CHAPTER – 6

CONCLUSIONS

The summary and findings of the present study and the suggestions to improve the collection management in university libraries are presented in this chapter.

6.1 Introduction

In the electronic environment university libraries have built their library collections in print and electronic form. They have incorporated new web technologies that provide users better, dynamic, user friendly environment that is interactive and attractive with multimedia collections and services. Many university libraries are currently building substantial collections of full text journals in electronic format and continue to access various online databases. This created focused attention on functions of collection management in university libraries. In the changed information environment issues like planning, collection building, budgeting, organizing, processing, assessment, evaluation, access, licensing, digital preservation and dissemination of both print and electronic resources need to be discussed elaborately in collection development policy. It can be summarized that increased access to computers and internet paved the way to access many online journals and databases that are available as open access, on subscription and through consortium and thus increase the volume of scholarly information. Hence university libraries rely increasingly on digital resources like electronic journals, web based information gateways or electronic courseware balancing collection management procedures that address most critical issues of print and e-resource collection. Their participation in library consortia initiatives like UGC Infonet, INDEST, CeRA, NTRMEDNET etc lead to widen the scope of library collection and services for information dissemination at an affordable cost.

The changing collection management scenario raised an interest to know the collection management practices and user’s perspective on the collection with focus on electronic resources in university libraries of Andhra Pradesh. Hence the present study has been carried out to test the hypothesis and achieve objectives. As the study involves
seeking users’ opinion, survey method was adopted with questionnaire as a tool. The gathered data was analyzed with applicable statistical techniques (chapter 4 and chapter 5) and findings are summarized below.

6.2 Analysis of literature study

The literature study reveals that studies have been carried out worldwide to interpret recent growth, development and transformation of collection development to collection management. International associations like Digital Library Federation (DLF) and national associations and bodies like International Federation of Library Association (IFLA) and American Library Association (ALA) have made in depth study to gain firm knowledge on collection management and collection development policy in digital environment from time to time. They have brought out regular revisions to collection management. It is noteworthy to mention that the resultant outcomes were widely accepted and became popular in many university libraries worldwide. In recent years many newly developed models, standards and guidelines have been framed to address collection management in digital environment. A number of user studies were conducted to assess user behavior, their needs, use pattern of e-resource collections, adequacy of print and electronic collection, and collection management of print and electronic resources by user groups. The results have turned out to be vital to understand the usage pattern of full text journals and databases among university patrons. It is also observed that libraries have shifted focus from traditional libraries to modernized information centres. Consortia have played a major role as part of modernization of university libraries. This indicated that collection management has to be redefined in the light of changing digital environment considering e-resources along with print collection.

6.3 Profile of Universities and Libraries

The study area i.e. six university libraries and their users of Andhra Pradesh viz Dr V. S. Krishna library, Andhra University, ANGRAU Central library, University library, JNTUH, IGM library, UOH, Dr NTR UHS library and NALSAR library has been reviewed to have an understanding of the real situation. The profiles of the libraries indicate that universities are variant with regard to the subject/ courses they deal with.
However there is an underlying commonality of academic and research characteristics among the universities that helped to carry out a comparative analysis of the above mentioned libraries.

6.4 Findings based on librarians’ questionnaire

A total of six university libraries belonging to a heterogeneous sample specialized in different fields of disciplines like Agriculture, Arts and Sciences, Engineering, Health sciences, Law and a Central University offering conventional courses in A.P were covered under present study.

Among all six university libraries Dr V.S. Krishna library is the oldest (1926) and NALSAR library is recently established (2005) while ANGRAU Central library was established in 1964. University library, JNTUH was established in 1972 and IGM library, UOH in 1974 and Dr NTR UHS library in 1986. All the six university libraries possessed their own unique university website and university library e-mail address.

Findings on working hours reveal that IGM library, UOH functions for sixteen hours whereas Dr NTR UHS library functions for six hours as it reaches users online. The number of working days is approximately 361 days for all five university libraries except Dr NTR UHS library that functions for 295 days. Wicket gate hours/ circulation hours for IGM library, UOH and University library, JNTUH are the same as the opening and closing hours of the library but Dr V.S. Krishna library, AU, ANGRAU Central library and NALSAR library have its wicket hours/ circulation hours operate different from the library opening and closing timings. Dr. V. S. Krishna library, AU operate for twelve hours while the operating hours are nine in NALSAR library and six hours in ANGRAU Central library. (Table 4.1.1)

It can be assumed that the maximum use of library collections in the library premises is achieved by keeping the library open for more number of hours/days.

Library Organizational Structure

Findings on the existence and nature of the Library Committee reveal that all six university libraries have a library committee with librarian as secretary. The role of the librarian is advisory/ recommendatory in Dr. V. S. Krishna library, AU, ANGRAU
Central library, Dr. NTR UHS library, NALSAR library and executive in nature in University library, JNTUH and IGM library, UOH. (Table 4.2.1)

It can be inferred that both conventional university libraries as well as university libraries specialized in different fields of disciplines like Agriculture, Engineering, Health and Law have a Library Committee that functioned with the Librarian as main member involved in decisions making matters.

**Man power strength**

Human resources form an important component of any library system for efficient delivery of services. Findings on staff strength of university libraries reveal that, there are high variations between conventional university libraries and university libraries specialized in different fields of disciplines like Agriculture, Engineering, Health and Law. The conventional university libraries like IGM library, UOH (45) has the highest professional staff strength followed by Dr. V.S. Krishna library (24), AU whereas specialized university libraries functioned and managed their library activities with optimum number of professional staff in decreasing order i.e ANGRAU Central library (15), University library (13), JNTUH, NALSAR library (5) and Dr NTR UHS library (4). The variation may be due to the number of courses offered and the members to be served. (Table 4.2.2)

It can be inferred that conventional university libraries required more working staff compared to special university libraries that managed their library activities and services with optimum number of professional staff.

Regarding conducting training/ orientation programmes for professional staff the analysis reveals that all six libraries provide hands on training experience in the form of short term courses and workshops. In Dr V. S. Krishna library and NALSAR library training programmes are conducted through inhouse while NALSAR library, University library, JNTUH, IGM library, UOH and Dr NTR UHS library conduct training programmes through specialized refresher/ orientation/ workshop courses. ANGRAU Central library conducts training programme offsite. It reveals the continuing education/ training and active participation of library staff to keep abreast of latest developments. (Table 4.2.3)
It can be inferred that both conventional and special university libraries gave top priority for conducting training programmes for library staff.

**Budget**

Regarding sources of funds, it is found that UOH being a central university receives funds in varying degrees from UGC and Central Government, while AU, JNTUH and NALSAR are State Universities that are funded by State Government and UGC whereas ANGRAU supported by ICAR and State Grants while Dr NTR UHS is funded by A. P. State Government.

Findings on comparison of budgetary profiles of six university libraries based on their expenditure incurred under separate heads (books, periodicals, e-resources, maintenance) during the last three financial years (2008-2011) reveal that UOH, Central university enjoys a lion share worth Rs 3,3,20,000 from 2008-2009 with a gradual increase in its budget in 2010-2011 amounting to Rs 4, 73, 10, 000 from U. G. C. while NALSAR granted Rs 30, 00, 000 in 2008-09 and decreased to Rs 20, 00, 000 in 2010-11. (Table 4.3.1)

The findings on percentage allocated for e-resource collection from total budget reveal that only IGM library, UOH allocated highest percentage i.e 60% compared to others whereas ANGRAU Central library’s allocation is lowest i.e 30%. (Table 4.3.2)

The findings of expenditure on books range between (Rs1, 42, 68, 000) IGM library, UOH as highest spending while Dr. V. S. Krishna library (Rs 2, 53, 000) as the lowest. (Table 4.3.3)

The expenditure on periodicals reveal that IGM library, UOH had been on the top for three consecutive years from 2008-2011, having recorded the highest budget allocated for periodical collections in both print and electronic format. For print journal subscription IGM library, UOH has utilized Rs 1, 59, 50,000 and for e-journal subscription it allocated Rs 1,94,92,000 in 2008-2009 with a gradual increase to Rs 1, 92, 39, 000 for print journals and Rs 2, 07,20,000 for e-journals in 2010-2011., whereas NALSAR library has the lowest fund allocation with only Rs 3, 00, 000 for print journal subscription and Rs 11, 00,000 for access to e-journal subscription constantly for all the three consecutive years. (Table 4.3.4)
The findings of expenditure on maintenance of computer infrastructure reveal that IGM library, UOH had been on the top for the past three consecutive years having allocated Rs 12,00,000 in 2008-2009 that increased further to Rs 17,00,000 in 2010-2011 whereas NALSAR library allocated Rs 1,60,000 equally while University library, JNTUH spends consistently Rs 1,10,000 and Dr V.S. K library AU pays only Rs 1,00,000 regularly for past three consecutive years from 2008-2010. (Table 4.3.5)

The overall findings reveal that IGM library, UOH has highest total expenditure, followed by ANGRAU Central library, Dr V.S. Krishna library, University library, JNTUH and NALSAR library. The library budget allocation is primarily for periodicals followed by books as observed in both conventional and specialized university libraries. University libraries are subscribing to both print and electronic journals. They have shifted their attention to focus on access to e-journal subscription through their participation in consortia.

