CHAPTER 8

FINDINGS, SUGGESTIONS AND CONCLUSION

8.1 Introduction

The present study is the result of analyzing 127 management college libraries in Pune city affiliated to University of Pune, and some well known management colleges, Symbiosis Institute of Management, Bharathi Vidyapeeth, MIT etc. In this research study the researcher has analyzed the status of management libraries taking into consideration information resources, library services, status of automation, efforts made towards resource sharing etc. and examined these in detail to understand the efforts made towards library resource sharing and networking among management college libraries and opinions of library professionals in monitoring these activities.

This analysis prompted researcher to suggest solutions for the easy management of resource sharing by networking among the management libraries in Pune. On the basis of analysis and interpretation of data, the findings, are reported in this chapter which highlights the status of management libraries and willingness towards sharing resources. Based on these facts researcher has made efforts in suggesting plans and best practices to be followed while undertaking resource sharing project in management libraries using technology and new media and developing a network of management libraries in Pune city. The model suggested is conceptual but might be useful for developing library networks and also maintaining its security for protecting data.

From the survey of management libraries, observations noted as well as discussions with library professionals regarding their experiences in the profession, based on these, researcher identified prominent findings and suggestions which are placed below.
8.2 Findings:

The major findings deduced from the study are grouped in to different aspects and presented briefly as:

A. Management Education and Institutes:

1. The growth of management education initiated since 1971 in Pune city and since then constantly increasing by number of institutes as well as by specialization in courses as per the need and demand. During the period 2001-2010 the growth in institute is very high (83). This indicated the need and importance related to management education. Most of the management institutes established are non-aided (97%) but these are approved by AICTE or DTE or Affiliated to universities. The trend in the period 2010-2013 in developing new establishments of management institutes is reported to be normal as compared to previous period.

2. The staff / employee in management institutes in Pune are categorized in three groups faculty, administrative and technical / professional. The faculty strength is nearly 50% and non-teaching staff is 42% where as technical staff is 8%. Technical staff category is not available in all institutes and merged with administrative category includes library professionals also.

3. The students enrollment (intake) in 127 colleges is 14,360 Per Annum and on an average 113 students are admitted in each branch in each college. Old and ranking management institutes have more number of students as more courses are being conducted and where as in new colleges the strength of students is less in number (minimum 60) due to initial stage of development.

4. In all the management institutes Post Graduate (PG) courses in MBA are conducted, but in few institutes Diploma, Under Graduates (UG), distance learning courses are conducted. It is a positive sign in development of management education that research element is now introduced including Ph.D. Distance / Online MBA and these courses are conducted in 18% institutes.

5. All the management institutes conduct common old MBA programs in HR, Marketing, Finance etc. but specialized courses are also now implemented and conducted in many institutes like NIBM, NIA, Vaikunth Mehta etc.

6. Management education is spreading its wings and enhancing the courses in management and nearly 80 new programs are being added since its inception. The
courses in banking, insurance, information technology, operations, rural management, health care management, hospitality management, agricultural business, sports, are the new avenues developed in this system.

In short it is observed that the progress in management education is improving and enhancing year by year and launching new MBA programs in the courses as per requirement of industry, society and culture. To manage the specialization many new management institutes are upcoming and its growth is also exorbitant. This clearly indicated the need of management education at every discipline. The globalization, industrialization, and commercialization are the factors in developing management education. To support the management education system libraries and information centers are acting as backbone and supporting to the development of education. The resources available are ample but its management and economical collection development is an issue to be considered.

B. Libraries and Information Centers:

1. All the libraries of management institutes have qualified librarians and all the librarians have acquired minimum B.Lib, M.Lib qualifications. However now apart from basic qualifications, professionals have acquired NET/SET and appointed in management library sector. 14% staffs have also completed research in LIS either M. Phil (9%) or Ph.D. (5%).

