Chapter – 7

Findings, Conclusions & Recommendations

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Chapter – 7

Findings, Conclusions & Recommendations

7.1 Introduction

This chapter summarizes the findings of the study, provides the conclusion and recommendations. This study was set out to examine the information needs and information seeking behavior of faculty and students at engineering colleges in Haryana.

The primary purpose for seeking information is to find relevant information in context to fulfill specific goal. This study was an effort to fill the gap in knowledge regarding the same. As mentioned by Wilson in year 2000 'information seeking behavior is the purposeful seeking for information as a consequence of a need to satisfy some goal'; our study asserts the similar nature of information via our findings.

7.2 Findings

The following findings are based on the data collected from 721 engineering colleges’ students and 298 engineering colleges’ faculty members with the help of Questionnaire-Appendix I and Questionnaire-Appendix II.

Students Demographics Details

- Out of the total respondents it was observed that 65.6% of students were males and 34.4% were females. 16.4% were into part time study and remaining 83.6% were in full time study. (Table 6.2.1) and (Table 6.2.2)
- It was observed that under the group of male students 46.9% were in the age group of 18-20 years and 25.8% were in the age group of 22-25 year, 25.6% were in age group 20-22 year, while 1.7% below 18 of the age. (Table 6.2.3)
- Amongst the females students; 47.6% were in the age group of 18-20 years while 19.4% were in the age group of 22-25 years, 30.2% in the age group of 20-22 years and 2.8% below 18 years of age. (Table 6.2.3)

Faculty Demographics Details

- Out of the total respondents it was observed that 47.7% of faculty were
males and 52.3% were females. Out of the total respondents, 28.9% were into part time and remaining 71.1% were in full time.

- It was observed that 34.6% of male faculty were in the age group 36-45 years while 34% were in the age group 25-35 year, 20.5% in the age group of 46-55 years and 10.9% above 55 years of age. (Table 6.2.3)
- Under the group female faculty 38.7% of the members were in the age group of 25-35 years while 31% were in the age group of 36-45 years, 24.6% in the age group of 46-55 years and 5.6% above 55 years of age. (Table 6.2.3)

7.2.1 **Utilization of Library Resources & Services**

- It has been found that respondents were utilizing mostly all library resources and services. The two groups (students and faculty) were comparable in terms of usage of resources and services for the general information, academic work and research work. Archives used in engineering colleges (bound volumes of journals/IEEE journals archives/technical reports) but faculty were more utilizing as compared to students. Inter Library Loan, Indexing and Translation services are also utilizing as per their requirements or on demand. (Table 6.2.4 and Table 6.2.5)

7.2.2 **Awareness between faculty and students**

- Survey reveals that respondents are aware of library resources and services. About 63.2% students are aware and 57.7% faculty is aware of library resources and services. But it is concluded that students were more aware of library resources and services as compared to the faculty. (Table 6.2.6)

7.2.3 **Major use of Library Resources**

- Students constantly used books, followed by internet journal/magazine and faculty constantly used thesis, followed by handbooks, opac, CDRoms, reports, reference sources, newspapers, databases, abstracts of books/journal and archives. They both used library resources but as per their requirements. Both used different resources as compared to both (Table 6.2.7)

7.2.4 **Major use of Library Services**

- Study shows that faculty constantly used all major library services as compared to the students. (Table 6.2.8)
7.2.5 **Purpose of Using Library Resources and Services**

- Study shows that majority of the faculty constantly used library resources and services for preparing exam, followed by research, subject material, reading, general knowledge and research papers, discussion and career development purpose and students constantly used library resources and services for reading newspapers followed by preparing notes, finding subject materials, reference materials, projects, borrowing books and general knowledge. (Table 6.2.9)

7.2.6 **Awareness of New Information Technology**

- Study shows that 74.8% of the faculty members used multimedia while only 58.5% of the students used it. Similarly 62.4% of the faculty used facebook while 47.4% of the students used the same. 73.8% of the faculty used chat compared to 63% of the students. So it is concluded that students and faculty both are aware of new information technologies. (Table 6.2.10)

7.2.7 **Needs Affected Due to the Frequently Changes in Information Technologies Between Students and Faculty Members**