**Collection Development Policy (CDP)**

Overall finding on CDP reveal that both the conventional universities have well framed CDP statements, that are implemented but revision has not been taken up regularly whereas amongst specialized university libraries ANGRAU Central library and NALSAR library have CDP that is not revised and updated to include e-resource collection while University library, JNTUH and Dr NTR UHS library, do not have CDP. None of the university libraries have a comprehensive collection management policy addressing e-resource collection. (Table 4.4.1)

It can be inferred that all the six university libraries have CDP. However librarians should insist that library committee should move ahead constantly and bring about necessary changes by updating and revising its CDP statements with respect to electronic resource collection.

**Acquisition**

Acquisition of printed documents is one of the important functions of collection management as it involves judicious expenditure for acquisition of library collection both in print and electronic format. Findings are given below:
i. **Document Selection**

Findings on selection of library collection reveal that all six university libraries depend on faculty for document selection. (Table 4.5.1)

ii. **Book Order**

University libraries prefer paper medium to acquire books. They mainly followed publisher’s catalogue, books approved and recommended by faculty. Findings on placing order for books amongst six university libraries reveal that except ANGRAU Central library all the other university librarians prefer/practice to place order for books direct from publishers. ANGRAU Central library preferred to place order through quotations. No library has marked the modern practice of using online bookshops, e-mail orderings, remainders and electronic clearing of payments through ATM, VISA cards. (Table 4.5.2)

iii. **Criteria for selecting book suppliers**

Findings on the main criteria for selecting book suppliers reveal that both conventional universities and NALSAR library opined prompt service as first priority, followed by timely procurement as second priority and discount as third preference whereas ANGRAU and JNTUH considered discount as first priority, followed by variety of stocks and timely procurement of orders as third priority. (Table 4.5.3)

It can be inferred that selection of documents was based on the recommendations of faculty in all five university libraries. A uniform response was observed for placing book orders to publishers through vendors. Each university librarian had their individual preferences in selecting their book suppliers. Their opinion depended on the services and dedication rendered by their respective book suppliers.

**Consortial Acquisition**

All six libraries have the practice of subscribing print journals directly from publishers.

Consortia based journal subscription has many advantages along with certain limitations. Findings on participation of six university libraries in consortia initiatives reveal that both the conventional university libraries, University library,
JNTUH are members of UGC Infonet and INDEST consortia while NALSAR library is a member of UGC Infonet whereas ANGRAU Central library is member of CeRA and Dr. NTR UHS library has its own consortia called NTRMEDNET and subscribes to ERMED Consortia. (Table 4.5.4)

Findings on use statistics of consortia reveal that except NALSAR library other university libraries are having the use statistics of their consortia. It is updated monthly for ANGRAU Central library and IGM library, UOH and bimonthly for Dr. NTR UHS library and NALSAR library. Dr V. S. Krishna library, AU and University library, JNTUH it is updated once in six months. (Table 4.5.4)

Consortia coordinator maintains the e-journal use statistics for Dr. V. S. Krishna library, AU and ANGRAU Central library. Assistant librarian maintains the e-resource statistics for University library, JNTUH. Periodical section of IGM library, UOH maintains usage statistics supplied by consortia, available through publishers/aggregators. NALSAR library does not have the use statistics of e-resources. (Table 4.5.4)

It can be inferred that all six librarians favoured to participate in consortia for the subscription of journals and databases in electronic format.

**Resource collection**

**i. Strength of book collection**

Findings on strength of library collection reveal that Dr. V. S. K library, AU being one of the oldest traditional University library in the A P state has the highest print book collection of 4, 49, 069 documents followed by IGM library, UOH with 4, 14,020 and NALSAR library has the lowest book collection of 50,545 print documents. Dr.NTR UHS library is procuring only e-books. Their e-book collection strength is good during 2008, 2009 and 2010 but was reduced in 2011 while the other five libraries have not given details about their e-book collection. (Table 4.6.1)

**ii. Strength of periodical collection**

Findings on periodical collection reveal that conventional university libraries like IGM library, UOH has been on the top during the past three years from 2008-2010 with 394 foreign journals and 349 Indian journals, followed by Dr V. S. Krishna Library, AU
with 189 foreign journals and 191 Indian journals. On the other hand special university libraries like ANGRAU Central library has the next highest collection of 61 foreign journals and 212 Indian journals followed by University library JNTUH has 20 foreign journals and 132 Indian journals and NALSAR library has the lowest periodical collection accounting to 9 foreign journals and 72 Indian journals in print form. (Table 4.6.2)

IGM library, UOH has the highest e-journal collection worth 17,000 e-journals followed by ANGRAU Central library with 880 foreign e-journals and 6800 Indian e-journals; University library, JNTUH with 4800 e-journals, Dr. V.S. Krishna library AU having 1846 e-journals and least number of 600 foreign e-journals and 3 Indian e-journals is accessed by NALSAR library. Dr N.T.R. UHS is the only university library that does not subscribe to print journals but has access to 356 foreign e-journals. It has increased from 165 e-journals in 2008-09 to 356 e-journals in 2010-11. (Table 4.6.2)

It can be observed that there are wide variations in the collection strength among university libraries. The conventional universities offer a number of courses and that may be the reason to have more books and periodicals than specialized universities. The specialized university libraries being specialized in specific disciplines of Agriculture, Engineering, Health Sciences and Law deemed to have books and journals primarily limited to the core subject.

**Access to print and e-resource collections housed in university libraries**

Regarding access to print collections housed in university libraries the findings reveal that Dr V. S. Krishna library, AU and ANGRAU Central library provide access to print resources through library catalogue as well as through Online Public Access Catalogue (OPAC). The other four university libraries provide access to print resources only through OPAC and Web OPAC. (Table 4.7.1)

With regard to access to e-resource collections, analysis reveals that access is remote in universities through campus network and authentication is provided through IP address in all four libraries except at university library, JNTUH and IGM library, UOH where in it is provided through proxy server. (Table 4.7.1)
It can be inferred that both the conventional universities as well as special university libraries have initiated necessary steps to ensure easy and fast access to print and e-resource collections housed in university libraries. This initiation facilitated faculty and research scholars to retrieve relevant information.

**Technical Processing**

Findings on scheme of classification of printed documents in six libraries reveal that Dr V. S. Krishna library, AU, ANGRAU Central library, University library, JNTUH and IGM library, UOH follow manual classification, using Dewey Decimal Classification (DDC) scheme. University library, JNTUH and NALSAR library follow web based classification. (Table 4.8.1)

Manual cataloguing is practiced in Dr V.S. Krishna library and IGM library, UOH is following both manual and web based copy cataloguing whereas other four university libraries are following web based copy cataloguing. The sources used for copy cataloguing at ANGRAU Central library and IGM library, UOH is World Cat whereas University library, JNTUH follows Library of Congress and NALSAR library follows Web OPACs. (Table 4.8.1)

Regarding standards used to catalogue e-resources the findings reveal that ANGRAU Central library, IGM library, UOH and NALSAR library are using MARC format to catalogue e-resources and IGM library, UOH library is also using Dublin core meta data elements to catalogue e-resources. Dr V. S. Krishna library, AU and Dr NTR UHS library do not use any standards to catalogue e-resources. (Table 4.8.1)

It can be inferred that both conventional university libraries and specialized university libraries followed DDC classification system and cataloguing of books was manual for conventional university libraries and web based copy cataloguing was followed at special university libraries.

**Organization of Journals**

The findings on organization of print journals reveal that Dr V. S. Krishna library follows classified arrangement whereas ANGRAU Central library and IGM library, UOH
print journals are arranged alphabetically department wise and NALSAR library arranged print journals alphabetically by title. (Table 4.9.1)

With regard to organization of e-resources ANGRAU Central library and IGM library, UOH follow an integrated OPAC for print and e-resources whereas the other four libraries do not organize e-journals. (Table 4.9.1)

Regarding organization of CD-ROM collections it has been found that ANGRAU Central library, University library, JNTUH, Dr NTR UHS library and NALSAR library have a CD server where all its CD-ROM collections are housed whereas NALSAR library organizes CD ROM collections by accession number and records it in a register and both the conventional libraries loaded their CD-ROM collections onto a CD server but the access is not yet given to the user. (Table 4.9.1)

Findings on organizing of archives reveal that conventional libraries, ANGRAU Central library and NALSAR library organized them as issued originally by consortium whereas in University library, JNTUH and Dr.NTR UHS libraries archives are organized by subject category. (Table 4.9.1)

It can be inferred that technological advances like OPAC have attracted both IGM library, UOH i.e conventional and ANGRAU central library i.e special university library to use them in organizing and providing access to print and e-resource collections whereas the other four university libraries have not initiated any method to organize e-journals.

