

# **CHAPTER-6**

## **CONCLUSION**

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#### 6.0. Conclusion

Use of computer and Information Technology in libraries all over the world has been phenomenal. Libraries and Information Centers, big or small, academic or public or special libraries, are very active in using current information technologies to provide speedy and efficient services. This has paved the way of establishing digital libraries, virtual libraries and web-based information services and so on. The future libraries will be fantastic in their services to the users in terms of exhaustiveness and speed of access to colossal amount of information. This is a challenge for all to cope with the new environment and to witness the effects of the digital revolution.

The movement towards the use of computer and information technologies has posed new challenges for libraries and library staff members in the developing countries like India. The Engineering and Technological Institutes in India plays a vital role for the national development. The engineering education has received tremendous impetus of late with the increase of profound interest in technical education. Library being an integral part of the education system, should take proper care and arrangement for giving efficient and timely library and information services to its users.

The present study, therefore, discusses the myriad reasons for computerisation, different areas of computer application along with the associated problems and prospects of computerisation in the engineering college libraries in West

Bengal. The study has made all out efforts to highlight the impediments to the successful library computerisation, like financial barrier, attitudinal problems, human resources, infrastructural problems. Recommendations and suggestive measures for improvement of computerisation have also been offered. The study has also made a performance study of the engineering college libraries under its purview.

The adoption and use of computers and other information technologies are not out of reach for these institutes. It is not at all impossible to overcome the inherent problems. The need of the hour is the willingness, maneuverability, and the missionary zeal of the human force manning these libraries. Each and every organization has to overcome the barriers, undergo the changes to keep pace with the time and the emerging needs. The authority concerned should take appropriate measures to achieve this because computerisation of libraries brings a streamlined service that offer better facilities for all library users in least cost and time.

### **6.1. Observations**

Observation is a method that employs vision as its main means of data collection. It implies the use of eyes rather than of ears and the voice. It is accurate watching and noting of phenomena as they occur with regard to the cause and effect or mutual relations. Here in this investigation, the following observations have been made so that it may serve as an effective tool for furtherance of library computerisation:

- (i) Any library housed in a separate building has a special significance. The study shows that, only 2 (10%) out of 20 EC libraries are housed in separate buildings (till the time collection of filled in questionnaires for the purpose of this investigation), while the remaining 18 (90%) are housed as a part of the main building of their respective parent institutes. Separate library building serves better towards fulfillment of libraries goal, needs and user satisfaction, besides creating a free and compatible work environment.
- (ii) It is further observed from the study that, only one library has the maximum working hours of over 3200 hours in a year; followed by 2 libraries are found working between 2601 to 3200 hours; 4 libraries belong to the group of 2001 to 2600 hours, and only 13 EC libraries belong to the group of lowest working hours i.e. between 1400-2000 hours. The EC libraries should, therefore, be kept open beyond class hours to facilitate use of e-resources and a variety of web-based services.
- (iii) Collection of Books in a library is still an important factor in spite of the growing demand for electronic resources. The study shows that, only one library (5%) has a collection of over one lakh, one library (5%) holds a collection of over 80,000; one library (5%) having a collection in between 20000 to 40000, and the majority 17 libraries (85%) are having a collection of less than 20,000 thousand. The reason for this poor collection may be ascribed to the fact of being recent origin. But these libraries having poor collections should take necessary steps to boost the collection in their respective libraries.

(iv) In regard to current journals, the study shows that, 14 libraries (73.69%) subscribe less than 30 journals which is quite inadequate; followed by 3 libraries are in the range of 30 to 60 journals subscribing; only two libraries are subscribing to more than 120 journals. The last two ECs subscribing to 20 journals are somewhat encouraging. It seems that, the new EC colleges have concentrated their efforts more towards collection of books and have given scant attention to journal subscriptions. Technology is changing rapidly and libraries, more particularly the special and technical ones, have started replacing their traditional paper documents with the vast ocean of electronic and online resources and depend heavily on web-based information sources. The current journals act as mirrors that reflect the latest developments and trends in the field of science and technology. The EC libraries should, therefore, arrange for more funds so as to subscribe basic and essential journals in their respective areas of interest. This would motivate the engineering students to become enrich with technological knowledge and a variety of up-to-date information.

