RESEARCH

FINDINGS
Chapter 6
Research Findings

The findings of the study reveal and provide clear insights to the authorities of the respondent libraries, the direction for developing or aligning the resources and services to satisfy the needs of the respondents. The information received from the respondent libraries and respondent are analysed in this thesis. The findings of the study are presented below. The hypotheses formulated for the study have been tested and presented in the following sections.

6.1 Information Resources, Facilities, and Services in Engineering College Libraries

Based on the responses that were received from the librarians of all the eleven engineering colleges, the following details about the libraries can be declared as major findings:

6.1.1 Information Resources

❖ All the engineering colleges considered for the study have a good collection of printed information resources such as text books, reference books, subject journals, project reports, standards, conference/seminar proceedings, CD/DVD ROMS, and newspapers and magazines. Only MIT, NITK, NMAMIT, PACE, and SJEC indicated the presence of theses/dissertations. This is because only these colleges have a research centre in the engineering discipline. Only NMAMIT library stated the presence of e-books. The online journals collection is found only in seven engineering colleges. The reason being all these libraries are members of consortium under INDEST-AICTE. However, the online journals and online databases are comparatively less in other colleges under study compared to MIT, NITK, and the NMAMIT library which has 7 to 8 online databases with more than 1100 online journals in Engineering.
6.1.2 Library Facilities

❖ Majority of the libraries under study provide a clean and soothing environment with proper lighting/ventilation, power supply, and space for reading facility. Internet searching facility is provided in all engineering college libraries except in CEC, SIT, SDIT, and MIET. Though all respondent engineering college libraries indicated the availability of the above facilities difference was noticed in the provision of IT supported facilities in a majority of the libraries. It is also observed in a few college libraries, essential facilities like drinking water and toilets are not available.

6.1.3 Library Timings

❖ On an average all engineering college libraries are open for 12 hours in a day on working days to enable the respondents maximum utilisation of the information resources and services of the library. Only five college libraries are kept open for reference on Sundays and Public Holidays.

6.1.4 Library Services

❖ Majority of the libraries under study provide both, traditional as well as the modern library, and information services. The services provided by the engineering college libraries are reference service, circulation service, user education/guidance service, online database service, current awareness service, and photocopy service. Except for SDIT, SIT, and MIET, other college libraries provide inter-library-loan service to its users. The reason is that these three colleges not established membership with DELENET. The MIT, NITK, NMAMIT, PACE and SJEC provide Wi Fi connection for the users inside the campus, hostels, and library to enable the users to access online resources through their laptops. These colleges also provide scanning and printing facility for the users inside the library.

6.1.5 Library Budget

❖ The budget of a majority of the colleges is distributed to books, journals (printed), and online journals whereas, the budget of CEC, SDIT, SIT, and
MIET is restricted to only books and printed journals. NITK and MIT deemed to be universities has the highest budget going above 85 lakhs followed by NMAMIT, above 25 lakhs. It is observed that majority of the colleges spent their highest budget on the book collection.

6.1.6 Library Automation and Networking

❖ All the responding libraries have automated their library operations with barcode technology. The automated units include circulation, cataloguing, serial control, and stock verification. Easylib software is found as the most popular software for library automation among the majority of the engineering college libraries. Other library software’s used are Libsys, FoxPro, and e-campus. Majority of the libraries provide OPAC access to their library catalogue through the intranet.

Majority of the engineering college libraries under study have fairly good information resources, facilities, and services. However MIT, NITK, and NMAMIT have better information resources, facilities, and services. This could be attributed to the fact that these college libraries have been established more than 25-50 years earlier as compared to other colleges. Hence NITK, MIT, and NMAMIT libraries are the biggest with all the facilities and very good infrastructure, and hence are the best among all the engineering college libraries in Dakshina Kannada and Udupi districts.

