generating needs of the institutions with that of achieving the goal of academic accomplishment. This can be achieved only if there is a strong will on the part of trusts/managements. This will call for large upfront investments in infrastructure like classrooms, libraries, computer labs, etc. Excellence in management education cannot be achieved without this kind of commitment. The infrastructure at many of the management institutes in India is much below than the desirable level. The future demands will require these institutions to invest heavily or move out of the area of operation.

Volumes can be written about the problems of management education in India if we compile the sentiments that are aired in the various drawing room discussions. Management education in India is a by-product of the prevailing sociocultural environment that views anything western as hallmark for benchmarking.  

**Aping the west:** Our awakening has been so vandalized by this attitude that we go aping the west blindly without even realizing the sea difference that exists between the two cultures and civilizations. 

**Conventional mode of education:** Second problem is that management education in India has been no different than our school and college education,
which is assessment centered and emphasizing details with no consideration for conceptual knowledge and application. Management is a way of life and the focus in management education should be on making a receptive and proactive personality rather than a personality stuffed with knowledge of a whole host of subjects.

*Lack of Industrial Exposure to Teachers:* Teachers with little or no exposure to the industry who may not impart the practical aspects of business to the fullest manner.

*Poor infrastructure:* Poor infrastructure has foiled whatever little initiative the management institutes could have taken to improve the conditions. Accomplishment of course curriculum requires industrial visits, placements, seminars, guest lectures and providing appropriate study material.

When these problems of management education in India are reflected upon, it reminds about yet another significant problem: that is the mushrooming of management institutes in our country. If the first four decades after independence belonged to medicine, engineering, and civil services, then the fifth decade has gone to management hands down. Liberalization triggered the opening of Pandora’s Box and we saw the whole educational map of India being littered with management institutes in a period of just 8-10 years as it provided to be an opportunity for many to make some quick money. The objective is neither to curse the darkness nor to question the rationale of AICTE but to bring to light this dubious fact that has lowered the repute of this finest profession by diluting the quality of the process and the product and has
also added to the increasing unemployment. Management education is a professional education, and hence requires exhaustive practical training to suffice the theoretical concepts learnt in the classroom.

If the mushrooming of management institutions has initiated the collapse, the obsolete, un-revised selection procedure has further aggravated the problem. The magnitude, variety and nature of challenges faced by managers have considerably changed in the last 10 years but the selection system, barring IIMs, continues to be the same. How can quality outputs be expected if the quality of inputs itself is questionable?

1.2 Management Education and National Development

Management education, almost unknown in the nineteenth century, has become a dynamic force for change in many universities, in the workplace, and in the societies of both industrialized and developing countries. Its role in professionalization of enterprise management is widely recognized, though it has been criticized by some by placing emphasis upon the short-term profit criteria.7

Economic growth is a key catalyst for national development and is generally assumed to be explained by stocks of labour, physical capital and human capital (the quality of labour force). Technology is assumed to be part of the growth equation, and the rate of technological change is associated with the availability of trained and highly educated workers. Education may also contribute to poverty reduction, improvement in income distribution, and various dimensions of social, demographic and political development.
The contribution of management education to economic growth is generally found to be positive and significant when measured either in monetary terms or directly in terms of industrial efficiency or labour productivity. Management Education at all levels contributes to economic growth by imparting general attitudes, disciplines and specific skills necessary for a variety of workplaces. It is said that greater skills lead to progressively greater benefits from the introduction of new technology, which in turn, will lead to the further development of human resources.

The relevance of management education to the labour market, thus, lies fundamentally in its ability to produce a flexible, disciplined labour force through high quality universal education. As an economy continues to develop and new technology is applied to production, the demand for workers with more and better education to handle diverse business enterprises has increased.

UNDP's 1997 Human Development Report notes that adaptation to changing market conditions and the shift towards more sophisticated exports requires a sufficient pool of basic skills in the workforce and adds that competitiveness in trade and attracting capital is more knowledge intensive than ever before. Indian economy is going through transformation and the impact of globalization, integration of world economy, deregulation of markets, technological change, migration of labour, and the rate of accumulation of new knowledge have hastened the significant changes taking place in management education process and has imposed new demands on education.
The knowledge intensive aspects of labour require people with highest levels of technical and managerial competence. To respond to such needs, management institutes all over India are restructuring the curricula. They are also going for hiring the best possible faculty with enough industry exposure, spruced up infrastructure of libraries and computer labs, etc.