(iii) In regard to the exclusive budget earmarked for the library, it is found that NIT, Durgapur has the highest budget allocation for its library with an annual budget provision of Rs. 32 lakhs and 66 lakhs; followed by BEC, Shibpur with Rs. 34 lakhs and 37 lakhs for the year 2001-2002 and 2002-03 respectively.

Since majority of the EC libraries have not furnished information pertaining to their library budget, a critical and comparative analysis of fiscal conditions of

these libraries not only became difficult but also made the study inconclusive on the subject.

- (iv) In regard to the current state of human resources, the study reveals that, the total number of staff members working in 20 different EC Libraries ranges from a minimum of 1 staff member to a maximum of 17. As per AICTE Norms, there should a minimum of one Librarian, two Assistant Librarians, four Library Assistants and two Library Attendants for each engineering college. However, none of these colleges included in the study, seems to have followed AICTE norms or any such standard till the time of collection of data for this investigation.
- (v) It is observed that, BE College, Shibpur has the maximum member of 17 Staff members; followed by NIT, Durgapur with 16. The study also reveals that, BCET, Durgapur library has got the least member of staff members, i.e. only one that is not only impractical, but also undesirable for a EC library.
- (vi) In regards to the flow of visitors (Faculty Members) to their respective EC libraries, the study reveals that, 30 (30%) out of 100 members visit to their library daily; followed by 16 members (16%) visit twice a week; 16 members (16%) visit once a week; 2 (2%) members visit once a month and the remaining 36 members (36%) visit as and when needed. Since the flow of visitors often indicates the effectiveness and the importance (utility) of a given library, the quality of library services need to be increased and made more clientele-friendly.

- (vi) Interestingly, 15 (75%) out of the 20 EC libraries have already started computerisation of their libraries, while the remaining 5 (25%) are yet to start computerisation. It is also important to note here that, one of the oldest colleges and also being a Govt. College is yet to start computerisation, which is quite discouraging.
- (vii) It is observed that, 8 (40%) of 20 respondents have stated their search strategy giving ranking order. The study shows that, all the 8 EC libraries have ranked the strategy – 'Using Search Engines' as first, followed by 3 libraries choosing 'Browsing Websites Regularly' ranking second, and 'Information from Pub./Magazines' ranking third in order respectively.
- (viii) So far the status of computerisation of the engineering colleges is concerned, the study shows that, not even a single EC library yet is fully computerised. Surprisingly, 25% of the libraries are still fully manual; followed by 10% of the EC libraries are partially manual, and the remaining 65% the majority of EC libraries only have partially computerised their different activities and services.
- (ix) There is no dearth of library automation packages in the market now-a days. As regards to the use of application softwares, the study shows that, 46.67% of the libraries use LIBSYS package; followed by 20% of the EC libraries use CDS/ISIS package and the remaining libraries use other softwares of local in nature. The use of LIBSYS package is perhaps attributed owing to its' user-friendliness, cost-effective for limited library collections, free onsite training facilities, and provision of annual maintenance facility.

- (x) In regard to the understanding of Internet and its role, the study reveals that, only 7 out of 20 respondents have responded to the question and all the 7 respondents have stated that, they meant 'Internet' as wealth of huge current information; followed by 6 (six) respondents stating Internet as supplement to their libraries as 'online library' and of 'great reference value'; closely followed by 5 respondents stating 'Internet' as of Great Reference Value to them, besides helping to enhance their knowledge. The study further reveals that, the respondents are satisfied with only four kinds of internet based services, namely, www, e-mail, FTP and online databases.
- (xi) A study was also made to know the popular search engines based on retrieval efficiency. The study clearly shows that, Google is the most popular search engine as ranked first by the respondents (57.15%); closely followed by Yahoo (42.85%).
- (xii) It has also been observed that, only 8 (40%) out of 20 EC libraries are members of DELNET and 2 (10%) out of 20 EC libraries are members of INDEST consortium. Hence, it is clear that, 50% of engineering college libraries are not members of any library and information networks. So, it is inferred that, the network revolution is yet to create any impact on the 50% engineering college libraries
- (xiii) In regard to the problems of computerisation in EC libraries, the study shows that, the financial problem is the main hurdle that hinders computerisation as 55% of the libraries face this problem. Lack of computer-trained manpower is

the next stringent problem standing on the way of computerisation as 45% of the libraries opined. Lack of attitude of authority toward computerisation, however, is the third major problem encountered by 20% of respondents included in the study.