- Our results revealed that 59.5% students and 61.4% faculty information needs are affected due to the frequent changes in information technologies. Furthermore, it was observed that faculty were more affected due to these frequent changes as compared to the students. However the percentage difference between the two is only 1.9% (Table 6.2.11)

7.2.8 **Dependency on New Information Technologies for Usage of Library Resources and Services Between Students and Faculty Members**

- Study shows that dependency on new information technologies has increased. About 59.9% students and 62.8% faculty were dependent on new information technologies. Thus, it was observed that faculty was more dependent on new information technologies for usage of library resources and services as compared to the students. However the percentage difference between the two is only 2.9% (Table 6.2.12)

7.2.9 **Usage of New Information Technology in Libraries**

- Study revealed that faculty constantly, used sms followed by multimedia, chat, databases, internet, photocopy, e-mail, opac, facebook, scanner and students constantly used E-mail, internet, factbook, sms, chat, multimedia, photocopy, databases, scanner, opac. So it is concluded that faculty constantly used new
information technology in libraries as compared to the students. (Table 6.2.13)

7.2.10 **Impact on your Decision to Use New Information Technologies**

- Study shows that students constantly, used new information technology to read online, followed by submit assignments on line, use electronic format as it is easy to carry and faculty constantly used new information technology for saving time, new technology as it is the fastest way to retrieve information, to easily distributes data to others and for their independence. So both considerably used new information technology to a fair extent. (Table 6.2.14)

7.2.11 **Information Format to get data**

- Study shows that majority of the faculty constantly used printed format, and electronic format, followed by photocopy and audio/video visual format as compared to the students and students constantly used electronic format as compared to the faculty. (Table 6.2.15)

7.2.12 **Satisfaction with Library Resources and Services**

- Result revealed that 40.9% of the faculty were constantly satisfied with respect to the collection compared to 10.3% of the students; 43.6% of the faculty were satisfied with respect to the service at the library compared to 15.1% of the students; 48.7% of the faculty were satisfied with respect to the library working timings compared to 10.1% of the students; 31.5% of the faculty were satisfied with respect to the attitude of library staff members compared to 20.1% of the students; 43% of the faculty were satisfied with library’s infrastructure compared to 15.1% of the students and 20.5% of the faculty were satisfied with library’s procedure compared to 5.1% of the students regarding the respective users. So it is concluded that faculty were more satisfied with library resources and services as compared to the students. (Table 6.2.16)

7.2.13 **Visit to Library**

- It has been found that respondents were visiting libraries frequently. About 40% students and 16% faculty visit library daily and 25% students and 41% faculty were visiting libraries twice a week. So it is concluded that 40% students and 16% faculty visit library every day.
7.2.14 **Reasons not to Visit Library**

- It has been found that 47% students and 45% faculty did not visit library due to lack of timing (overworked), 30% students and 12% lack of skill in using new information technologies. So it is concluded that 47% students and 45% faculty did not visit the library due to the lack of timing and others do not visit library due to the lack of skills in using new information technologies.

7.2.15 **Utilize Library Resources with out any Help**

- Survey has revealed that 59% students and 75% faculty utilizes library resources without any help. So it is concluded that faculty were utilizing more library resources without any help as compared to the students.

7.2.16 **Formal Training/Orientation**

- Survey shows that 44% students and 41.6% faculty received training sometimes on usage of library resources and services and 11% students and 10.4% faculty never received training/orientation on usage of library resources. So it is concluded that majority of students and faculty had received training sometimes on usage of library resources and services.

7.2.17 **Impact of Training/orientation**

- Result revealed that 53% of the faculty were constantly able to search faster as compared to 30.1% of the students; 41.3% of the faculty were able to find documents easily as compared to 20.1% of the students; 32.2% of the faculty had positive impact with respect to regular visits to library as compared to 15.1% of the students; 41.9% of the faculty had positive impact with respect to awareness towards the library new resources and services as compared to 30.1% of the students; 45.1% of the student had positive impact with respect to time saving as compared to 21.8% of the faculty and 30.1% of the student had positive impact with respect to Faster information retrieval as compared to 19.5% of the faculty. So it is concluded that majority of faculty after having received the training on library resources and services feels that they were able to search faster, find documents easily, positive impact with respect to regular visits to library, faculty had positive impact with respect to awareness of the library new resources and services and students had positive impact with respect to time saving, positive impact with respect to faster information retrieval.
7.2.18 **Needs Affected Due to the *Globalization Factors (Surrounding Environment)*