1.3 Library as Information Center in the Changed Environment

Libraries have changed from mere static storehouses of knowledge to dynamic service centers. The media of information has also shifted from predominant print to electronic media. Business and management libraries have accepted this paradigm shift and have made all round efforts to embrace this technology to improve the quality of their service. For management libraries, this has become both a challenge and an opportunity to meet the demands of students and faculty.

This concept of electronic access or virtual learning places the student and learning at the center of the educational paradigm. It gives students more autonomy, choice and control by allowing them to study when they choose and in whatever mode suits them.

In management libraries, the emphasis is more on facilitating access to information than on building collections. There will not be any necessity for users to visit the library very often. Most of their requirements will be met by accessing e-journals, online databases, and other web based library services through the library portal.
Apart from technological developments, the other factor that has influenced the management libraries is the mounting pressure of globalization on the business environments of the enterprises. This is adversely affecting the organizational structure and capabilities. The changed economic scenario is bound to influence the value, philosophy and culture of educational sector very much.

In this situation, library can succeed as a dependable information center, only if it adapts the following issues in its day-to-day functioning. They are

- Quality Obsession
- Customer Focus
- Image Building
- Alliances and Partners
- Resource Generation
- Professional Approach

Management libraries can definitely succeed by adapting these issues, and effecting a change in their style, strategies and ways and means of providing library services.

1.4 Information Technology Innovations: Impact on Resources and Services

Developments in Information Technology have changed the way information is stored and disseminated in libraries. It has affected each and every job that is being carried out in libraries and we can safely say that it has affected the trinity of Library: Staff, Resources and the Users. Innovations like Intranet, Internet, and videoconferencing have created a multifaceted potential for libraries to reach out and disseminate information.
**Impact on Resources:** Information technology has altered the mode of publication in such a way that along with traditional print based sources of information, we are getting flooded with a lot of attractive electronic forms of publications like e-journals, CD ROM based databases and online databases. In such changing scenario, libraries and librarians will have to play a vital role handling conventional and electronic resources. The most significant advantage of electronic resources is that they can be accessed from anywhere, anytime and by any number of persons. Though these require libraries to invest heavily in infrastructure, libraries are not complaining after seeing its benefits. Most of the leading management libraries are using one or the other form of electronic resources.

**Impact on Services:** Management libraries do not just store the resources in them. They also keep making additional efforts to create awareness about them so that the members use them. However, few years ago it was limited to informing a user about the availability of a particular book/journal and waiting for him to pick up that. It is no longer the same. Library automation and subsequent application of information technology at various stages of information processing enables libraries to generate several value added services to their patrons.

Using library software, libraries can generate personalized Current Awareness Services, Selective Dissemination of Information Services, etc. Availability of e-journals, Online Databases through the library portal have enabled library users to access information at their own desktop and their
convenient time. Libraries have formed consortia and are now providing hundreds of e-journals and online databases to their patrons. This kind of information service was completely unheard when libraries had to depend on their meager budgets. Barcoding, RFID technologies have increased the efficiency of information services and have helped libraries in getting more appreciation.12

1.5 Need for the Study

In the present ever changing information environment, libraries are encountering both opportunities and challenges. Information technology has induced lot of changes in the way information is identified, procured, processed and disseminated to library clientele. Further more, information technology has created a sense of urgency among library users and librarians themselves. Business libraries and information centers are witnessing new paradigm shifts. These shifts get reflected by way of:

- Transition of information sources and systems from paper to electronic media.
- Complexity in information needs of highly demanding clientele.
- Increase in the cost and quality of information.

It is an accepted fact the information technology has influenced all the components of a library system: information sources, services, human resources and users. It is more so in case of management libraries where the emphasis is more on the currency of information. The industry oriented, case study methods and hands on method of imparting management education
requires management libraries to be ever responsive to the changing information needs of its clientele.

The high level of acceptance of e-resources is because of their anywhere anytime access convenience. Such items have found their way into management libraries in a big way. Electronic sources in the business and management disciplines include the following:

- Online databases (Bibliographical / Full Text)
- Electronic Journals
- Databases on CD ROMs
- Information on VCD’s, DVD’s etc.

A library can satisfy the information needs of its users only when it has a system in place to generate need based information services for each individual. User expectations go beyond borrow / return of library books and journals. They want a most convenient way to keep abreast of their field. Library’s ability to generate services like CAS, SDI has been improved by the availability of electronic sources. Librarians are not only generating personalized information services, but these products have also been delivered to the users’ desktops.