6.2 The Information Requirements and their Assessment by the Students, Faculty Members, and Research Scholars.

6.2.1 Population of the Study

The distribution of questionnaires among the eleven engineering colleges under study shows that

❖ The overall response rate of the sample studied is 89%. It reveals that the response rate from two colleges, MIT, MIET and SDIT is above 90%, whereas
responses from NITK, KVGCE, VCET, CEC, PACE, SJEC, SDIT, SIT, and NMAMIT is above 80%.

6.2.2 Respondents Characteristics

❖ Category wise responses received from the students shows that 878(87.9%) of the respondents belong to the student category, 88(100%) comprise of faculty members, and 132(89.7%) of the respondents are research scholars.

❖ Among the total respondents, majority (81.7%) are from urban engineering colleges, whereas only 18.3% are from rural colleges.

❖ (42.4%) of the respondents reside in the college hostel. Among them, majority (47.7%) of the students reside in the college hostel compared to faculty members (9.1%) and research scholars (29.5%).

❖ The age wise distribution shows that the largest group with 48.7% of the respondents belongs to the age group of 20-30; whereas 32.8% of the respondents are in the age group of below 20; the response is 9.4% in the age group of 31-40, and 7.8% in the age group of 41-50. Only 1.3% of the respondents are in the age group of above 50.

❖ The respondents are 66% males and 34% female. Student female respondents are more compared to other categories, male research scholars are more compared to other categories.

6.2.3 Preference of Channels of Information

It has been found that:

❖ A greater part of the respondents (91.2%) prefer friends/colleagues as their main channel for seeking information. It is found that next to friends/colleagues, the Internet is the preferred channel for seeking information (79.8%) for the respondents. The other important channels are faculty members/research supervisor (68.7%), self purchase (61.2%), conferences/seminar/refresher courses (55.2%), and other library and information centres (51.6%).

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The students (92%) and faculty members (89.8%) prefer friends/colleagues more compared to (86.4%) research scholars. It is because friends/colleagues are better able to understand their requirements and can communicate their own ideas more effectively. The preference for seeking information through the Internet is more (91.2%) among research scholars as compared to students (78%) and faculty members (79.5%). Research scholars need current information to keep them up-dated in their field of subject and they prefer the Internet as an important tool which provides instant results.

6.2.4 Purpose and Use of the Library

It is observed that:

The respondent’s main purpose of visiting library is to borrow books (94.1%) and to read newspapers and magazines (62.7%) and subject journals (printed) (48.8%).

Other purposes of library visit are: to consult reference documents (42.4%), to consult project reports (23.3%), to refer to conference/seminar proceedings (18.7%), to browse online journals (16.6%), to use online databases (12.7%), to refer theses/dissertations (11.6%), and to browse CD/DVD ROMS (11.3%).

The main purpose of visiting the library by students (94.6%), faculty members (90.9%), and research scholars (92.4%) is to borrow books. The next purpose by a majority of the students is to read newspapers and magazines (65.5%), whereas 71.6% of the faculty members and 73.5% of the research scholars visit the library to refer to subject journals (printed).

6.2.5 Frequency of Library Visit

It is noted that:

Maximum numbers of respondents (30.2%) visit the library daily, 22.3% of the respondents visit twice in a week, and 19% of the respondents visit the library once in a week. The remaining respondents visit once in 15 days, once in a month or occasionally.
Among the categories, majority (33.4%) of the students visit the library daily, (34.8%) of the research scholars visit the library twice in a week, and (32.9%) of the faculty members visit the library once in a week.

Among the daily visitors, females (44.5%) lead over males (22.8%). The same is observed with the twice in a weekly visitors. The reverse is observed among the weekly visitors.

6.2.6 Time Spent in the Library

It is observed that,

 Majority (43.1%) of the respondents spent below half an hour during each visit to the library. 38% of the respondents spend one to two hours and 15.3% of the respondents spend two to three hours during each visit to the library. Those who use the library for more than three hours are less (3.6%) in number.