**Application of ICT for library management**

The findings on application of latest technologies like library automation, retroconversion, bar code technology, RFID technology, software to manage e-resources and digital library software in libraries reveal that all five libraries are automated using library automation software like Software for University library (SOUL) used in Dr V. S. Krishna library, AU, ANGRAU Central library uses LIBSYS automation package. University library, JNTUH and NALSAR library use VTLS and IGM library, UOH is using VIRTUA. (Table4.9.2)
The findings on retroconversion reveal that conventional libraries and NALSAR library have started retroconversions while other three specialized university libraries did not initiate. (Table4.9.2)

Finding on use of barcode technology reveals that conventional libraries, ANGRAU Central library and University library, JNTUH are using barcode technology. Only NALSAR library is using RFID technology whereas other specialized and conventional libraries have not introduced barcode technology. (Table4.9.2)

Regarding the use of anti-plagiarism software to manage e-resources reveals that only University library, JNTUH possesses anti plagiarism software to manage e-resources, whereas other five libraries do not have such software to manage e-resources. (Table 4.9.2)

Findings on use of digital library software library reveal that ANGRAU Central library and IGM library, UOH are using D-space digital library software whereas JNTUH and Dr V. S. Krishna library did not use any digital library software but Dr NTR UHS library has designed its own software digital library collections.(Table4.9.2)

It can be inferred that although digital library softwares like Greenstone were freely available and several organizations are involved in imparting training and manpower development libraries are not in a position to take part in digital library programmes. Similarly they are lagging behind in using RFID technology and antiplagiarism software to manage e-resources.

Licensing Policies

Findings on type of access, nature of renewal of licensing agreements and measures adopted to control copyright of e-resources reveal that both the conventional university libraries and two specialized university libraries have archival access but ANGRAU Central library and NALSAR library have archival access with back up copy.

Regarding nature of renewal of licensing agreement, the overall findings reveal that Dr V. S. Krishna library, AU, ANGRAU Central library and NALSAR library have automatic renewal on completion of the license period notice is issued for renewal to
University library, JNTUH and Dr NTR UHS library whereas at IGM library, UOH the licensor provides both automatic renewal and in some circumstances issues notice for renewal of licensing period. Findings on measures adopted to control copyright of e-resources reveal that University Library JNTUH, IGM library, UOH and Dr NTR UHS library have special security measures to protect copyright issues while Dr V. S. Krishna library, AU, ANGRAU Central library and NALSAR libraries have not initiated any measures to control the copy right issues of e-resources. (Table 4.10.1)

It can be inferred that more effort and meticulous planning is made by librarians from both categories of conventional and specialized university libraries to carefully analyze and edit license agreements to access e-resources.

**Additional features provided by licensor**

Findings on additional features provided by consortial licensor reveal that all six university libraries are provided with electronic links, archival and back up access to e-journals and databases. Dr V.S. Krishna library, AU, ANGRAU Central library and Dr NTR UHS library have the facility to make digital copies. University library, JNTUH, IGM library, UOH, Dr.NTR UHS library and NALSAR library do not have scholarly sharing while the other two university libraries Dr V. S. Krishna library, AU and ANGRAU Central library participated in scholarly sharing. (Table 4.10.2)

It can be inferred that both the conventional university libraries as well as the four special university libraries share almost the same features like providing electronic links, access to databases but in some context there are small variations amongst them. However, both the two categories of university libraries have created standard procedures in handling, organization and dissemination of e-resources.

**Problems faced with the licensor**

Findings on problems faced by libraries with consortium licensor reveal that Dr V.S. Krishna library, AU, Dr.NTR UHS library and NALSAR library do not face any problem with their licensors as they do not deal with licensor directly and access through consortia provider i.e. INFLIBNET, whereas ANGRAU Central library and IGM library, UOH faced the problem of fitting the license agreement with the needs of the library. University library, JNTUH and IGM library, UOH experienced the problem of
inflexibility on part of the vendor as they do not allow them to select and provide certain journals. (Table 4.10.3)

It can be inferred that both the conventional and special university librarians are facing major challenges while dealing with licensing agreements in order to access, search, copy and use the information contained in e-resource collections. Although there are problems while dealing with electronic products libraries have not hampered their users in accessing e-resources.

**Library Services**

There are a variety of user services offered by libraries both manually and online to help its patrons in better utilization of library resources in fulfillment of their needs. Findings on number of services offered by libraries reveal that reference and reprographic are the main services offered manually by both conventional and specialized university libraries. Both the conventional university libraries offered manually inter library loan service, current awareness service/ selective dissemination of information (CAS/SDI) and document delivery services as well as online document delivery services and online aggregator service. There are variations observed amongst specialized university libraries in providing services like CAS/ SDI, bibliography and web bibliography services that are offered manually and through online mode. (Table 4.11.1)

It can be inferred that both the conventional and specialized university libraries have not ventured to make maximum use of latest online web technologies to provide services to their users. Despite users demand for strengthening web-based services the study disclosed that only certain services have been implemented through online mode by these libraries.

**Maintenance and security**

Findings on collection maintenance and preservation of library collections in six libraries reveal that Dr V. S. Krishna library, AU, ANGRAU Central library, University library, JNTUH, IGM library, UOH and NALSAR library have framed separate data security policies.

Findings on framing separate weeding policies in these libraries reveal that ANGRAU Central library, IGM library, UOH and NALSAR library have collection
weeding out policy and it is implemented every two to five years whereas Dr V. S. Krishna library, AU and University library, JNTUH did not frame any weeding policies. Stock verification is carried out through shelf list, accession register and bar coding technology in conventional libraries and at ANGRAU Central library, University library, JNTUH but NALSAR library performs stock verification using RFID technology. (Table 4.12.1)

It can be inferred that both groups of convention and special university libraries except Dr NTR UHS library have adopted preservation strategies and separate data security policies to save and preserve archiving information that may have lasting value to its particular community of users. A number of manual efforts and technological devices have been practiced by both groups of university libraries to perform weeding and stock verification.

**Action taken against misusing collection**

Findings on action taken for misusing collection reveals that except Dr NTR UHS library the other five university libraries insist those users for missing and mutilated collections in the library by means of replacing the copy that is lost with the current edition or by charging the user four times the cost of the book. (Table 4.12.2)

It can be inferred that both conventional and special university libraries adopt similar disciplinary action for misusing library collection.

**Strategy followed to increase life span of digital objects.**

Findings regarding steps taken up to increase life span of digital objects reveal that conventional university libraries used migration method whereas a mixed response is observed amongst special libraries as they used different methods like replication method, durable media and technology preservation and digital archiving. (Table 4.12.3)

It can be inferred that both conventional and special university libraries have followed few different strategies to increase the life span of digital objects.
6.5 Findings based on users’ questionnaire

This section covers findings based on user’s opinions on purpose of using library, usage of e-resource collection and extent of adequacy of library collection and their level of satisfaction. Findings have been listed below:

**User category and response**

The faculty response reveal that University library, JNTUH (100%) has highest share in total response, followed by 92.85% from ANGRAU Central library, 91.89% from Dr NTR UHS library, 87.82% from Dr. V. S. Krishna library, 87.14% from IGM library, UOH and 75% from NALSAR library. (Table 5.1)

The response rate of research scholars reveals that cent percent responded from Dr .V. S. Krishna library, NALSAR library, 94.77% from IGM library, UOH, 90% from ANGRAU Central library and 55.55% from Dr NTR UHS library have responded. (Table 5.2)

**Gender wise breakup of respondents**

The overall findings regarding gender wise breakup of faculty respondents communicate that 52.9% are females and 47.1% are males.

The gender wise break up of faculty university wise reveals that male faculty is high at ANGRAU Central library (61.5%) followed by 48% from University library, JNTUH and 47.5% from both Dr V.S. Krishna library and Dr NTR UHS library, 44.4% from NALSAR library. Female faculty respondents are 68.9% from IGM library, UOH, 55.6% from NALSAR library and nearly 52% from University library, JNTUH, 52.5% from Dr V.S. Krishna library and 38.5% from ANGRAU Central library have been presented. (Table 5.1.1)

It can be inferred that both female and male respondents are not evenly distributed. This shows that female respondents are more when compared to male respondents among faculty.

It is observed that gender wise breakup of research scholar respondents reveals that 67.8% are males and remaining 32.2% are females.

The gender wise break up of research scholars reveals that male respondents include 90% at Dr NTR UHS library, 77.8% from Dr V. S. Krishna library, 77.8% from ANGRAU Central library, 69.3% from University library, JNTUH, 55.9% from IGM
library, UOH and 50% from NALSAR library. Female respondents are 50% from NALSAR library, 44.1% from IGM library, UOH, 30.7% from University library, JNTUH and 22.2% from Dr V.S. Krishna library and ANGRAU Central library and 44.1% from IGM library, UOH have been represented. (Table 5.1.2)

This shows that the percentage of male respondents is more when compared to female respondents among research scholars. It can be inferred that one fourth of research scholars are females while three fourth among research scholars constitute male research scholars.

**Users age wise classification of respondents**

It is observed that half of the faculty strength i.e. 50.5% belonged to the age group 40-50 years, followed by 28.8% over 50 years, while less than one fourth faculty strength i.e. 19.70% lie between 30-40 years and only 1% faculty is between 20-30 years.