2. The working hours of libraries are generally 8.00 AM to 6.00 PM. But reading room facilities are extended for users between 10-12 hours / day and during exam period the time is extended as per demand of users.

3. Total library staff strength in management libraries is 384 in 127 institutes. Out of these 83% staff is professional and technical with library qualifications. This strength is managing the libraries and supporting to management education system.

4. The total collection of documents in management libraries (Pune city) alone is nearly 12 lacks and annual addition is about 1, 27,000 documents. This is a very good information resource for sharing among libraries. Journals back files are more than 3000 titles and subscribed annually to 1500 titles in the city. This subscription may have duplication in subscription and found similar titles more
than few libraries. There is a very good scope to reduce the duplication and add new titles in libraries by way of resource sharing.

5. Processing of information and documents procured in the libraries are managed using DDC and AACR-2 in all libraries. This is very good for the development of union catalogues of holdings using computers in addition to OPAC.

6. All management libraries have appointed library committee consisting of 5 to 6 members to take decisions related to libraries and managing library collection development and solving management issues. The committee helps librarian in taking proper decisions related to library development including modernization. This committee can also look after the resource sharing project.

7. The library services commonly provided by the management libraries are: reading room, home-lending, CAS, newspaper clipping, Photocopying, SDI and ILL. The services like alert, digest, extension services, library orientation are not reflected in the survey, which is the need of present time.

8. The library collection mainly consists of books, textbooks, reference books and periodicals (85-90%). The remaining collection covers technical reports, thesis, newspapers, proceedings and project reports of students. E-collection is also growing in which e-books are subscribed more with audio / video materials, e-journals, database, internet resources, technical reports are increasing in collection. In audio-video literature management essays, notes, lectures are procured, which are brought out by standard universities like oxford, Stanford, IIMs etc.

C. Automation:

1. About 98% management libraries have automated in management education sector. This is a very healthy sign for growing further and developing a network of libraries as data is available in digital form.

2. It is observed that all the management libraries are using different software's for automation depending on their feasibility. The software's used are good viz. SLIM, SOUL, and LIBSYS in which integration for import and export of data is possible and helps in sharing the information.
3. For automation nearly 73.23% libraries (93 libraries) have used SLIM (42.5%), SOUL (16.5%) and Autolib (14%). Libsys is also used but only 5.5% libraries. The trend of using open source software for automation is adapted recently (7%) and in house developed software by (8.5%) libraries.

4. OPAC is also developed by many management libraries, but available mainly for the internal users of the institute and not shared among other libraries.

5. The standardization in data management is weak, and has to be standardized with the help of expert professionals.

D. Internet:

1. Maximum management libraries are providing Internet access from libraries or from the central facility. Users can get access to global information routing using internet. Wi-Fi facilities are also provided to connect users laptops to net and enhance the access points to users in a limited space in few management libraries. Internet access is used for learning and teaching activities for both students and faculty.

2. 92% libraries provide internet services using broadband, ISP and leased lines for powerful communication in institutes and libraries. 70% Wi-Fi connectivity is also available. This development is very prominent as compared to other academic libraries.

3. The main users of internet in management institutes are students (74%) and faculty (19%), since research element is added in management discipline. 7% users are researchers.

4. Users generally use Google search engine for data collection. There are many search engines useful for data gathering but users are not aware of it. There is a need of training to the management students for searching information over the net.

E. Resource Sharing and Library Networking:

1. Among 81% management libraries, resource sharing concept is operative at primary level i.e. Inter Library Loan (ILL) only, and shown interest in joining to resource sharing programs. All management libraries are of the opinion to share resources and provide advanced services to users using networked collection.
2. In resource sharing programs only few libraries are members of DELNET. But librarians are of the opinion that, they need resource sharing at local level with common program. Liberians have agreed to share books, journals, and back volumes including databases.

3. For resource sharing purpose, there is no proper policy available or prepared by librarians. The librarians are willing to develop a policy which may be more effective to implement.