59.1% of the research scholars and 56.8% of the faculty members spend one to two hours, whereas 47.8% of the students spent below half an hour during each visit in the library.

The cross examination with the frequency of visit and time spent in the library reveals that the students who visit the library daily spent less time as compared to research scholars and faculty members who visit less number of times and spend more time. The reason may be that faculty members and research scholars are engaged with their classroom assignments and laboratories, making it difficult to visit the library frequently.

6.2.7 Purpose of Information Seeking

The study has revealed that

Majority (87.1%) of the respondents purpose to use the library is for academic work, to update their knowledge about the latest development in their field of subject and to prepare projects (82.8%).
Other reasons for using the library resources are for seminars (65.7%), research work (35.6%), and for writing paper (29.2%).

Majority (92.6%) of the students and 89.8% of the faculty members main purpose of using the library resources is for academic work, whereas 93.9% of the research scholars use it for research work. This shows that, the respondents purpose of the use of information resources vary depending upon the requirements of their academic activity.

6.2.8 Information Resources Locating Strategy

It was noted from the study that:

The majority (73.9%) of the respondents prefer catalogue/OPAC to search for the required information resources from the library, followed by assistance of library staff (73.6%).

The other strategies of locating information resources in the library are consulting friends/colleagues, guide boards, website/database, faculty members/research supervisor, and attending conferences/seminars.

90.1% of the research scholars and 82.9% of the faculty members search the information resources in the library through the library catalogue/OPAC whereas students seek the assistance of the library staff (73.8%).

6.2.9 Modes of Communication

The study revealed that:

The notices/circulars are the preferred mode of communication among majority (68%) of the respondents, followed by new arrivals (57.4%) and library websites/web pages (52.3%).

While 67.5% of the students and 80.7% of the faculty members prefer notice/circulars as their mode of communication, 75.8% of the research scholars consider the library website/web pages as their preferred mode of communication.
6.2.10 Preference on Print and Electronic Resources

It is prominently noted that:

❖ Even in this electronic era respondents prefer print resources (62.9%) of the information resources from the library over the electronic resources (37.1%).

❖ The preference for print information resources is more among students (69.9%), compared to faculty members (47.7%) and research scholars (26.5%).

6.2.11 Awareness of Information Resources

It is revealed that:

❖ Majority (94.1%) of the respondents are aware of newspapers/magazines, reference books (92.6%), text books (89.2%), and subject journals (printed) (84%).

❖ Newspapers and magazines are the popularly known information resources among 93.2% of the students and faculty members (100%), whereas newspapers and magazines, text books, and online journals (96.2%) each, are well known information resources among research scholars.

❖ The awareness towards other information resources are CD/DVD ROMS (78.1%), project reports (72.7%), conference/seminar proceedings (69.9%), online databases (66.3%), online journals (62.7%), and standards (54.4%).

❖ The respondents are not much aware of important information resources such as e-books (5%) and theses/dissertations (46.8%). It is observed that, the collection of these resources in majority of the respondent libraries is very poor.

6.2.12 Importance of Information Resources

It is found that:

❖ Text books with a mean percentage of 86.33 are the most important information resources among the respondents, for academic and research work. Newspapers and magazines with a mean percentage of 71.98% are
considered as the next important information resource, followed by online journals (61.54%).

❖ All categories of respondents, viz., students (85.95%), faculty members (93.51%), and research scholars (84.41%) considered text books as their first important information resource. Students preferred newspapers and magazines with a mean percentage of 72.03 as their second preferred information resource, whereas faculty members and research scholars with mean percentage of 75.0 and 83.15 respectively considered online journals as their second preferred information resource.

❖ Other important information resources are subject journals (printed) and e-books.

❖ The least important information resources are CD/DVD ROMS with a mean percentage of 49.07, conference/seminar proceedings (46.93%), and project reports (44.84%).

6.2.13 Satisfaction level of Information Resources

It has been established that:

❖ Overall respondents with a mean percentage of 63.80 are moderately satisfied with the available information resources of their respective libraries. Further, the respondents are more satisfied with newspapers and magazines (78.59%), followed by text books (74.71%).