The information technology has shown its effect on library and information professionals also. As they are at the epicenter of changes that are happening in the business and management information environment, librarians’ role is characterized by vitality and visibility. Librarians are acquiring new skills and abilities in order to meet the challenges posed by technology and their users with diverse information needs.
Information technology has also changed the way information is accessed and utilized. From physically accessing books / journals in libraries, users have got used to accessing web based sources from their desktop itself. Realizing the importance of Information Technology (IT), libraries have made heavy use of IT in building their collection and generating information services. Though most of the users of management libraries have some level of skills in using library services, it is necessary to introduce some induction programmes, which are aimed at creating awareness about the use of library services.

The above paragraphs explain the present condition of changes taking place in management libraries. These IT induced changes have affected management library and all the four major components of it: information sources, information services, human resources and finally users themselves.

A literature search on LISA and scanning of journal articles, convention volumes revealed the complete lack of in-depth studies on the topic except a few general surveys. Hence, need for the study.

1.6 Statement of the Problem:

THE CHANGING INFORMATION ENVIRONMENT; THE IMPACT OF INFORMATION TECHNOLOGY INNOVATIONS ON RESOURCES AND SERVICES OF LIBRARIES: A STUDY WITH SPECIAL REFERENCE TO INSTITUTES OF MANAGEMENT STUDIES IN MUMBAI.
1.7 Objectives of the Study

The primary objective of the present study is to examine the impact of information technology innovations on resources and services of management institute libraries affiliated to University of Mumbai, Mumbai.

The specific objectives are to:

a) Survey the existing resources: Learning, human and computer infrastructure available.
b) Study the impact of IT on library resources.
c) Study the impact of IT on information services.
d) Study the preparedness of management libraries for a consortia approach.
e) Study the librarian's response for starting a consortium of management libraries.

1.8 Hypotheses

1. In this networked environment, electronic sources achieve the objective of resource sharing in a far better way than print sources.
2. Librarians need to develop in-depth and rigorous User Education Programmes to create awareness among users about proper utilization of e-resources.
3. Majority of Librarians are in favour of formation of Mumbai Management Libraries Network/Consortia.
4. Digital sources of information like Online Databases, CD-ROM Databases and e-journals have distinct advantages over conventional print sources.
5. Faculty and students feel that the quality of reference service is good when digital sources are consulted while addressing their reference queries.
6. Information technology has a positive effect on Current Awareness Services of the library.
7. Faculty and Students are not averse to the idea of carrying out most of their library transactions through Internet.
8. Libraries do not have qualified and knowledgeable staff at all service points in the library.

1.9 Methods and Techniques

The Oxford English Dictionary defines method as a mode of investigation; a special form of procedure adopted in any branch of mental activity for investigation and inquiry. Research methods may be understood as all those methods/techniques that are used to conduct research. Research methods or techniques, thus refer to the methods researcher use in performing research operations. Methodology also refers to a process by which the researcher tries to find solutions to a problem. In social sciences, methodology is a procedure of conducting research. Depending upon the nature of problem, a researcher adapts different techniques and methods for studying, investigating a research problem.

1.9.1 Research Design

A research design is a logical and systematic plan prepared for directing a research study. It specifies the objectives of the research study, methodology and techniques to be adopted. It provides for the blue print for the collection, measurement and analysis of data.

Present research design consisted of formulating the research problem, comprehensive review of the available literature, defining the scope of the
study and its limitations, development of hypotheses, collecting, processing and analyzing the data and finally enumerating the inferences and conclusion.

Formulating the problem facilitated the researcher in deciding the relevant and irrelevant data. Data collection is of paramount importance in this research design as it facilitates collection of both qualitative as well as quantitative information about a research problem.

Present study utilized a combination of historical analysis, literature survey, questionnaire survey and lastly personal interview for data collection. Historical analysis and literature survey were useful in collecting textual data from published and unpublished sources. Questionnaire method is quite useful in soliciting information from the faculty members and students of management institutes. Hence, the data collected for this study has the combination of primary as well as secondary data.

1.9.2 Data Collection

Data serves as the basis or the raw material for analysis. Without the analysis of factual data, no specific inferences can be drawn. Inferences based on imagination or guesswork cannot provide correct answers to research questions. The relevance, adequacy and reliability of data determine the quality of findings of the study. Hence, the importance of data for any study.

Several tools are available for data collection. Important ones to mention here are: Personal interview and diary methods, questionnaire method, observation by self, analysis of library records and citation analysis. However, considering the nature of problem, the most suitable method for data collection
is questionnaire method. Hence this survey has been undertaken with the help of questionnaires designed for the purpose. While designing the questionnaire, care was taken that it has the mix of closed and open-ended questions. Multiple Choice Questions enhance the response, as they are easy to fill up. Hence they were included in sufficient numbers. Wherever necessary, interviews were also held with the librarians and few users to interpret the questions to them and to collect the data.