The age wise classification of faculty respondents reveals that only 4.9% from IGM library, UOH represented the age group 20-30 years while 48% from University library, JNTUH followed by 38.2% from Dr NTR UHS library and 18.8% from Dr V.S. Krishna library belonged to age group 30-40 years; as high as 88.9% from NALSAR library, 66.2% from ANGRAU Central library, 62.3% from IGM library, UOH, 44.1% from Dr NTR UHS, 39.6% from Dr V.S. Krishna library and 20% from University library, JNTUH belonged to age group 40-50 years (Table 5.1.3)

It can be concluded that a significant number of teaching faculty belonging to middle age group have been represented when compared to other categories of age groups. This shows that faculty belonging to age group 40-50 years comprised nearly half of the total respondents when compared to other age groups.

The overall findings regarding age wise classification of research scholars respondents reveal that 95.7% belongs to age group of 20-30 years whereas 0.2% research scholar belonged to 40-50 years and one tenth of research scholars i.e. 9.6% belonged to age groups 30-40 years.

The age wise classification of research scholars reveal that cent percent at ANGRAU Central library and Dr NTR UHS library, followed by 99.3% from IGM library UOH, 96.6% from University library, JNTUH, 90.4% from NALSAR, 90.4% from Dr. V. S. Krishna library belonged to age group 20-30 years and 10% from
NALSAR library, 9.6% from Dr V. S. Krishna library and 3.4% from University library, JNTUH belonged to age group 30-40 years. (Table 5.1.4)

It can be concluded that that majority of research scholars comprised of a relative young profile who are in their early thirties.

Visit to library

It is observed that as high as 90.2% of faculty respondents from six university libraries visit their university library while the remaining 9.8% do not visit.

The university wise findings on faculty visit to university library reveal that IGM library, UOH and NALSAR library have cent percent faculty visits followed by 98.5% from ANGRAU Central library, 89.1% from Dr V.S. Krishna library, 76% from University library, JNTUH and 34% from Dr NTR UHS library. (Table 5.2.2.1)

It can be concluded that a significant number of faculty belonging to six university libraries under study pay a visit to university library. The probable reason may be that these specialized university libraries like ANGRAU (Agriculture) offer good facilities for working and learning whereas Dr NTR UHS (Medical) offers online services to its medical professionals who may access its services even without entering library premises.

The overall finding on gender wise analysis of faculty respondent visit to library shows that 47.1% of female faculty and 43.1% of male faculty visit university library while the remaining 4.1% male faculty and 5.8% female faculty do not visit the library.

The university wise findings of gender wise visit to library reveals that as high as 60% male faculty from ANGRAU Central library, followed by 44.4% from NALSAR library and 68.9% female faculty from IGM library, UOH, followed by 55.6% from NALSAR library visit university library. (Table 5.2.2.2)

It can be concluded that female faculty respondents visit the library more than their counterparts.

The overall finding of research scholars’ visit to library reveals that 96.1% visit their university library and a small percent 3.9% do not visit university library.

The university wise findings on research scholars visit to library reveal that cent percent research scholars from four university libraries pay a visit to their university
library except 3.4% and 9.6% research scholars at University library, JNTUH and Dr. V.S. Krishna Library, AU. (Table 5.2.6)

It can be concluded that majority of research scholar respondents from all six university libraries visit libraries and consider it indispensable for research, irrespective of subject of specialization viz. Agriculture, Medicine, Law, Engineering or Sciences and Social Sciences.

The overall finding on gender wise analysis of research scholar visit to the library shows that 65.2% males and 30.9% female research scholars visit university library while 2.7% males and 1.2% female research scholars do not visit.

The university wise findings on research scholars gender wise visit to library implies that 90% male research scholars from Dr NTR UHS library, 72.6% from Dr V.S. Krishna library and 50% female research scholars from NALSAR library, 44.1% from IGM library, UOH visit their institutional library. (Table 5.2.7)

The probable reason for this variation may be that the disciplines like Law, Medicine, Engineering, and Agriculture require in-depth study in respective fields when compared to disciplines like Social Sciences. Hence male and female research scholars from specialized disciplines visit the library more when compared to science and social sciences scholars.

**Reasons for not using library**

The overall opinion of faculty respondents for not using library indicates that 96.5% of faculty rated adequate personal collections as first priority and 3.5% opined it as second priority.

The university wise findings on reasons for not using library by faculty respondents reveal that 32.4% from Dr NTR UHS library, 24% from University library, JNTUH and 10.9% from Dr V. S. Krishna library ranked adequate personal collections as first preference and dependence on internet as second priority. 16% faculty from University library, JNTUH, followed by 11.8% from Dr NTR UHS library and 2% faculty from Dr V. S. Krishna library opined library is too far. (Table 5.2.2.3)

It can be concluded that faculty respondents who do not visit library preferred to rely more on internet and their own personal collections. The probable reason may be that
vast amount of relevant information could be downloaded immediately with assistance of internet crossing time and geographic boundaries.

The overall opinion of research scholar respondents for not using library reveals that adequate personal collections as major reason as indicated by the figures 3.5% as first priority and 0.4% opined it as second priority

The university wise findings on reasons for not using library by research scholars who do not pay visit to library reveal that 9.6% from Dr V.S. Krishna library and 3.4% from University library, JNTUH marked possessing adequate personal collections as first priority. (Table 5.2.2.8)

It can be concluded that small percent of research scholars belonging to six universities do not visit university library either due to adequate personal collections or because of greater dependence on internet to gather information. However non users are minimal compared to potential users.

**Frequency of library visit**

The overall opinion of faculty respondents visit to library reveals that 30.1% faculty visit university library daily, followed by 27.1% who visit occasionally, about 25.9% visit twice a week and 16.9% visit once a week.

The university wise findings on frequency of library visit by faculty reveal that 55.6% respondents from NALSAR library, 43.8% from ANGRAU Central library visit library daily; 26.7% from Dr V. S. Krishna library, 22.2% from NALSAR library visit once in a week; 39.3% from IGM library, 31.6% from University library JNTUH visit twice a week and 78.3% from Dr NTR UHS library visited occasionally. (Table 5.2.2.4)

It may be inferred that one fourth of faculty visit either occasionally or twice a week where as fluctuations are observed amongst faculty visiting daily and once a week to the library. The findings show that there are variations among faculty from different disciplines with regard to visit institution’s library.

The overall opinion of faculty respondents gender wise visit to university library reveals that 14.3% males and 15.8% females visit library daily, followed by 7.5% males and 9.4% females visit once a week, while 14.7% males and 11.3% females visit twice a week and 11.3% males and 15.8% females visit occasionally.
The university wise findings on faculty’s gender wise visit reveals that ‘daily’ visit by 31.3% males respondents from ANGRAU Central library and 44.4% female respondents from NALSAR library; once a week’ visit was made by 12.2% males from Dr V. S. Krishna library, 11.1% males from NALSAR library and 14.4% female respondents from Dr V. S. Krishna library and 11.1% females from NALSAR library; twice a week was marked by 22.2% males from NALSAR library, 21.1% males from University library, JNTUH, 16.4% males from IGM library, UOH and 23% females from IGM library, UOH and 15.6% females from ANGRAU. (Table 5.2.2.5)

It can be inferred that faculty of both genders from all six university libraries vary in their frequency of visit to library. This difference may be attributed to discipline of specialization of individual university libraries under study.

The overall opinion on frequency of visit by research scholar respondents reveal that 27.1% visit daily followed by 24.4% occasionally, 23.4% visit twice a week and 15.3% visit once in a week.

The university wise findings on frequency of library visit by research scholars reveals that 55.6% from NALSAR library, 43.1% from ANGRAU Central library visit daily; 23.8% from Dr V.S. Krishna library, 22.2% from NALSAR library, 16.9% from ANGRAU visit once a week and 39.3% from IGM library, UOH, 30.8% from ANGRAU Central library, 24% from JNTUH, 22.2% from NALSAR library visit twice a week and occasional visit is marked by 52.9% from Dr NTR UHS library and 48% from University library, JNTUH (Table 5.2.2.9).

It can be inferred that majority of research scholars visit their library daily followed by occasional visit. The probable reason may be that scholars reside on campus during their course of study and prefer to do much of their study daily at library whereas occasional visit may be due to other assignments at hand that kept them away from visiting library.

The overall opinion of research scholars gender wise visit to university library reveals that 21.7% males and 9.7% females visit daily, while 13.9% males and 7.9% females visit once a week; twice a week visit is marked by 24% males and 10.5% females and 8.2% males and 4.1% females visit occasionally.
The university wise analysis of research scholars gender wise breakup on frequency of visit to library reveals that 40% males as well as females at NALSAR library, 36.1% males at Dr V.S. Krishna library, 33.3% from ANGRAU, 22.8% males and (20.7%) females from IGM library, UOH visit ‘daily’; ‘once a week’ visit is represented by 22.2% males and 22.2% females from ANGRAU Central library, 19.7% males from DR V. S. Krishna library. ‘Twice a week visit’ was marked by 38.8% males and 16.5% females at University library, JNTUH visit twice a week and occasional visit was opined by 80% male and 10% females at Dr NTR UHS library, 9% males from Dr V. S. Krishna library. (Table 5.2.2.10)

It can be inferred that research scholars’ visit to library is differs between the universities; males are most frequent visitors than their counterparts. The findings also reveal that there are variations among research scholars of different disciplines visiting university libraries.