- (xiv) As regards to performance of the 20 EC libraries, twelve variables have been considered. The variables are (i) Authority approach towards library computerisation, Provision of Budget, Manpower, Library Functioning hours, Users Strength, Collection of Book Materials (BMs), Subscription of current Serials, Collections of non-book materials (NBMs), Catalogue generated, No. of Computerized Services offered, Librarians' Satisfaction, and User's satisfaction.

Each of the 12 standardized variables indicates, in some way or other, some performance of the libraries. Now to compare the 'performance as a whole' of the libraries equal weight-age for all these 12 standardized variables have been given and a comparison of the 'performance as a whole' of the libraries on the basis of a new variable, 'overall performance', have been made which is defined as the average of the 12 standardized variables.

On the basis of overall performance, ranking has been made in order to show the relative positions of the 20 EC libraries. The study also compared the Govt. libraries with Private owned libraries in respect of overall performance, which shows that, the Govt. libraries are, on the average, better compared to the Private EC libraries

## 6.2. Constraints

Research is a careful investigation or enquiry, especially through search for new facts in any branch of knowledge. It is not an easy or casual affair. It is also painstaking and time consuming, if it is a survey research. It is very difficult to reach and convince the respondents and equally difficult to make the respondents understand the survey objectives and importance of the work and to get back the filled-in questionnaires properly and in time. These constraints are not an exception to the present investigation.

This study covered 20 EC libraries functioning in the state of West Bengal, which spread over 11 districts from East to West and North to South. The investigator had to travel a lot for collection of data, which made the study very much expensive and time consuming. Knowing fully well the constraints of survey research, the investigator had to withstand the perils to achieve the pre-ordained objectives of this investigation. However, the good thing is that the respondents, though late, returned the filled-in questionnaires after several reminders and repeated persuasions made through e-mails, telephone requests and, the means like sending messengers.

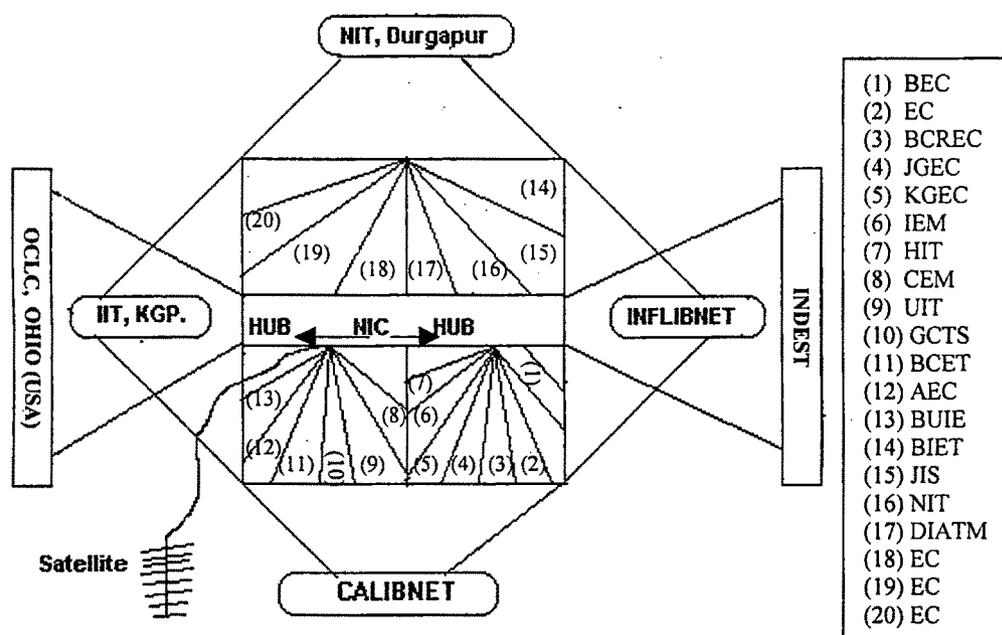
However, these constraints have been ignored by the investigator for obvious reasons and for getting the objectives of the investigation fulfilled. The present investigation would surely serve as a role model for future researchers on the above subject.