**Students and Faculty Members**

- Survey shows that needs of 64.2% students have been affected and needs of 63.4% faculty have been affected. Furthermore, it has been observed that students were more in percentage whose needs were affected as compared to the faculty but there is only (0.8%) difference between the faculty and students. (Table 6.2.18)

7.2.19 **Globlization Factors Affecting the Information Needs of the Students and Faculty**

- Changes in learning methods affected the information needs of faculty and students. Survey shows that faculty were constantly affected by changes in international curriculum, followed by corporate world expectation, changes in learning methods and changes in teaching and teaching methodology. Students were also constantly affected by global exposure, changes in teaching methodology. ICT affects, changes in learning methods and corporate world expectation affected the information needs of students too. (Table 6.2.19)

7.2.20 **Methods Used by Students and Faculty for Seeking Information**

- 56.7% of the faculty constantly consulted supervisor as a method for seeking information as compared to 0% of the students; 55.7% of the faculty referred to journal indexes as a method for seeking information as compared to 10% of the students; 47.7% of the faculty used library catalogue as compared to 10% of the students; 49.7% of the faculty reviewed articles as a method for seeking information as compared to 15% of the students; 41.6% of the faculty used internet for seeking information as compared to 15% of the students; 35.9% of the faculty used library staff reference for seeking information as compared to 15% of the students; 26.5% of the faculty attended professional seminars for seeking information as compared to 0% of the students; 21.1% of the faculty referred to books for seeking information as compared to 20% of the students; 29.2% of the faculty referred to newspaper for seeking information as compared to 15% of the students; 24.2% of the faculty consulted with an expert for seeking information as compared to 0% of the students and 12.8% of the faculty discussed with other faculty as compared to 10% of the students. So it was observed that faculty constantly used different information seeking methods as compared to students. (Table 6.2.20)
7.2.21 Tools Used by Students and Faculty to Get Access the Documents Needed

- Constantly, 37.6% of the faculty used library catalogue to access the documents needed by them as compared to 10.1% of the students; 24.5% of the faculty used journal indexes to access the documents needed by them as compared to 15.1% of the students; 32.2% of the faculty used journal abstracts to access the documents needed by them as compared to 0% of the students; 41.6% of the faculty used reference from library staff to access the documents needed by them as compared to 30.4% of the students; 42.6% of the faculty used reference from a periodic article to access the documents needed by them as compared to 25.7% of the students; 49.3% of the faculty used book reviews to access the documents needed by them as compared to 20.1% of the students and 33.9% of the faculty used bibliographies to access the documents needed by them as compared to 5.1% of the students. So it was observed that faculty constantly used library tools to get access the documents needed as compared to the students. (Table 6.2.21)

7.2.22 Location Used by Students and Faculty for Searching Information

- Survey shows that faculty constantly used friends home, cybercafe, home, public library, and college library as compared to students. (45% faculty did not visit the library due to lack of time and 28.9% faculty were part time). Students constantly used friends' home, college library, public library as compared to the faculty. (55% students often used college library and other locations as per their convenient) (Table 6.2.22)

7.2.23 Action Taken after the Search Failure in the Library

- Survey shows that that majority of faculty constantly immediately taken no action, and try another library, consult library staff, give feedback to librarian or try again but majority of the students often borrow book/article from a friend, try another library, consult library staff, try again and give feedback to librarian. (Table 6.2.23)

7.2.24 Comparison of Feedback between Students and Faculty Members

- It has been found that majority of students and faculty when constantly provided the feedback, it resulted in positive outcome. (Table 6.2.24)

7.2.25 Informal methods used for acquiring information

- According to our results, it is observed that faculty constantly used facebook
followed by sms, chatting, face to face discussion, E-mail, telephone and students constantly used facebook, followed by E-mail, telephone, sms, chatting and face to face discussion. (Table 6.2.25)

7.2.26 Difficulties Faced by Students and Faculty

- Study reveals that faculty constantly have found difficulties as only english language material, followed by material not available on the shelf, out dated reading material, non supportive behaviour of staff and non available of internet facilities as compare to the students. Students often found shortage of latest journal, followed by outdated material, non availability of internet facility, information sources are too far off, technical problem (power/system failure), material is not available on the shelf, digital library services are limited to the library and campus area, lack of awareness of the availability of material, and shortage of computer. (Table 6.2.26)

7.3 Findings in Relation to Hypothesis

Before coming to the conclusion of the study, I would like to jot down my findings once again with respect to the hypothesis we proposed for the study.