**Purpose of using library**

The overall opinion of faculty regarding ranking purpose of using library revealed that 61.70% marked research as their first preference, 14.60% ranked it as 2nd and 2.0% opined it as third priority.

The university wise analysis on purpose of using library by faculty reveals that 67.30% from Dr V. S. Krishna library, 90.8% from ANGRAU Central library and 80.3% from IGM library, UOH prefer to use library for research purpose; 41.6% from Dr V. S. Krishna library, 86.9% from IGM library UOH and 58.8% from Dr NTR UHS library ranked publication as second preference. Teaching is preferred as third criteria for 68% from University library, JNTUH, 82.4% from Dr NTR UHS library and 44.45% from NALSAR library. (Table 5.2.2.1)

It can be concluded that faculty respondents from six university libraries preferred research and publication as most important reasons for utilizing library. Only one fourth of faculty preferred to use library for teaching purpose. There is no difference in this regard among faculty of different disciplines viz. Agriculture, Medicine, Law, Engineering, Sciences and Social Sciences.
The overall opinion of research scholars’ purpose of using library reveals that 83.1% opined research as first priority, 6.6% ranked it as second preference and 2.3% expressed it as third priority.

The university wise analysis on purpose of using library by research scholars reveals that ‘research’ is the primary purpose as cent percent from DR NTR UHS library, 86.9% from both IGM library, UOH, and University library, JNTUH, 80.7% from Dr V. S. Krishna library, 77.8% from ANGRAU Central library. Publication was marked by cent percent research scholars from Dr NTR UHS and 81.3% from University library, JNTUH followed by 71% from IGM library, UOH, 66.70% from ANGRAU Central library while 33.3% from Dr V. S. Krishna library, AU stated as second preference. (Table 5.2.2.12)

It can be inferred that the primary purpose of using library by research scholars is research, followed by publication, which is obvious. The findings show that there are variations in the ranking of their reasons by research scholars of different disciplines they are associated with.

**Visit to other LICs**

The overall opinion of faculty respondents’ visit to other LICs indicates that 89.80% of faculty respondents do not visit other libraries while 10.20% visit other library and information centres.

The university wise finding on visit to other LICs by faculty reveals that 16.80% from Dr V. S. Krishna library, AU followed by 13.80% from ANGRAU Central library respondents visit other library and information centres. (Table 5.2.3.1)

The overall opinion of research scholars visit to other LICs by research scholars reveal that 89.80% do not visit other libraries while 30(10.20%) visit other library and information centres.

The university wise findings on visit to other LICs by research scholars reveal that 80% from Dr NTR UHS library, followed by 33.3% from ANGRAU Central library, 16.3% from Dr V. S. Krishna library visit other library and information centres. (Table 5.2.3.2)

The figures of those who are visiting other libraries are not significant, hence can be concluded that users are primarily depend on their institutional library.
E-resource collection

Awareness about e-resource subscription

The overall opinion of faculty and research scholars opinion on awareness about e-resource subscription by library reveals that there is cent percent awareness in the faculty and research scholar respondents from six university libraries. (Table 5.3.1.1 and 5.3.1.2)

It can be concluded that cent-percent respondents from both faculty and research scholars belonging to six university libraries are aware about e-resource collections subscribed in their respective libraries.

Preferred location to access e-resources

The overall opinion of faculty respondents on the preferred location to access e-resources indicated that 86.40% preferred to have a central browsing centre as first priority, 5.10% marked it as second preference and 8.50% indicated it as their third priority.

The university wise findings on preferred location for accessing e-resources by faculty respondents reveal that cent–percent faculty of NALSAR library, 94.1% from Dr NTR UHS library, 96% from University library, JNTUH, 88.5% from IGM, UOH library, 86.10% from Dr V. S. Krishna library and 88.5% from ANGRAU Central library preferred campus browsing centre as first priority; Residence/ home was preferred by cent percent from University library, JNTUH, 88.9% from NALSAR library, 83.1% from ANGRAU Central library, 82.4% from Dr NTR UHS library, and 80.2% from Dr V. S. Krishna library; (Table 5.3.1.3)

It can be concluded that teaching faculty preferred campus browsing centre to access e-resources rather than from their own department.

The overall opinion of research scholar respondents regarding preferred location to access e-resources reveals that 86% prefer to access e-resources from their home/residence i.e. hostel as first priority, 5.40% marked it as second priority and 8.70% ranked it as third priority.
The university wise findings on preferred location for accessing e-resources by research scholars reveals that cent-percent research scholars of Dr NTR UHS library, 88.9% from ANGRAU Central library, 86.4% from University library, JNTUH and 83% from Dr V.S. Krishna library, AU preferred residence/hostel as first priority; 90% from Dr NTR UHS and NALSAR library used department to access e-resources. (Table 5.3.1.4)

It can be concluded that significant number of respondents from both categories in all six university libraries access e-resources at different locations convenient to them. Faculty from six universities preferred campus browsing centre where as research scholars preferred residence (hostel) and department to access e-resources.

**Purpose of using e-resources**

The overall opinion on the purpose of using e-resources by faculty reveals that 56.60% respondents ranked ‘research’ as first priority while 21.79% marked it as second and 3.4% ranked it as third priority.

The university wise findings on purpose of using e-resources by faculty reveals that cent percent IGM library, UOH, 91.1% from Dr V. S. Krishna library, 90.8% from ANGRAU Central library opined research; 88.2% from Dr NTR UHS, 83.6% from IGM library, UOH, 80% from University library, JNTUH used library for publication; 77.8% from NALSAR library and 76.5% from Dr NTR UHS utilized it for teaching, 68% from University library, JNTUH used library for self improvement; cent percent from NALSAR library, 79.4% from Dr NTR UHS library used the library for seminar/workshop presentations. (Table 5.3.2.1)

It can be concluded that majority of faculty from all six universities opined varying degrees of preference with research as top priority, followed by teaching and publication.

The overall opinion of research scholar respondent’ purpose of using e-resources reveals that 80.20% marked research as first, 7.80% marked it as second and 3.90% opined it as third priority.

The university wise analysis of the purpose of using e-resources by research scholars reveals that cent percent from Dr NTR UHS library, 94.3% from University
library, JNTUH and Dr V. S. Krishna library, 88.9% from ANGRAU Central library opined research; cent percent of Dr NTR UHS library, 94.3% of University library, JNTUH used for publication; 90% from Dr NTR UHS library and NALSAR library used for seminar and workshop presentations. (Table 5.3.2.2)

It can be concluded that though research scholars from all six university libraries have research as their aim in utilization of the library they have given equal importance to self improvement & presentations in seminar/workshop. Therefore it can be inferred that users of both categories are making a purposeful use of e-resources in their respective areas and there is no variation of their opinion based on the discipline they are associated with.

**Type of e-resources**

The overall opinion of faculty ranking in the use of different types of e-resources reveals that 37.60% ranked e-journals / magazines as first priority, 31.50% preferred it as second and 21% marked it as third preference.

The university wise findings on types of e-resources used by faculty reveal that e-journals used by cent percent from NALSAR library and Dr NTR UHS library, 92% from University library, JNTUH, 89.1% from Dr V. S. Krishna library, 86.2% from ANGRAU Central library. E-books are used by cent percent from NALSAR library and University library, JNTUH, 97.1% from Dr NTR UHS library while 78.2% from Dr V. S. Krishna library, 80% from University library, JNTUH used abstracting/ indexing databases and 96% used e-news papers. (Table 5.3.3.1)

It can be concluded that depending on the need and necessity of requirement the faculty respondents from six university libraries used e-journals that are subscribed by their respective university library.

The overall opinion of research scholars in the use of different type of e-resources reveal that 57.10% ranked e-journals/ magazines as first preference, 19.80% ranked it as second and 17.90% marked it as third priority.

The university wise findings on types of e-resources used by research scholars reveal that cent percent from NALSAR library and Dr NTR UHS library, 99.4% from University library, JNTUH, 97.2% from IGM library, UOH, 88.9% from ANGRAU
Central library, 85.9% from Dr V. S. Krishna library used e-journals; 80% from Dr NTR UHS library used research reports, cent percent from NALSAR library, 97.7% from University library, JNTUH, 86.9% from IGM library, UOH, 63.7% from Dr V. S. Krishna library used e-books (Table 5.3.3.3)

It can be inferred that majority of respondents from research scholars group frequently used e-journals and magazines, followed by e-research reports and e-books.

Criteria for using e-resources

The overall opinion of faculty ranking criteria for using e-resources reveals that 32.90% ranked speed of access as first priority, 13.60% marked it as second and 15.30% ranked it as third.