❖ Students with a mean percentage of 61.60 are moderately satisfied with the information resources. Whereas, faculty members and research scholars with mean percentages of 70.00 and 70.40, respectively are satisfied with the information resources of their library.

❖ Respondents are less satisfied with the collection of theses/ dissertations and e-books.
6.2.14 Gap on Importance and Satisfaction level of Information Resources

It is observed that:

❖ The gap is highly significant in all the information resources as p<0.01, for all the information resources.

❖ Among all the significant gap newspapers and magazines (0.33), online journals (0.33), subject journals (printed) (0.40), online databases (0.60), reference books (0.60), standards (0.66), CD/DVD ROMS (0.71), conference/seminar proceedings (0.79), and project reports (0.85) have positive gaps which shows that all these information resources are adequate.

❖ In the case of text books (-0.58), e-books (-0.86) and theses/dissertations (-0.16), the gap is negative, which shows that these resources are inadequate in the respondent engineering college libraries.

6.2.15 Satisfaction Level of Library Facilities

It is revealed that:

❖ Majority (90.1%) of the respondents are satisfied with the cleanliness, followed by lighting/ventilation (88.1%), power supply (87.7%) and space for reading (86%) facility of the library. Similar opinions are expressed by all categories of respondents.

❖ The respondents are not much satisfied with the toilets, drinking water, and equipments facility of their respective libraries.

6.2.16 Use of Internet

It is noted that:

❖ A vast majority (80.5%) of the respondents use the Internet, whereas few respondents (19.5%) don't make use of the Internet.

❖ Research scholars use the Internet more (95.5%) compared to faculty members (87.5%) and student (77.6%) respondents.
6.2.17 Place of Access of Internet

It is found that:

❖ A good number of respondents (53.5%) would like to use the internet at their home/hostel. 16.5% of the respondents prefer their department to access the Internet.

❖ 62.6% of the students prefer their home/hostel to access the Internet, whereas 77.9% of the faculty members and 68.2% of the research scholars prefer their department to access the internet.

❖ Other places to access the Internet facility are the computer centre (15.5%) and the library (14.5%).

6.2.18 Purpose of Using Internet

It is observed that:

❖ Majority of the respondents use the Internet to search specific information required for academic activity (77.6%), for e-mail communication (59.6%), and to browse online journals (56.8%).

❖ Majority of the faculty members (92.2%) and students (75.5%) use the Internet to search specific information required for their academic activity, whereas 81% of the research scholars use Internet to browse online journals.

6.2.19 Frequency of Use of Internet

It is observed:

❖ Majority (44.9%) of the respondents use the Internet occasionally whereas 33.7% of the respondents use it regularly.

❖ 51.6% of the research scholars use the Internet regularly, whereas 47.6% of the students and 41.6% of the faculty members use the internet occasionally.
6.2.20 Time Spent on Using Internet

It is revealed that:

❖ Majority (34.8%) of the respondents spent ½ hour to 1 hour using the Internet per day, 26.1% of the respondents spent below ½ hour, and 21.5% of the respondents spent 1 hour to 2 hours for the Internet per day.

❖ 37.4% of the students and 29.8% of the faculty members spent ½ hour to 1 hour using the internet per day, whereas 28.6% of the research scholars spent 1 hour to 2 hours using the Internet.

6.2.21 Satisfaction of Internet Facility

It is noted that:

❖ Most (66%) of the respondents were satisfied with the Internet facility, whereas 34% of the respondents were found to be not satisfied with the Internet facility.

❖ Majority (79.2%) of the faculty members and research scholars (77%) are satisfied with the Internet facility compared to students (62.4%).

6.2.22 INDEST-AICTE Consortium

It noted that:

❖ Majority (62.6%) of the respondents are not aware of INDEST-AICTE Consortium and only (37.4%) of the respondents are aware of this facility.