➢ **H1: Faculty and students are not significantly aware of library resources and services provided by the library.** Our very first hypothesis has been proved wrong by our study. From the data that we analyzed (table 6.2.4), it is evident that both the students and the faculty are not only aware of the library resources and services but they also use them thoroughly. Our data shows that the library resources are extensively used for academic and research purposes by both the students and the faculty however, these resources are used less for general purpose. Thus, it can be said that the students and faculty at the engineering colleges of Haryana are aware of the library resources and also use them as per there requirements.

➢ **H2: There is no significant difference in the information seeking behavior of the faculty and students.** Our data shows that both the students and faculty members have similar trends when it comes to the usage of informational resources (table: 6.2.7 - 6.2.9). Thus, this
hypothesis is true.

- **H3: Surrounding environment does not significantly affect the information needs of faculty and students.** Table 6.2.18 clearly shows that the surrounding environment (Globalization Factors) significantly affects the informational needs of both the students and faculty members. As depicted in our data, both the groups show similar trend. Therefore this hypothesis has failed.

- **H4: Faculty and Students do not significantly differ on new information technology for usage of library resources and services.** This hypothesis is true. To support this hypothesis we have significant data; table: 6.2.12 & table: 6.2.13. The data suggests that both the study groups i,e, students and faculty are more or less equally dependent on the use of new informational technology of library resources and services. Infact, faculty (62.8%) were more dependent on these new informational tools than the students (59.9%). The trend is similar in both the groups

- **H5: Faculty and Students are not significantly satisfied with the present library resources and services.** Table 6.2.16 clearly shows that faculty members were significantly satisfied with various components of library resources and services such as collection of books, library procedure, infrastructure etc. whereas the student group was not satisfied with the library resources and services. Thus, this hypothesis is partly true and partly false as we received different reactions from both the groups.

### 7.4 Conclusion

It would be interesting to investigate how students and faculty who occasionally communicate to work make transitions in access to information. The success operation of any library depends to a large extent on the choice of library resources and services. The choice of the resources and services should meet the need and requirements of the users. Faculty and students utilized all library resources and services for their academic and research work as per their requirements. **Archives**
used in engineering colleges (bound volumes of journals/IEEE journals Archives/technical reports/web archives) by both category in their research and academic work. Inter Library Loan (In keeping with its tradition of maintaining close cooperation with other academic libraries and sharing resources with them and borrows books for faculty and students from libraries for short durations). (Resource sharing is cost effective and environment friendly. Mostly all selected colleges for this study have membership with DELNET. As per DELNET website (delnet.nic.in) 306, institutional Libraries have members with DELNET in Haryana state. **DELNET**: Developing Library Network is a major Resource Sharing Library Network in "South Asia". Presently it has 5809 libraries as its members. DELNET also provides "Inter Library Loan" for 'Books', and Document Delivery Services for Journal articles to the Members-Libraries within and outside India).

Indexing services of journals, databases and open access journals provided for faculty and students and abstract services of journals provided to faculty and students on demand. Translation services are also utilizing as per students and faculty requirement (on demand). (Translation services question put up for this study because of international students studying in various colleges of haryana).

The study revealed that students were more aware of library resources and services as compared to the faculty. Study also revealed that major use of library resources by the students were books, internet journal/magazine and faculty constantly used thesis, handbooks, opac, CDROMs, reports, reference sources, newspapers, databases, abstracts of books/journal and archives. Faculty constantly used all major library services compared to the students. Similar study was conducted by Singh 1999 and Okiy 2002.