### **6.3. Model Consortium for EC Libraries (ECLNETWB)**

Library cooperation and resource sharing have received new dimension in the current global network system. It requires strong computer and communication infrastructure. In order to pool library resources and on-line journals, the libraries need to become members of different Networks or Consortiums. This networking is in urgent need especially for the engineering college libraries in West Bengal. After delving into the matter and as a part of the LIS research, a model consortium comprised of 20 EC libraries, known as, ECLNETWB (Engineering College Libraries Network of West Bengal) has been suggested.

The proposed model network, ECLNETWB, comprising of major 20 EC libraries of W.B., therefore, is a model consortium keeping NIC as the hub and INFLIBNET, CALIBNET, and IIT-KGP, NIT-Durgapur as its four major nodal centers. The following schema (Dig.-1) of a model consortium would make the concept more clear:

**ECLNETWB**  
(A MODEL CONSORTIUM FOR EC LIBRARIES IN W.B.)



(Diagram - 1)

It the authorities of these EC libraries sincerely wish to be a part of global information system and, to avail the fruits of electronic resources of the world through www for the benefit of their users as well as to save the acquisition cost and valuable time, they would probably find no other option except to make their libraries fully computerised besides forming a consortium of their own making a linkage with other consortiums like INDEST, OCLC and such other networks at international level.

Consortiums like, INDEST, MHRD, Govt. of India and OCLC, USA could be linked with the proposed consortium to ensure optimal utilization of library resources at least cost. This consortium, if formed, would certainly help to (a) avoid duplication of resources; (b) obtain maximum material at least cost; and (c) sharing of information among the ECs removing geographical barriers, time constraints and ensure round the clock service.

## 6.4. Testing of Hypotheses

As a part of scientific and systematic progress in the investigation, four major hypotheses that were formulated at the initial stage of this study were tested with the furnished data in order to determine the validity and relevance of the propositions that guided the entire investigation. On testing of the hypotheses, the following results were obtained:

**hypothesis-1** The hypothesis that, 'The existing state of computerisation in the engineering college libraries of West Bengal is just beginning and yet to spread its full influence on library service' has come **partly true**, as the study reveals that, 75% of the libraries have started computerisation of their libraries while the remaining 25% are yet to start computerisation. So far the status of computerisation of the engineering colleges is concerned, the study, however, shows that, not even a single library is fully computerised. It is also seen that, 25% of the libraries are fully manual; followed by 10% of the libraries are partially manual and a majority of 65% the EC libraries are partially computerised.

**hypothesis-2** The hypothesis that, 'The extent of computerisation in these engineering college libraries is possibly limited to house-keeping operations on a limited scale rather than to information storage and retrieval-related activities' has also come **true**, as the study shows that, computerisation is still at the initial stage of housekeeping

operations on a limited scale. The other activities like Circulation control and Serials, OPAC have not yet been undertaken.

**hypothesis- 3** The hypothesis that, 'Whatever activities and services have so far been computerised in these engineering college libraries are possibly in an embryonic state, and more possibly computerisation of acquisition (of library materials) system and library collection may be the first and most popular activity to undergo computerisation in these engineering college libraries which still hold good compared to computerisation of other activities' has also come **true** as not even a single library is fully computerised; 25% of the libraries are still fully manual; 10% of the libraries are partially manual and the remaining 65% of the EC libraries are partially computerised. State of membership of networks is also discouraging as 50% of the EC libraries are yet to become member of any network.

**hypothesis- 4** The hypothesis that, 'Lack of favourable attitude of the in-house LIS professionals, paucity of funds, are possibly the two vital factors that prevent the real growth of computerisation in these engineering college libraries' has come **true**, as the study shows that, there is no appropriate fund in the budget to execute library computerisation smoothly. The work force in the libraries and their attitude are not satisfactory to carry out the computerisation work.