Researcher visited all the libraries of management institutes affiliated to University of Mumbai in person and had interactions with the librarians. Two separate questionnaires were designed, one for librarians and the other for users consisting of faculty and students. Repeated checks and review was done on both questionnaires and librarians, teachers and statisticians were consulted to review them critically and improve upon their reliability and validity. A copy of the questionnaires is appended as Appendix “A” and “B”

1.9.21 Methods of Distribution of Questionnaires

Researcher tried several methods to distribute the questionnaire among library users. Faculty and students were approached in the library and requested to fill up the questionnaires. Several faculty members were approached in their chambers and were persuaded to fill up the questionnaires. Librarians of different management institutes were given several questionnaires and were asked to get them filled up by students and faculty, whenever it was convenient for the users.
1.9.22 Population and Sample Size

This study covers 24 management institutes offering Master of Management Studies (MMS, equivalent of MBA) affiliated to University of Mumbai, Mumbai. Narsee Monjee Institute of Management Studies (NMIMS), which was affiliated to University of Mumbai for long and became a Deemed University recently in 2001 during the process of this study, also has been considered for surveying.

In order to assess the users' perception about the impact of IT innovations on library resources and services, 7% of the total number of management students doing MMS is surveyed. It is hoped that the data thus collected and analyzed will be useful to understand clearly the impact of IT innovations on the management library resources and services.

Questionnaires were administered to 24 librarians of management institutes. Only 22 management librarians responded by returning the filled-in questionnaires, thus resulting into a response rate of 91.67%.

The number of students in these management institutes runs into thousands. Hence, sample size was limited to an average of 10 respondents per institute and sample size of 7%. A total of 260 questionnaires were distributed among students. 190 duly filled in questionnaires were received back, thus resulting into a response rate of 73.08%.

Total faculty strength is small; hence the sample size is limited to 35% of the total faculty strength. A total of 80 questionnaires were distributed among faculty members of 24 management institutes. Of the 80 faculty
members, 60 faculty members returned the duly filled-in questionnaire, thus resulting into a response rate of 75%.

1.9.23 Pilot Study

It is very much essential to pre-test the questionnaire before the actual study is carried out. This serves the purpose of eliminating any ambiguity in questions, and the difficulties in translating the objectives of the survey into a set of questions. Researcher pre-tested the respective questionnaire against a small group of sample population consisting of 5 faculty members, 10 students and 3 management librarians. This exercise helped the researcher in identifying the demerits, correcting them and thus improving the validity of questionnaires.

Suggestions received in the pilot study helped in revising and restating certain questions in the questionnaire. And after this pilot study, questionnaires were finalized.

1.9.24 Analysis of Data

The analysis of data is the most skilled task in the research process. Analysis means the critical examination of the assembled data for studying the characteristics of object under study and for determining the patterns of relationships among the variables relating to it. A research work starts with formulation of hypotheses. However, the analysis of data helps in either rejecting or accepting the hypotheses.

In the present study, the data collected from the published sources and the questionnaires have been evaluated and analyzed to find the results. In accordance with the procedures followed for qualitative research, the textual
data has been organized, themes and patterns generated and finally hypotheses were tested through statistical analysis. After interpretation, inferences were drawn and the report was prepared.

Data from the questionnaire has been fed to computer using statistical package Software Package for Social Sciences (SPSS) and the output was checked to correct any typographical error. Statistical analysis of the data was made with the help of SPSS software. The same tool was used for presenting frequency distribution tables, graphs and other tables of variables to establish relationship between them.

1.9.24.1 Statistical Measures

Statistical tools help a researcher in studying the concentration and dispersion of respondents’ opinion. The averages, namely arithmetic Mean and Median are used to study the concentration of users’ opinion. Standard Deviation (SD), Coefficient of Variation is used to study the dispersion of observations. Here measures are defined for the frequency distribution as follows:

1.9.24.11 Arithmetic Mean

The arithmetic mean of n observations is given by

$$\overline{X} = \frac{\sum_{i=1}^{n} f_i X_i}{N} \quad \text{(1)}$$
Where 'N' is the total number of observations, 'f' represents the frequency of users and 'X' denotes the variable used for the study.