❖ Majority (90.9%) of the research scholars and 67% of the faculty members are aware of this facility, compared to 26.4% of the students.

6.2.23 Use of Electronic Resources

It has been found that:
 Majority (44%) of the respondents use IEL electronic resources followed by Springer link (40.9%) and Science Direct (38.9%) to search the required articles for their academic and research work.

 Majority (64.4%) of the faculty members and 47.4% of the students use IEL online resource, whereas 79.2% of the research scholars use Science Direct to search for required articles.

6.2.24 DELNET

It is observed:

 Majority (61.9%) of the respondents are not aware of the DELNET facility, whereas only 38.1% of the respondents are aware of this facility.

 Majority (66.7%) of the research scholars and 58% of the faculty members are aware of this facility compared to 31.8% of the students.

6.2.25 Use of DELNET

It is noted that:

 Majority (48.1%) of the respondents who are aware use the DELNET facility.

 84.3% of the faculty members and 62.5% of the research scholars use this facility compared to 36.9% of the students.

6.2.26 Awareness of Library Services

It is noticed that:

 Majority of the respondents are aware of the reference service (91.3%), followed by photocopy service (86.6%) and circulation service (77.1%) offered by their respective libraries.

 A similar opinion is expressed by the students and faculty members. Research scholars are aware of the photocopy service (94.7), reference service (93.2), and online database service (83.3).
Respondents are not much aware of important services like current awareness service (44.6%) and Inter-library-loan services (39.3%) offered by their respective libraries.

6.2.27 Utilisation of Library Services

It is found that:

- Majority (85.9%) of the respondents utilise the services offered by their libraries.
- Majority (97.7%) of the research scholars, (92%) of the faculty members, and (83.5%) of the students utilise the services of their libraries.

6.2.28 Satisfaction Level of Library Services

It is observed that:

- Majority of the respondents with an overall mean percentage of 69.60 are satisfied with the library services offered by their libraries.
- Students with an overall mean percentage of 66.00 are moderately satisfied with the services offered by their libraries, whereas faculty members with an overall mean percentage of 77.40 and research scholars with an overall mean percentage of 72.40 are satisfied with the services offered by their libraries.
- All categories of respondents are more satisfied with the reference service and photocopy service.
- It is further clear that students considered current awareness service (61.80%) and inter-library-loan service (58.01%) as the least satisfactory library services, whereas faculty members with mean percentage of 74.90 and 73.94 and research scholars with mean percentage of 69.38 and 64.10 considered user education and current awareness service respectively as the least satisfied services.
6.2.29 Overall Views and Opinions

The overall views and opinions of the respondents revealed the following findings:

a. Working Hours of the Library

❖ Majority (86.3%) of the respondents are satisfied with the existing working hours of their library, whereas 13.7% of the respondents are not satisfied with the working hours of their library.

❖ Majority (94.7%) of the research scholars and 90.9% of the faculty members are more satisfied compared to 84.6% of the students.

b. Reasons for not satisfaction with the working hours of the library

❖ Majority of the respondents expressed that reference section and digital library section timings should be extended beyond working hours, and the library should be kept open on Sundays and Public Holidays.

c. Availability of Current Journals

❖ Majority (60.4%) of the respondents opined that current journals are not available on time, in their respective libraries. A similar opinion is also expressed by all categories of respondents.

d. Impact of Electronic Resources on the Quality of Study, Teaching, and Research

❖ More than 95% of the respondents opined that electronic resources have helped them to improve the quality of their study, teaching, and research.

❖ The impact of electronic resources among faculty members (45.5%) and research scholars (46.9%) is high as compared to students (21.6%).
e. Attitude of Library Staff

❖ Majority (69.7%) of the respondents expressed that the attitude of the library staff is satisfactory, whereas 19.5% of the respondents feel partially satisfactory and the remaining 10.8% feel it as not satisfactory.