The criteria for using e-resources by faculty reveal that 97.1% from Dr NTR UHS library, 96% from University library, JNTUH main criteria easy access; 77.8% from NALSAR library, 73.5% from Dr NTR UHS library, 60.7% from IGM library UOH considered speed of access, 96% from University library, JNTUH, 88.2% from Dr NTR UHS library preferred reliability and 96% from University library, JNTUH, 91.2% from Dr NTR UHS library, 77.8% from NALSAR library and 60.7% from IGM library UOH considered currency as the primary criteria. (Table 5.3.4.1)

It can be concluded that faculty considered easy access to e-resources as the main criteria, followed by reliability and currency.

The overall opinion of research scholars ranking criteria for using e-resources reveals that 40.60% marked currency as first, followed by 9.30% marked it as second priority and 20% ranked it as third priority.

The main criteria in using e-resources by research scholars reveal that 97.2% from University library, JNTUH, 80% from Dr NTR UHS library, 70% from NALSAR library considered currency; 90% from Dr NTR UHS library, 80% from NALSAR library, 71% from IGM library, UOH considered speed of access; cent percent from Dr NTR UHS library, 86.4% from University library, JNTUH, 80% from NALSAR library, 77.8% from ANGRAU Central library, 73.8% from Dr V. S. Krishna library preferred easy access; 83% from University library JNTUH and 80% from Dr NTR UHS opined reliability. (5.3.4.3)
It can be concluded that both category of respondents from all six university libraries opined easy access as first criteria, followed by currency, reliability, speed of access and more important is identified as least.

**Techniques used for searching e-resource**

The overall opinion of faculty respondents in ranking browsing techniques for searching e-resources implies that 59.30% preferred search engines as first priority, 12.90% rated it as second and 5.80% marked it as third priority.

The technique used for searching e-resource by faculty reveal that cent percent from University library, JNTUH, 85.3% from Dr NTR UHS library, 82.2% from Dr V. S. Krishna library used search engine; cent percent from University library, JNTUH, 97.1% from Dr NTR UHS library, 88.9% from NALSAR library, 60% from ANGRAU Central library used subject gateways; 82.4% from DR NTR UHS library, 72% from University library, JNTUH, 66.7% from NALSAR library, 55.7% from IGM library, UOH used library portals. (5.3.5.1)

It can be concluded that faculty used search engines, followed by subject gateways and library portals to search e-resources. This variation may be due to lack of awareness about university library portal amongst faculty members and frequent acquaintance and use of search engines and subject gateways.

The overall opinions of research scholars ranking browsing techniques to access e-resources reveal that 67.60% preferred search engine as first priority, 9.30% cited it as second preference and 4.50% ranked it as third priority.

The techniques used by research scholars reveal that 90.3% from IGM library, UOH, 70% from NALSAR library, 70.4% from Dr V. S. Krishna library, 87.5% from University library, JNTUH, 60% from Dr NTR UHS library used search engines; 86.9% from IGM library UOH, 80% from Dr NTR UHS library, 81.2% from University library, JNTUH used subject gateways; cent percent from Dr NTR UHS library, 66.7% from ANGRAU Central library, 51.1% from University library, JNTUH preferred to browse by library portals, (Table 5.3.5.2)

It can be concluded that majority of respondents from four university libraries preferred search engines and subject gateways while respondents from Dr NTR UHS
library and ANGRAU Central library preferred library portals. This indicates that agriculture and medicine research scholars are familiar with their library portals.

**Problems in accessing e-resources**

The overall opinion of faculty ranking problems faced in accessing e-resources reveals that 36.60% faculty consider power failure as the major problem, while the same reason is stated by 13.60% as second and 6.40% marked it as third priority.

The problems faced by faculty respondents while accessing e-resources reveal that 77.8% from NALSAR library, 82.4% from Dr NTR UHS library, 68% from University library, JNTUH, 56.4% from ANGRAU and Dr V. S. Krishna library marked power failure. Low speed of internet opined by cent percent from NALSAR library, 70.3% from Dr V. S. Krishna library, 68% from University library, JNTUH, 58.8% from Dr NTR UHS library and very short time to access expressed by 50.8% from IGM library (Table 5.3.6.1)

It is inferred that most of faculty respondents opined power failure and low speed of internet and very short time to access as the problems they have been encountering while accessing e-resources from library. Library authorities may take additional measures like providing backup power supply by using generators during power breakdown and increasing the broad band for faster and easy access to internet.

The overall opinion of research scholars ranking problems faced in accessing e-resources reveals that 33% experienced low speed of internet as primary problem, that was supported by 14.20% and 9.90% who marked it as second and third priority.

The problems faced by research scholars while accessing e-resources reveal that low speed of internet marked by cent percent NALSAR library, 67.4% from Dr V. S. Krishna library, 62.1% from IGM library, UOH and power failure opined by 70% from Dr NTR UHS library, 67.6% from University library, JNTUH, 60% from NALSAR library (Table 5.3.6.2)

It can be inferred that majority of research scholar respondents have difficulties in using e-resources. The specific problems experienced by majority of respondents from all six university libraries are low speed of internet, frequent power failure, and very short time to access.
**Frequency of using e-resources**

The overall opinion of faculty regarding frequency in accessing e-resources reveals that 48.50% accessed e-resources every-day, followed by 22.40% once in a week, 9.2% twice a week and 20% accessed e-resources occasionally.

The frequency of using e-resources by faculty reveal that cent percent from Dr NTR UHS library, and NALSAR library access daily; 52.5% from University library JNTUH access once in a week and 36.6% from Dr V. S. Krishna library and 29.2% from ANGRAU Central library accessed daily and occasionally. (Table 5.3.7.1)

It can be inferred that majority of faculty use e-resources daily while very few accessed twice a week.

The overall opinions of research scholar respondents regarding frequency in accessing e-resources reveal that 39.40% accessed daily, followed by 22.50% connected twice a week, 20.40% of them accessed occasionally and 17.70% accessed once a week.

The use of e-journals by research scholars reveals that cent percent from NALSAR library, 80% from Dr NTR UHS library accessed daily; 44.4% from ANGRAU accessed once a week and 42.6% accessed twice a week and 31.9% from Dr V. S. Krishna library accessed occasionally. (Table 5.3.7.2)

It can be concluded that highest percentage of research scholars access to e-resources varies as daily, once a week and twice a week.

**Number of e-journals accessed through consortium**

The overall opinions of faculty in accessing the number of e-journals reveal that 22.7% accessed less than 20 e-journals, 46.4% retrieved between 20-40 e-journals and 30.8% accessed more than 40 e-journals from their concerned subject.

The university wise findings regarding the number of e-journals accessed through consortium by faculty reveal that 66.7% from NALSAR library, 35.4% from ANGRAU Central library and Dr V. S. Krishna library accessed less than 20 e-journals; 95.1% from IGM library, UOH accessed between 20-40 e-journals; 92% from University library, JNTUH, 76.5% from Dr NTR UHS library accessed more than 40 e-journals. (Table 5.3.8.1)
It can be concluded that majority of faculty accessed between 20-40 e-journals while minimum faculty retrieved less than 20 e-journals from consortium. This implies that e-journals accessed have satisfied faculty in their search for relevant information and they are making the best use of consortium. It also indicated that there is difference among the faculty of different disciplines Viz. Agriculture, Law, Medicine, Engineering, Sciences and Social Sciences in the use of number of e-journals. The number of e-journals accessed may be a quantitative figure but the quantity will lead to quality hence the measure has significance.

The overall opinions of research scholars accessing number of journals from consortium reveal that 54.60% of them access between 20-40 e-journals relevant to their subject, 23.90% retrieve less than 20 journals and 21.40% could utilize more than 40 e-journals concerned in their subject from relevant consortia.

The number of e-journals accessed from consortium by research scholars reveals that 90% from NALSAR library, 55.6% from ANGRAU Central library, 50.4% from Dr V. S. Krishna library accessed less than 20 e-journals; 65.9% from University library, JNTUH and IGM library, UOH accessed between 20-40 e-journals and 50% from Dr NTR UHS library accessed more than 40 e-journals. (Table 5.3.8.3)

It can be concluded that majority of research scholars accessed e-journals ranging between 20-40 and minimum percent of research scholars could access more than 40 e-journals from consortia subscribed by libraries from six university libraries. The reason may be due to proliferating growth of interdisciplinary subjects.

**Website used to access online journals**

The website used to access online journals by faculty reveals that 45.4% marked library websites as first priority, 10.2% as second and 13.6% marked it as third priority.

The website used by faculty of various universities to access online journals reveal that 96.8% from IGM library, UOH, 78.4% from ANGRAU central library preferred library website; cent percent from NALSAR library, 80% from University library, JNTUH, 68.3% from Dr V. S. Krishna library preferred publisher website; cent percent from University library, JNTUH and NALSAR library, 97.1% from Dr NTR
UHS library, 57.4% from Dr V. S. Krishna library used consortia provider website. (Table 5.3.9.1)

All six university libraries have library’s webpage that formed a common vehicle for delivery of instruction and information. It can be concluded that majority of faculty preferred library websites, consortia provider websites and publisher websites in that order to access online journals.