Major purpose of using library resources and services is for preparing examinations, research, subject material, reading, general knowledge and research papers, discuss and career development purpose and only 30% to 5% students constantly used library resources and services for reading newspapers, preparing notes, finding subject materials, reference materials, projects, borrowing books and general knowledge. A similar study conducted by Gurdev singh 2002 Ogombo and Adomi 2003. Students and faculty both are aware of new information technologies. Another similar study conducted by Agaba 2004 but it was observed that faculty were more whose needs were affected due to the frequent changes in information technologies. **It is observed that**
constantly changing in international curriculum, corporate world expectation, changes in learning methods and changes in teaching methodology, global exposure, changes in teaching methodology, changes in ICT, affected the information needs of faculty and students. It is concluded that students constantly used new information technology. For read on line, submit assignment on line, use electronic format easy to carry and faculty constantly used new information technology for saving time, new technology as it is fastest way to retrieve information, easily distribute data to others and for their independence. Study revealed that majority of faculty constantly used printed format, and electronic format, photocopy and audio/video visual format compared to the student and students constantly used electronic format compared to the faculty similar study conducted by Rafiq 2009. It is concluded faculty were more satisfied with library resources and services as compared to the students, similar study conducted by Maughan 1999.

It is concluded that 40% students and 16% faculty visit library every day. So it is concluded that 47% students and 45% faculty did not visit the library due to the lack of timing and others are not visit the library due to the lack of skills in using new information technologies used in the library. It is concluded that majority of students and faculty received sometimes training on usage of library resources and services. It is observed that faculty constantly used different information seeking methods as compared to students. It is observed that faculty constantly used library tools to get access the documents needed as compared to the students. (shokeen and Kaushik 2002). It is observed that faculty constantly use friends home, cybercafe, home, public library, and college library as compared to students. (45% faculty not visit the library due to lack of time and 29.5% faculty were part time). Students constantly used friend home, college library, public library as compare to the faculty (55% students were often used college library and others used different locations as per their convenience). It is observed that majority of faculty constantly taken no action and try another library, consult library staff, give feedback to librarian and try again but majority of student often borrow book/article from a friend, try another library, consult library staff, try again and give feed back to librarian. It is observed that constantly majority of students and faculty when provided the feedback that resulted in positive outcome. It is observed that faculty constantly have found difficulties as only english language material, material not available on the shelf, out dated reading material, non supportive behaviour of staff and non available of internet facilities as compare to the students. Students often found shortage of latest journal, outdated material, non
availability of internet facility, information sources are too far off, technical problem (power/system failure), material is not available on the shelf, digital library services are limited to the library and campus area, lack of awareness of the availability of material, and shortage of computer.

7.5 RECOMMENDATIONS

On the basis of findings and conclusion of the study following recommendations have been made to implication of library resources and services.

7.5.1 Library Resources and Services

- There is a need to provide orientation/training on regular basis to faculty and students on usage of new library resources and services and on information literacy.
- There is a strong need to implement in outdated library resources and services due to the (surrounding environment) international curriculum, corporate world expectation, changes in curriculum, changes in teaching methodology and learning methodology.
- There is a need to recommend the use of more resource sharing facilities between libraries because no library can own everything required by the users. Resource sharing is cost effective and environment friendly.
- There is a strong need to implement ICTs in libraries to keep pace with the changing information environment to exploit its benefits.
- The colleges launch their separate library website providing details of the library resources and services. It will promote resource sharing and will open avenues for digital reference service also. Future libraries must be more user-centered rather than system-centered.
- In addition to basic services, libraries should popularize advanced library services including IT based and strive for their maximum utilization and access them any time and from anywhere. (as faculty and students less time to come physically in library)
- A need has been felt to create awareness among faculty and students about methods of searching documents in library and they
should be familiarized with all the methods of searching documents.

- Regular user surveys should be conducted to ascertain the information needs of users, information use pattern, and use of the resources and services of libraries and users satisfaction with these. It will facilitate librarians to identify the gaps and enable them to strengthen the resources and services where needed.

- While social networking tools can help libraries go where their users are, many librarians see challenges in determining which tools to use, how many resources to devote, and how to assess effectiveness.

7.6 Suggestion For the Further Research

The present study made an attempt to know the information needs and information seeking behaviour of faculty and students at engineering colleges library of Haryana;- Implication for library resources and services. Therefore future study may be extended to various colleges of Haryana. The study may also be extended to compare the engineering departments. Further the study can also be extended to compare Management and Engineering colleges.