1.9.24.12 Median

The value of median is calculated by using the following formula.

\[ Md = \text{The value of } X \text{ which corresponds to cumulative frequency just greater than or equal to } \frac{N}{2} \]  

1.9.24.13 Standard Deviation

The standard deviation for the frequency distribution is given by

\[ \sigma = \sqrt{\frac{1}{N} \sum_{i=1}^{n} f_i (X_i - \bar{X})} \]  

Where \( N = \sum f_i X_i \) = Total frequencies, \( \bar{X} \) = Arithmetic mean of \( X \)

1.9.24.14 Coefficient of Variation

The relative measure of Standard Deviation (SD) is the Co-efficient of Variation (CV).

\[ \text{C.V. (X)} = \frac{\sigma}{\bar{X}} \times 100 \]  

Where \( \sigma \) = Standard Deviation  
\( \bar{X} \) = Arithmetic mean of \( X \)

The coefficient of Variation is used to study homogeneity and heterogeneity of a group or between two groups. For comparing two groups, the lesser the co-efficient of variation, the more the group is consistent or homogeneous.
1.9.24.15 Chi-square Test

The Chi-Square test for independence is applied to study the association between two attributes and is given by

\[ \chi^2 = \frac{\sum_{i=1}^{n} f_i (O_i - E_i)^2}{E_1} \] .......................... \text{(5)}

Where 0; = the observed frequency
Ei = the expected frequency

The equation 5 follows the Chi-Square distribution (n-1) d.f and (r-1) (s-1) d.f.

For rXs is contingency table.

1.10 Scope and Limitations

The scope of the present study is limited to study the innovations in information technology and their impact on resources and services of management libraries in Mumbai city. Here innovation means to make changes, to introduce a new idea in order to achieve high level of efficiency. Things change by day in the field of information technology. Library and information science has grown multifaceted in the recent years. Developments in IT industry have a direct bearing on LIS field, be it a breakthrough in storage of huge data or the transmission of it to the end users.

In the broadest sense, library resources here include: learning resources, human resources. Learning resources further include traditional books and journals, CD-ROM Databases, Online Databases, e-journals, audio-video cassettes, etc.
Information services in this context mean all the services that libraries plan and generate to meet the users' academic and research requirements.

1.1 Chapterisation

The entire study is divided into six chapters. A brief overview of each chapter is given below.

Chapter 1

The first chapter gives an introduction to the problem of the study, discusses management education in India and the role of management education in national development. Discussing the implications of information technology for library resources and services, it further outlines the role of library as information center in the changed environment. It also provides the glimpse of need, aims and objectives of the present study. It mentions the hypotheses, scope and limitations of the study, research methods and techniques employed like research design, analysis and interpretation of data.

Chapter 2

Second chapter traces the growth and development of management education in India in general and its growth in Maharashtra and Mumbai in particular. The chapter also discusses the present status of management institutes as well as their libraries.

Chapter 3

This chapter attempts to review succinctly the important published and unpublished literature and studies on innovations in information technology and its impact on library resources and services.
Chapter 4

The fourth chapter deals with the analysis and interpretation of data collected from librarians of management institutes. It gives the details of infrastructure facilities and various services being offered at these libraries. It further records the librarians' perceptions about impact of information technology on library resources and services.

Chapter 5

Fifth chapter deals with tabulation, analysis and interpretation of data collected from faculty members and students at management institutes affiliated to University of Mumbai, Mumbai. This chapter also deals with their purpose of visiting library, awareness about information services, and their opinion on the library infrastructure. It also records the users' perception about impact of information technology on library resources and services.

Chapter 6

Sixth chapter covers the summary of findings, suggestions, conclusion and future areas of research. Selected bibliography and appendices follow this.

1.12 Summing Up

The world of business is changing very fast. The last quarter of century has witnessed a remarkable change in the manner business in India is run. Under such circumstances, management education also has undergone metamorphosis. Keeping in tune with the intense requirements of business and industry, management institutes have started several specializations.

Faculty members and students now depend heavily on libraries to prepare for their coursework and research. Libraries, over the years, have
consistently added new information sources and services to meet the demands of the users. They have embraced the innovations in information technology to the fullest extent. Libraries are moving towards becoming accessible from anywhere, anytime.

To sum up, a management institute libraries have to serve several purposes like helping students with their course work demands, helping faculty with class preparation and research in the management discipline. This they are presently doing by adding the best of information sources to their collection. Libraries must consider information in all formats like electronic journals, Online Databases, CD ROM databases for inclusion. Once they realize the importance of digital sources, they will be able to serve their users better. Presently, this is the need of the hour in all management libraries.
References


5. All India Council Of Technical Education Website: [www.aicte.ernet.in](http://www.aicte.ernet.in)