4. At present there is no formal activity of resource sharing among local libraries. But on specific demand users can visit library and consult documents and even take Photocopy. No DDS is organized systematically. The response time is 10 days to meet the queries due to lack of tools and technologies in LIS at presently.

5. There is no network available but all the librarians are of the opinion to develop a local management library network in city to share resources. The analysis indicated that 88% libraries in Pune are having intranet facilities with them to access and transfer data. This is healthy symptom in developing networks of management institute libraries. The availability of PCs and network infrastructure is suitably available in 88% of institutes.

6. The network operation is merged through libraries in 78% institutes where as 10% is managed by central facility. This environment is good for networking of libraries in Pune city.

7. In management institutes 40% networks are Star in nature and 33% are using Ring topology. 77% institutes have developed proper topology.

8. Management libraries do not have membership with other library networks. e.g. DELNET to achieve resource sharing. More than 50% librarians opined that they are ready to join local city network of management libraries if established and agree to perform active role in it.

**F. Pre-requisites for Network:**

1. For developing sustainable network for information transfer it is necessary to acquire different hardware equipments as well as software and trained manpower. But the hardware required for advanced networking is lacking in management Institutes.
2. In networks TCP/IP protocol is popularly used followed by FTP and SMTP. For data storage there is no separate server for library, centrally located servers are being used. Thus having independent library network and server is in question in many management libraries.

3. Windows NT Operating System is used in maximum institutes. BSNL is the major ISP used for intra networking in management institutes.

4. For initiating networking in libraries situation demands for additional budget and management of these institutes have to consider this point.

G. Network Security:

1. Many management institute libraries have their own network which is Local Area Network (LAN). The network may be bus topology or ring topology. The management college libraries provide services over the LAN like CAS, SDI, OPAC Services. etc. but using intranet

2. User authentication process is used to identifying and verifying users authenticity and allowed to access the network data. Generally two types of authentication is observed, user’s and administrator’s.

3. For user authentication used users login-id and password, CAPTCHA methods for login and one time password etc.

4. Firewall and proxy servers tools are used for network security. 69% firewalls, 74% Proxy servers are visualized in the survey.

5. Different antivirus software like Norton, Quick-Heal, Symantec and Trend Micro are also used for maintaining the security.

6. In libraries different safety equipments are used like CCTV, biometrics, automatic door, controller, fire / smoke detectors, humidity controller etc. Apart from this different utilities are available at primary level to apply in general.

8.3 Suggestions:

On the basis of analysis and interpretation of data and findings of the study, suggestions have been made to improve the use of information communication technology for
advance and modern functioning of management libraries. It helps to develop e-libraries and sharing resources among the management libraries using networking.

1. Management education programs, courses and institutes are continuously increasing and the growth is linear. The syllabus of the management programs is supporting global components and the education system is using digital class, internet and discuss the cases online in the classroom. The trend in management education is shifting from traditional to advanced online system. This change need to be accepted universally to support globalization.

2. The staffs employed have to develop research element among the students and research element is to be added in the education system to bring sustainable quality in the management education, which helps in solving the problems.

3. Coordination between management institutes and industries to be enhanced so as to get expertise faculty for teaching and also strengthen the education system in real environment.

4. Few older courses still conducted in the management education system need to be amalgamated, modified and brought to the standards. The facilities for the working employees desiring to join management courses for them online tutorial based courses are to be implemented.

5. Management institutes have to be ranked frequently based on the performance, teaching, deployment of students for employment, collaborations, faculty employed, courses management, infrastructure available and fees pattern etc.

6. Along with the growth of institutes and management education programs, libraries in this area are also increasing to support education system, but have to be metamorphed and reshaped using ICT. Management institute authorities need to allocate maximum budget at the initial stage for modernization and developing service based libraries. Libraries in management area have to support management education system and provide different services based on ICT and Digital era.