The overall opinions of research scholars indicates that 35.3% of research scholars marked consortia provider websites as first, 19.4% marked it as second and 23.3% ranked it as third.

The preferred websites used by research scholars to access online journals reveal that cent percent from NALSAR library, 82.4% from University library, JNTUH, 77.9% from IGM library, UOH, 74.8% from Dr V. S. Krishna library used publisher website; cent percent Dr NTR UHS library, 77.8% from ANGRAU Central library, 74.4% from University library, JNTUH used library website, and 92.4% from IGM, UOH used consortia provider website. (Table 5.3.9.3)

It can be inferred that majority of research scholars preferred to access online journals through consortia provider websites as first preference followed by publisher websites and library website. Aggregator/vendor sites and directories are preferred as least option to access online journals.

**Relevance of information retrieved from consortium based journals**

The overall opinions of faculty regarding extent of satisfaction regarding relevance of information retrieved from consortia based e-journals reveals 70.8% retrieved sometimes relevant and sometimes irrelevant information, followed by 20.30% opined as cannot say, 7.50% expressed relevant information and 1.40% remarked always irrelevant information being retrieved.

The university wise findings on the extent of relevant information retrieved from consortium by faculty reveal that 96.7% from University library, JNTUH, 78.5% from ANGRAU Central library, 75.2% from Dr V. S. Krishna library, 64.7% from Dr NTR UHS library retrieved sometimes relevant and sometimes irrelevant and cent percent
from University library, JNTUH while 88.9% from NALSAR library expressed cannot say. (Table 5.3.10.1)

The overall gender wise opinion of faculty respondents from all six university libraries regarding extent of relevant information retrieved from consortia reveals that 5.8% males and 1.7% females expressed always relevant information being retrieved, 31.9% males and 39% females accessed sometime relevant and sometime irrelevant information, 1% males and 0.3% females opined always irrelevant information and 8.5% males and 11.9% females who claimed as ‘cannot say’.

The university wise analysis of faculty gender wise opinion regarding extent of relevant information retrieved from consortium reveals that sometimes relevant and sometimes irrelevant’ was opined by 46.2% males from ANGRAU Central library, 33.7% from Dr V. S. Krishna library, 32.4% from Dr NTR UHS library and 29.5% from IGM library, UOH and 67.2% females from IGM library, UOH and 41.6% from Dr V. S. Krishna library. (Table 5.3.10.2)

It can be concluded that most of the faculty from six university libraries retrieved sometimes relevant and sometimes irrelevant information from consortia, followed by cannot say and always relevant information.

The overall opinion of research scholar respondents from six university libraries regarding extent of satisfaction reveals that 73.80% retrieved sometimes relevant and sometimes irrelevant information, followed by 24.50% opined it as cannot say, 1% expressed it as always relevant and a negligible percent 0.60% remarked always irrelevant.

The university wise findings on the extent of relevant information retrieved by research scholars from consortium reveals that 90% from Dr NTR UHS library, 81.5% from Dr V. S. Krishna library, 78.4% from University library, JNTUH, 77.8% from ANGRAU Central library retrieved sometimes relevant and sometimes irrelevant information; cent percent from NALSAR library opined cannot say. (Table 5.3.10.3)

The gender wise opinion by research scholar respondents from six university libraries reveals that sometimes relevant and sometimes irrelevant information is retrieved by 80% males from Dr NTR UHS library, 62.2% from Dr V. S. Krishna library, 55.6% from ANGRAU Central library, 52.3% from University library, JNTUH and
26% females from both University library, JNTUH and IGM library, UOH and 22.2% from ANGRAU Central library; 50% male and females from NALSAR library and 17% males and females from IGM library, UOH opined as ‘cannot say’; negligible percent of research scholars from both genders retrieved ‘always irrelevant’ information from consortia. (Table 5.3.10.4)

It can be inferred that both categories of user groups from all six university libraries expressed sometimes relevant and sometimes irrelevant information while accessing consortia. The finding suggests the need to have information literacy programmes at basic and advanced levels to explore access and apply relevant information available in e-journals through consortia and in open access.

Information browsing techniques to access e-journals from consortium

The overall opinion of faculty browsing techniques to access e-journals from consortium reveals that respondents prefer to browse by subject as indicated by 34.2% as first priority, followed by 13.6% opined it as second priority and 11.5% as third priority.

The university wise findings about browsing techniques to access e-journals from consortium by faculty reveal that 85.3% from Dr NTR UHS library, 80% from University library, JNTUH, 77.8% from NALSAR library, 75.4% from ANGRAU Central library, 65.6% from IGM library, UOH browse by title; 69.3% from Dr V.S. Krishna library, 64.7% from Dr NTR UHS library browse by subject and cent percent from NALSAR library browse by publisher. (Table 5.3.11.1)

It can be concluded that faculty preferred simple means to browse journals from consortium. Majority of faculty respondents browse by subject, followed by title while some faculty respondents prefer to browse by publisher.

The overall opinions of research scholar respondents preference to access e-journals reveals that browse by subject is indicated by 35.1% as first priority, 7.8% as second priority and 22.1% expressed it as third priority.

The browsing techniques used by research scholar respondents from six university libraries to access e-journals from consortium reveal that cent percent from Dr NTR UHS library, 68.7% from University library, JNTUH, 60% from IGM library, UOH browse by
subject; 77.8% from ANGRAU Central library, 72.4% from IGM library, UOH, 70.4% from Dr V. S. Krishna library browse by title and cent percent from NALSAR library browse by publisher. (Table 5.3.11.2)

It can be concluded that majority of research scholar respondents browse by subject, followed by title and some respondents prefer to browse by publisher.

**Awareness on facility provided in consortium**

The overall opinion on, faculty awareness on facilities provided in consortia reveals that 67.50% are aware about trouble shooting, 72.20% knew about frequently asked questions and 68.50% on web OPAC while remaining 32.5%, 27.8% and 31.5% are not aware about trouble shooting, frequently asked questions and web OPAC facilities respectively provided in consortium.

The university wise findings on awareness on facilities provided in consortium reveal that cent percent faculty from IGM library and NALSAR library are aware about trouble shooting, FAQ and Web OPAC provided in UGC Infonet consortium, 94.1%, 88.2% and 91.2% from Dr NTR UHS library and 88%, 96%, 92% from University library, JNTUH are aware about trouble shooting, FAQ and Web OPAC. 50.5% and 55.4% from Dr V. S. Krishna library are aware about trouble shooting and FAQ. (Table 5.3.12.1)

It can be concluded that the faculty are familiar with the services offered by consortia providers and are making good use of it. A welcome feature is that the faculties of all subjects have this familiarity with little variations as medical scientists surveyed to be ahead of others.

The overall opinion on research scholars awareness on facilities provided in consortia reveals that 70.70% have awareness about frequently asked questions, followed by 69.50% on trouble shooting and 67.80% use web OPAC. The remaining 32.20%, 30.50% and 29.30% are not aware about web OPAC, trouble shooting and frequently asked questions respectively.

The awareness about facilities provided in consortium by research scholars reveal that cent percent research scholars from NALSAR library are aware about trouble shooting, FAQ and Web OPAC. 85.50% from IGM library, UOH are aware about frequently asked questions, 84.10% aware about web OPAC and 83.40% knew about
trouble shooting. 90% from Dr NTR UHS library used web OPAC and 80% have an idea about trouble shooting and frequently asked questions (5.3.12.2).

It can be concluded that good number of respondents from two groups of category in all six university libraries have significant knowledge about frequently asked questions, trouble shooting and web OPAC. However research scholars from ANGRAU and Dr V.S. Krishna library need awareness programs.

Use of online journals

The overall findings on opinion of faculty respondents ranking use of online journals indicated 78% prefer to download information to a storage device as first preference, 11.2% opined it as second priority and 2.7% marked it as third priority.

The university wise findings regarding use of online journals by faculty respondents reveals that cent percent faculty from University library, JNTUH, IGM library, UOH, Dr NTR UHS library, NALSAR library, 92.1% from Dr V .S . Krishna library downloaded to storage devices; 94.1% from Dr NTR UHS library, 88.9% from NALSAR library took print. (Table 5.3.13.1).

It can be concluded that majority of faculty preferred to download information to storage devices followed by taking print while least preferred to read on screen.

The overall opinion of research scholars ranking use of online journals indicated that 87.60% download information to storage devices as their first option, while 7% opined it as second preference and 1.6% marked it as third priority.

The university wise findings on use of online journals by research scholars reveals that cent percent of respondents at NALSAR library, 98.9% from University library, JNTUH, 97.2% from IGM library, UOH, 92.6% from Dr V. S. Krishna library, 90% from Dr NTR UHS library and 88.9% from ANGRAU Central library downloaded to storage devices; 80% from Dr NTR UHS library and 88.1% from University library, JNTUH took print. (Table 5.3.13.2)

It can be concluded that both categories of respondents from all six university libraries practiced downloading in storage devices as first choice, followed by taking print out and few respondents read on the computer screen.
Extent of satisfaction

The overall opinion on extent of satisfaction by faculty respondents reveals that 18.60% satisfied to a large extent followed by 74.60% are satisfied to some extent, and 6.80% expressed least satisfaction.