❖ Majority (97.7%) of the faculty members and 77.3% of the research scholars expressed that the attitude of the library staff towards them is satisfactory compared to 65.7% of the students.

f. Problems Faced While Searching for Information

❖ Majority (79.9%) of the respondents showed a positive opinion about searching information in their library. Whereas a few (20.1%) of the respondents faced problems while searching information in their library.

❖ Research scholars faced more problems (22%) compared to students (20%) and faculty members (18.2%).

g. Types of Problems Faced While Searching for Information are:

❖ Lack of time (49.8%) and limited access to computers with IT infrastructure (48.4%).

❖ Too much information retrieved (30.3%) is also a dominant barrier in accessing information.

❖ The other problems that come across are: lack of awareness in the use of library resources (29%), lack of information search skills (21.7%), and lack of staff assistance (11.8%).

❖ 75.9% of the research scholars faced the problem of too much information retrieved, whereas 75% of the faculty members face the problem of lack of time, and 51.1% of the students faced the problem of limited access to computers with IT infrastructure.
h. Sources Used to Solve the Problems

It is found that:

❖ Majority (56.6%) of the respondents solve the problems while searching information by themselves, whereas 40.3% of them seek the help of friends.

❖ The remaining seek the help of library staff (22.6%) and faculty members (11.3%).

i. Expressing Problems with the Librarian/Library Staff

It is noted that

❖ 49.2% of the respondents express their problems with the librarian/library staff and about half (50.8%) of the respondents do not express any problems.

❖ 80.7% of the faculty members and 63.6% of the research scholars express their problems to the librarian/library staff compared to 43.8% of the students.

j. Problems considered by the Librarian/Library Staff

❖ 34.8% of the respondents expressed that their problems are moderately considered by the librarian/library staff.

❖ 56.3% of the faculty members and 47.6% of the research scholars expressed that their problems are moderately considered whereas 30.1% of the students expressed that their problems are somewhat considered by the librarian/library staff.

k. User Education and Training Programme

It is found that:

❖ Majority (70.7%) of the respondents expressed that they need training on the area of awareness to the library resources and services.
❖ 59.7% of the respondents preferred to have training in the use of library catalogue/OPAC.

❖ Majority (73.3%) of the students would like to have training in the area of awareness to library resources and services, whereas 66.7% of the research scholars and 65.9% of the faculty members need to have training in the use of library catalogue/OPAC.

6.3 Findings in Relation to Hypotheses

The entire hypotheses formulated in the present study are tested and the results are shown here:

HYPOTHESIS 1: There is significant difference in the preference attached to the channels of information by students, faculty members, and research scholars.

It is found that respondents prefer various channels to seek information. A greater part of the respondents prefer friends/colleagues and the Internet (Table 5.13) as their main channel for seeking information.

Majority of the students and faculty members prefer friends/colleagues, whereas research scholars prefer the Internet as their preferred channel for seeking information (Table 5.14).

The data was analysed to find if there exists any difference among the respondents of different categories in their preference of the various channels of information. The chi-square test was conducted and significant difference is observed in the preference of channels of information seeking among the respondents of various categories ($\chi^2 (10) = 20.727, p=.023$ sig). Hence, hypothesis 1 is proved to be correct.
HYPOTHESIS 2: There is significant difference in the preference of information resources among the respondents of various categories.

It is observed (Table 5.29) that, majority (86.33%) of the respondents considered text books as the most important information resource for their academic and research work. 71.98% of the respondents considered newspapers and magazines as the next important information resource, followed by online journals (61.54%).

Comparative study among the categories found that most (85.95%) of the students, 93.51% of the faculty members, and 84.41% of the research scholars considered text books as their most important information resource. Newspapers and magazines (72.03%) are the next important information resource for the students, whereas 75% of the faculty members and 83.15% of the research scholars considered online journals as the next important information resource. The three least important information resources are CD/DVD ROMS (49.07%), conference/seminar proceedings (46.93%) and project reports (44.84%).