7. Though management libraries categorized in academic libraries, they are also now treated as special libraries as they serve to management education users in which specialized needs of users are to be satisfied from the collection and by means of services. Management libraries use ICT more as compared to other social science libraries. To maintain the status library professionals have to apply more technology and projects like resource sharing.
8. The status of automation in these libraries is good but need advanced ICT support to enhance the services which is weak at the present moment. The advanced hardware need to be replaced to use ICT more effectively.

9. Uniform library management software having standard facilities is to be used and also support to import and export of data to any database for resource sharing purpose.

10. The collection of management libraries comprises of specialized subject based and it is not possible to collect all the literature in any single library and hence resource sharing is essential among the group of management libraries to develop economical collection as well as provide services from large information base.

11. Books, journals, magazines, thesis, and student's research reports, are mainly available in the libraries. Most of the collection is in print from but now there is a need to collect information resources in digital form. In some libraries it is observed that quantity of e-resources like e-journals, e-books, database, CD-DVDs are being procured but less than printed materials. To achieve economical collection development and free exchange of information libraries have to enhance the e-collection in libraries.

12. User expectations from management libraries are different and they need advanced services. Thus librarians of this facility have to find user needs and ISB regularly to support the needs and provide better services required by users.

13. In addition to regular services provided presently, the management libraries have to use ICT and management techniques to provide advanced and enhanced services like alert and digest services, library extension services and digital collection based services.

14. Use of web tools to be practiced more like RSS feed to collect the global data and provide to students and faculty to enhance the learning and teaching and developing specialized courses.

15. The libraries in this zone if would like to metamorphed then facilities like digital class, chat rooms, discussion rooms, internet lab, Global online demonstrations, Tele conferencing room, Audio video rooms, etc are to be introduced for better development.

16. Use of twitter, face book for gaining qualitative information is to be developed. Internet links need to be faster and advanced to get the universal data quickly.
17. The libraries have to be developed specialized databases of their collection and posted on the Web for general purpose information. IR can also be developed and links to web.

18. Every library provides internet facilities but have insufficient bandwidth, high speed bandwidth is required to get the fast connectivity to internet. Internet connection with maximum speed more than 1MBPS is required. All users, students, faculties, researchers, and other members can access the resources using Wi-Fi facilities available on institute campus and library area also which helps to all library users to access information 24/7.

19. It is suggested that every management library have its own library server for storing library databases and data. Latest specifications for hardware, software and operating systems are to be used for developing management college library networks.

20. Every management librarian have to take interest in developing library web page which provides information about library and library services, functions, facilities, library collections, new arrivals etc. It also helps in sharing resources by providing connectivity.

21. Management college libraries are facing the problem of scattered information and observed that there is lack of proper infrastructure in libraries, and hence advanced facilities cannot be availed.

22. To maintain safety there is a need to use safety equipments like CCTV cameras, biometric system, automatic door control, RFID and barcode systems, smart card facility, fire and smoke detectors, humidity controller using dehumidifies, in addition to traditional practices like visitors records, manual gate check, pesticiding, etc.

23. Managing library network security efforts are needed like multilayer password facility, security password CAPTCHA code, use of good wireless encryption for encoding messages or information etc. Worms and viruses are major security issue of networks. Threats blending Internet worms, viruses, and Trojan horses spread around the world in minutes, resulting in widespread intrusions and costly damage. To overcome from this problem use antivirus softwares. Use antivirus software like Norton, Quick-Heal, Kaspersky, Symantec, Trend Micro, NOD and Microsoft essential security etc. Use firewall for the network security for both software as well as hardware for controls the incoming and outgoing network
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traffic. Use CISCO software for network security, proxy server, mirror server, spam and Mail protecting system. Take data backup for security, data can be stored in another place for security purpose and updates all hardware and software in network systems simultaneously. For security disable or remove USB ports, floppy drives, CD/ DVD drives and other external connecting devices to servers. Restricted entry in server room.