## **6.5. Suggestion for Solutions**

Some problems are sure to crop up during the course of computerisation of any institutional library. A problem of one library may not be a problem for another, thus they are varied and many. The present study offers some suggestions to obviate the problems encountered and at the same time, to make the library systems of ECs amenable to technological changes in the days to come.

- 6.5.1. There should be an exclusive budget provision for computerisation and for training of library professionals. The budget should be tenable initially for 5 years.
- 6.5.2. A judicious action plan for computerisation of EC libraries should be chalked out after forming a committee of library experts, computer specialists and academicians.
- 6.5.3. An integrated network of the engineering colleges of West Bengal as suggested should be formed forthwith. This will ultimately help to mitigate budget constraints, collection development and to access e-journals.
- 6.5.4. There should be ample provisions for extensive hands-on computer training to the staff of EC libraries for computer applications in library management and services including the training on basic hardware and software applications so that, most of the minor and routine technical problems could be solved which would no longer be a headache on the part of library administration, thus

making the library ready to tackle the hazards independently so as to make a steady progress in computerisation programme.

- 6.5.5. Special provision for acquisition of non-book materials, such as Floppies, Disks, Microfilms, Microfiches, CDs, DVDs, cartridges, and computer consumables, etc. should be made along with usual budget heads like, General Books, Book Bank, subscription of current journals, and e-Journals, and others.
- 6.5.6. Provision for acquiring CD-data bases in related areas should be made in both Recurring and Non-Recurring Budgets.
- 6.5.7. Computer network and IT infrastructure facility should be increased so as to facilitate the effective use of different e-resources by the students, faculty and researchers.
- 6.5.8. Orientation of new users should be a regular exercise so that, the new users get acquainted with the use of different e-resources within the local and other networks.
- 6.5.9. Computerisation of all the library activities and services in the ECs should be completed at the earliest by appointing computer trained staff with proper subject back ground for a short period or by giving contract to any national agencies or professional bodies as a short term project so as to complete the backlog.

- 6.5.10. There should be scope for deputing library staff to various training courses organized by ISTE, AICTE, IITs, NCSI, DRTC, NISCAIR, NCSI, and other professional bodies. This will foster staff development and would help communicate the knowledge to other staff members.
- 6.5.11. Every engineering college library should create its website and arrange for its regular updating so that it can reach a larger and wide spectrum of audience globally.
- 6.5.12. The status of library automation in engineering college libraries in West Bengal is not encouraging. The ongoing process should be re-engineered to remove the barriers. The deficiencies should be identified and adequate measures to be taken forthwith.
- 6.5.13. Computerisation programme should be started with a mission and vision. A target should be fixed to automate specified areas / activities within a stipulated time frame so as to achieve its goal.
- 6.5.14. The students, teachers, and scholars should be given unlimited access to Internet resources so as to fulfill their information needs.

## 6.6. Areas for Further Research

No study can be termed as ultimate. This also holds good in the present case. This study may be replicated with larger samples and even more variables so that it could focus more areas and especially to the areas that remained unexplored.

This study is primarily restricted only to the Twenty major engineering colleges (both Government and Private) of West Bengal, hence, can be used as a model for further research taking into consideration the engineering colleges of other states / region, so that it gives a clear picture of the EC libraries and would ultimately help to take suitable measures for their all round development.

Owing to paucity of time and limited resources, all the engineering colleges and the whole spectrum of library operations could not be included in the survey. Hence, the future researchers may consider to include all the ECs of WB and the neighbouring state(s), the entire basic library services which a modern EC library is expected to render to its clientele in its scope, along with the views of EC authorities and their students on computerisation, so as to discover:

- (a) Whether the state of computerisation in EC libraries of WB are identical with that the EC libraries of the neighboring/other states or regions of the country;
- (b) Whether the EC library authorities have a positive attitude towards computerisation; and

- (c) The extent and area to which the students of these ECs are interested in computerised library services.

The library profession is a noble profession. It is not just a desk job. Today, the librarian plays a dynamic role especially since libraries went hi-tech. If the librarians can take the cudgel of re-engineering process and utilize it to improve their library services with computerisation and information technology, they would be able to prove their worth to the society. This study would surely act as signpost for new vistas of research.