To test this hypothesis, the two way ANOVA test was applied and it was found that there is significant difference in the preference of various information resources \( F(2, 9773) = 328.890, p=.000 \) among various resources and resources and categories \( F(22, 9773) = 9.817, p=.000 \).

The Tukey HSD was done to further evaluate the above test and it was found that the difference is significant \( p=.000 \) among the students and faculty members, and among students and research scholars. But the difference is not significant \( p=.534 \) among the faculty members and research scholars. Hence hypothesis 2 is partially proved.

HYPOTHESIS 3: The respondents do experience inadequacy of information resources in the existing engineering college library collection.

The study revealed that the information resources in the engineering college libraries do not meet the respondents’ expectations. To confirm the results by categories and individual variables, the T-test was performed. It was observed that, the gap is highly significant in all the information resources as \( p<0.01 \), for all the
information resources (Table 5.39). Among all the significant gap, newspapers and magazines, online journals, subject journals (printed), online databases, reference books, standards, CD/DVD ROMS, conference/seminar proceedings, and project reports the gap is positive which shows that all these information resources are adequate in the respondent engineering colleges. Whereas, text books, e-books and theses/dissertations, the gap is negative which shows that these resources are inadequate in the respondent engineering college libraries. It is clear from the study that the information resources available in the respondent college libraries are not fully adequate to meet the requirements of the respondents. Hence, hypothesis 3 that respondents do experience inadequacy of information resources in the existing engineering college libraries is proved to be factual.

HYPOTHESIS 4a: There is significant difference in the satisfaction level of facilities among the respondents of various categories

It has been discovered (Table 5.41) that majority of the respondents are satisfied with the cleanliness, followed by lighting/ventilation, power supply, and space for reading facility of their library. Similar opinion is expressed by all categories of respondents. It was also found that all respondents and categories are not much satisfied with the toilets, drinking water, and equipments facility of their respective libraries. The Chi-square test was conducted and it was found that the satisfaction level of the library facilities ($\chi^2 (12) = 4.052, p = .982 NS$) is not significant among the respondents of various categories. Hence, hypothesis 4a is rejected.

HYPOTHESIS 4b: There is significant difference in the satisfaction level of library services by the respondents of various categories.

It is noted that, overall respondents are satisfied with the services offered by their libraries (Table 5.55). Research scholars and faculty members are satisfied whereas students are moderately satisfied with the services offered by their libraries (Table 5.56.1, 5.56.2 and 5.56.3).

Majority of the respondents are more satisfied with the reference service and photocopy service. Among them majority of the students and faculty members are
satisfied with the reference service, whereas majority of the research scholars are satisfied with the photocopy service. All respondents are less satisfied with the current awareness service and inter-library-loan service offered by their respective library. It is further clear that students considered current awareness service and inter-library-loan service as the least satisfied services, whereas faculty members and research scholars considered user education and current awareness service as the least satisfied service.

To assess the results, two way ANOVA test was conducted to verify the significance of relations among the services, as well as services and categories. It is evident that the difference is significant \( (F (2, 4464) = 46.007, p=.000) \) among the services, and among the services and categories \( (F (12, 4464) = 1.514, p=.111) \).

Next the Tukey HSD test was done to validate the test results. It was found that the difference is significant \( (p=.000) \) among students and faculty members and among students and research scholars, and it is statistically significant \( (p=.006) \) among faculty members and research scholars. Hence hypothesis 4b is accepted.

**HYPOTHESIS 5:** Research scholars attach more importance to electronic resources than print resources and there exists significant difference in the preference among the category of respondents.

It is revealed that (Table 5.26), research scholars prefer electronic resources more (73.5%) compared to faculty members (52.3%) and students (30.1%). The chi-square test was conducted to find if there exists any difference in the preference among the category of respondents and found that the difference is significant among the categories of respondents \( (\chi^2 (2) =102.205, p=.000) \). Hence hypothesis 5 is proved.