24. Librarians commonly suggested that for the development of networks additional budget, qualified manpower, advanced tools and technologies, support from management authorities etc. are required. Due to lack of these factors networks are not yet developed in many libraries.

25. The total collection in management education is strong in Pune city and it is mainly focusing to textbook and syllabi orientation. There is a very good reference collection in some management education libraries. The resource sharing is possible and also beneficial looking into the collection of all libraries in this sector.

26. The consortium practice at local level for the subscription to journals and databases might be very useful and for this purpose administrative heads and librarians have to formulate policies for enetering into resource sharing projects.

27. There is a need for the central agency to be established based on NISSAT principles for organising and initial funding of library networks in different subject disciplines.

28. Network security is not to the mark and if resource sharing is to be initiated there is a need to develop security at higher level using firewall and proxy servers.

29. In the research study, researcher observed problems faced by libraries and librarians and these are less usage of advanced ICT technology, e-resources, and e-collections and are limited and need to improve these drawbacks. It is commonly suggested that avoid duplication in collection at local level by means of developing resource sharing library networks. Librarians have shown their interest in developing library networks and implementing initially at local or city level. Librarians should take interest for designing and creating bibliographical databases of their resources.

30. For performing better resource sharing or library and information network model is suggested which can be considered by the library professionals.
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8.4 Conclusion:

In brief the status of management education and management institutes in Pune city is studied in and noticed that: Management education is progressing and had constant growth. The different level courses and programs are added in to system. Demand for management education is increasing and more non aided management institutes are established under the control of AICTE or UGC. Along with general MBA programs organizations and institutes are specially established for conducting specialized management courses like Banking (NIBM Pune), Insurance (NIA, Pune), Agricultural equipments (Agricultural University Pune), Cooperative management (Vaikunth Mehta National Institute of Co-operative Management, Pune) etc. The trend in management education is shifting from traditional to online. The libraries are also supporting to the bets by providing facilities to users and trying to modify in to ICT based libraries to support education system.

In the present era of information technology and information explosion, the libraries are to be developed in different strategy and the traditional libraries are converting slowly into digital libraries and wall less libraries. Libraries are using modern technologies and techniques and have progressively replaced the old method of information collection, storage, retrieval, library functions and services. Today libraries have no limits for collecting reading materials, information resources, distributed in different geographical areas, but the budget constraint do not permit to collect maximum. Therefore modern technologies are now used in the libraries and accepting electronic documents in the digital environments. Links are established with different information sources and virtual libraries and achieving resource sharing and networking benefits. Every individual library is acting as a place for storage and services to the users while the trend is to provide shared information to the users. There is possibility to create their own institutional digital repositories by transforming their institutional publications which are in print and digital. All this needs support and cooperation from the management authorities of the colleges and active participate of library professionals.

In electronic age, library users are demanding for instant searching for information from a single point to any geographical location, and retrieve information from the library catalogue, abstracting and indexing journals, databases and full text information electronic resources. Management college libraries are facing increasing pressures from
multiple sources, information explosion, increase in cost of library materials and insufficient library budgets etc. and due to these libraries can no longer be expected to support research and development from their own resources unless they device some new activities like sharing the resources by means of services.

Considering the facts it is definitely a beneficial project to enter in to resource sharing using development of library networks and consortium etc. It is also observed that resource sharing and networking is a great boon which needs to be implemented progressively and professionally in management college libraries in Pune. This helps to generate optimum satisfaction among users and also save huge expenses on collecting resources.

The present study described the status of management college libraries in Pune. It is observed that information resources are available in traditional as well as electronic formats. Management college libraries are not acquiring sufficient electronic information resources and rests on print media only. Internet and related services of management college libraries are not up to the expected level. In few colleges users are satisfied with the internet access and technical services and facilities like online databases, e-journals etc. provided by libraries. But in many management colleges users are not satisfied with the provision of web based services. The main reasons to unsuccessfully development of library networks in management college libraries were lack of sufficient budget allocations, lack of availability or usage of information technology, modern infrastructure and lack of trained library professionals. In this context, the researcher has designed a model for library networks for management colleges in Pune, and also suggested for the development of a library network for management college libraries in Pune. Researcher tried to present many problems for developing the management college libraries and also discussed the issues and challenges of the management college libraries in Pune. Researcher tried to solve the problems through this proposed library network.

In the present study the objectives fixed were studied in detailed and discussed in different chapters viz. studying status of management education and management libraries, information resources available, user expectations from management libraries, services provided currently, ICT usage and status of automation, status of resource sharing and consortium, networking, requirements for the development of city networks and interest of the library professionals in resource sharing etc and based on the results a
suitable management library network model is presented. The hypotheses formulated in the beginning of the study “Design and Development of Network Based Model for Management College Libraries in Pune City with Special Reference to Network Security” is tested and found true.

The purpose of this research study is to check the status of management college libraries and assess efforts towards sharing resources, designing of the library network among management college libraries, find out the problems faced in resource sharing and networking of management college libraries and to provide the feasible and cost effective solution to solve these problems and allow libraries to provide the standard and quality services and updated information to the users.

The research study has covered all the objectives and discussed in different chapters. Objective 1 is discussed in detail in chapter 3 and presented the status of management education and institutes in India as well as Pune city in particular. Objectives 2, and 4 i.e. assessment of resources available in management institute in Pune and user expectations from libraries as well as assessment of availability of e-resources is discussed and analysed form the survey and presented in chapter 7. Objective 3 is focused well in chapter 4 discussing ICT use in management institutes for supporting education. Objective 5 is represented in chapter 6 in which the development of library networks due to ICT is achieved for resource sharing globally and in India. Objective 6 is elaborated in chapter 5 and the requirements for developing networks and security issues of networks are discussed to the fullest possible. The objective 7 is satisfied providing a concept based model for the networking of management libraries in Pune city based on NKN. This is broadly discussed and presented in chapter 9. Similarly the hypothesis considered in the beginning of the study is proved positive and elaborated in chapter 7 and 9. Thus the study has satisfied all the objectives considered and hypothesis formulated.

8.5 Possible future Extension:

Any research study is not complete in its all aspects and there is always a scope to have further continued or similar concept based study but used in different environment is also possible. The present study is very well accepted for the management libraries for its development but similar studies can be undertaken in different subject libraries as there is
a need of resource sharing for all most all the libraries serving to specialized subjects. But
the nature and demand is different and hence few more research topics which can be
thought for are:

1. The present study can be extendable to Pune District or for Maharashtra State or
even more than two states.
2. Similar studies can be initiated in other areas of education fields like Engineering
colleges, Medical colleges, Agricultural colleges and Law colleges etc.
3. The comparative study of library networks (Developed and developing countries)
can also be undertaken.
4. MAN or WAN can also be considered instead LAN or MAN

Information is essential for developing knowledge base. The revolution in the information
handling due to ICT, information explosion in both print and digital has resulted many
challenges to the library and information professionals. Along with these factors scatter of
information, use of internet resources, rising cost of publications, technological revolution
to preserve the knowledge, growing demands of user and increase in expectation of users
from libraries, need of pinpointed information to carry out different studies, insufficient
budget have made inability to librarians in managing ocean of information properly and
information explosion forced librarians to undertake resource sharing projects at any
level. The consortium development even at special group of libraries and initiating
development of library networking of specified libraries even at city level is a good
concept to follow like it was initiated before in 80's.

Based on the detailed study of different library networks established in India, there
topology and function researcher have deduced a model for “Pune Management Library
Network (PMLN)” and presented in chapter 9. This model is based on comparative study
of suggested models by other researchers and considering their views researcher tried to
develop a suitable model for management libraries in Pune including National
Knowledge Network (NKN).