The university wise findings on extent of satisfaction while searching consortia by faculty reveal that 98.4% from IGM library, UOH, 80% from ANGRAU Central library, 72.3% from Dr V. S. Krishna library, 52.9% from Dr NTR UHS library, 52% from University library, JNTUH expressed satisfaction to some extent, 55.6% from NALSAR library opined satisfaction to a large extent. (Table 5.3.14.1)

It can be inferred that there are variations among faculty of different disciplines on the extent of satisfaction and is related to the experience and knowledge of users and assistance from library and consortia provider.

The overall opinion on extent of satisfaction by research scholars reveals that 77.10% are satisfied to some extent, followed by 15.10% large extent of satisfaction and 7.80% opined satisfaction to least extent.

The university wise findings on the extent of satisfaction while searching consortia by research scholars reveal that 80% from NALSAR library expressed satisfaction to large extent; 83.4% from IGM library, UOH, 80% from University library, JNTUH and Dr NTR UHS library, 71.9% from Dr V. S. Krishna library, 55.6% from ANGRAU Central library opined satisfaction to some extent. (Table 5.3.14.3)

It can be concluded that maximum number of respondents from both categories of user groups belonging to six universities are satisfied to some extent in the use of e-resources while only one fourth are satisfied to large extent and a negligible percent opined satisfaction to a least extent.

Advantageous features of e-resources from consortia

The overall findings with multiple rankings on the advantages of accessing e-resources from consortia by faculty respondents reveals that 39.3% marked easy accessibility as first priority, followed by 33.2% as second and 14.2% ranked it as third.

The university wise findings on the advantages of accessing e-resources from consortia by faculty reveal that easy accessibility was considered by 95.1% from IGM
library, UOH, 92% from University library, JNTUH, 91.2% from Dr NTR UHS library, 88.9% from NALSAR library, 83.1% from ANGRAU Central library, 81.2% from Dr V. S. Krishna library; downloading facility opined by 92% from University library, JNTUH and 88.2% from Dr NTR UHS library and less time in searching marked by 91.2% from Dr NTR UHS library, 84% from University library, JNTUH and 77.8% from NALSAR library. (Table 5.3.15.1)

It can be concluded that majority of faculty rate easy accessibility as first advantage followed by downloading facility as second criteria, less time in searching as third priority. Availability of the journal much before printed copy and author can be contacted directly through e-mail are least preferred.

The overall opinion of research scholar respondents from six university libraries ranking the advantages of accessing e-resources from the consortia reveals that 41.6% have marked easy accessibility as first priority, 30.7% ranked it as second and 17.3% marked it as third.

The advantages of accessing e-resources from consortia opined by research scholars of six universities reveals that cent percent from Dr NTR UHS library, 97.2% from University library, JNTUH, 90% from NALSAR library, 85.9% from Dr V. S. Krishna library, 84.8% from IGM library, UOH, 66.7% from ANGRAU Central library considered easy accessibility. Downloading facility was marked by cent percent Dr NTR UHS library, 92% from University library, JNTUH, 90% from NALSAR library, 84.4% from Dr V. S. Krishna library; Less time in searching opined by cent percent NALSAR library, 90% from Dr NTR UHS library and University library, JNTUH and 77.8% from ANGRAU Central library. (Table 5.3.15.2)

It can be concluded that majority of the faculty members and research scholars integrate the benefits that they have gained through use of e-resources from consortium. They are being used for research and publication activities.
Problems in accessing e-journals from consortia

The overall opinion of faculty respondents from six university libraries ranking the challenges they encountered in using e-resources reveals that 22.4% marked broken links as first priority, 5.1% ranked it as second and 12.9% opined it as third.

The university wise findings on problems associated in accessing e-resources from consortia by faculty reveal that 46.5% from Dr V.S. Krishna library, 41.5% from ANGRAU Central library opined broken links; instability of networks marked by 40.6% from Dr V. S. Krishna library, 33.8% from ANGRAU Central library; information overload opined by 72% from University library, JNTUH, 66.7% from NALSAR library and 51.5% from Dr V.S. Krishna library (Table 5.3.16.1)

It can be inferred that majority of faculty members have broken links, information overload, instability of networks as major stumbling blocks while accessing information from consortia.

The overall opinion of research scholar respondents from six university libraries ranking problems faced in using e-resources reveals that 32.2% marked broken links as first preference, 5.2% expressed it as second priority and 9.7% ranked it as third priority.

The problems associated in accessing e-resources from consortia by research scholars university wise findings reveal that 66.2% from IGM library, UOH, 43.2% from University library, JNTUH opined broken links; while 51.9% from Dr V. S. Krishna library, 30% from Dr NTR UHS library and NALSAR library opined information overload (Table 5.3.16.3)

It can be inferred that majority of research scholars from six university libraries face problems like broken links, password problem, information overload and instability of net works.

Opinion on necessity of orientation programme for effective us of e-resources

The overall opinion of faculty on orientation programme indicated that 50.80% have insisted that participation in training and orientation programme was essential while the remaining 49.20% did not feel the need to take part in user orientation programme.

University wise analysis regarding necessity of user orientation programme by faculty respondents reveal that 82% from IGM library, UOH, 63.1% from ANGRAU
Central library, 42.6% from Dr V. S. Krishna library opined positively and cent percent faculty from NALSAR library, 84% from University library, JNTUH, 64.7% from Dr NTR UHS library opined do not need training / orientation programme. (Table 5.3.17.1)

It can be concluded that nearly equal percentage of faculty respondents opined both for and against user orientation programme.

The gender wise opinion of faculty from six university libraries on training/orientation programme reveal that 27.8% female faculty and 23.1% male faculty opined affirmative while 24.1% male faculty and 25.1% female faculty negated to training/orientation programme.

The gender wise opinion of faculty respondents regarding necessity of orientation programme reveals that 62.3% of female faculty from IGM library, UOH, followed by 20.8% from Dr V. S. Krishna library as well as 43.1% males from ANGRAU Central library, 21.8% from Dr V. S. Krishna library and 19.7% from IGM library, UOH expressed willingness to participate in training orientation programme while 48% males from University library, JNTUH, 44.4% from NALSAR library and 55.6% females from NALSAR library, 36% from University library, JNTUH, 35.35 from Dr NTR UHS, and 31.7% from Dr V.S. Krishna library declined to take part in training programme. (Table 5.3.17.2)

It can be concluded that opinions of faculty respondents are variant but do not reflect the subject that, the respondents are associated with. The opinions may be based on individual experiences.

The opinion by research scholars regarding conducting orientation program reveal that 62.1% have felt the need to have training/orientation programme while the remaining 37.9% do not require these programmes.

The university wise analysis on necessity of user orientation programme by research scholars reveal that 73.9% from University library, JNTUH, 66.7% from ANGRAU Central library, 62.2% from Dr V. S. Krishna library, 52.4% from IGM library and 50% from Dr NTR UHS library preferred training programme. (Table 5.3.17.4)
It can be inferred that majority of respondents from research scholars favoured orientation programme for better utilization and access of consortia based online e-resources.

The gender wise opinion of research scholar respondents from six university libraries on training/orientation programme reveals 44.7% males and 17.3% females opined to take part in training/orientation programme while 23.1% males and 14.8% females did not prefer training/orientation programme.

The gender wise analysis of research scholar’s preference to participate in training/orientation programme reveals that 54% males at University library, JNTUH followed by 52.6% from Dr V. S. Krishna library and 22.8% females at IGM library, UOH, 22.2% from ANGRAU Central library preferred to participate in training/orientation programme. However 50% males from Dr NTR UHS library and NALSAR library and 50% females from NALSAR library, 21.4% from IGM library, UOH did not prefer training/orientation programme.

It can be inferred that three fourth of males and one fourth of females preferred to participate in training programme.

**Preferred choice for training**

The opinion of faculty respondents from six university libraries preferred choice in conducting training/orientation programme reveals that 45.3% prefer library staff, 32.7% considered subject experts, 14% opted computer professional and 8.0% opined combination of all the above professionals.

The university wise findings on preferred choice to conduct training programme by faculty reveals that library staff is preferred by 61% from ANGRAU Central library; subject expert is opined by 44% from IGM library, UOH, 33.3% from Dr NTR UHS library, 30% from Dr V. S. Krishna library and 24.4% from ANGRAU Central library; computer professionals marked by 50% from University library, JNTUH, 16.3% from Dr V. S. Krishna library and 14% from IGM library, UOH; combination of all the above professionals was opined by 25% from University library, JNTUH and 16.7% from Dr NTR UHS library. (Table 5.3.17.3)
It can be inferred that majority of faculty preferred library staff followed by subject experts and one tenth of faculty opted for a combination of all above professionals. The findings show that there is variation in the opinions of faculty from different disciplines on preferred professional to conduct training/orientation programme.

The opinion of research scholar respondents from six university libraries preferred choice in conducting training/orientation programme reveals that 47.8% preferred library staff, 30.6% preferred subject experts and 12.3% considered computer professionals and 9.3% opined that a combination of all the above would be ideal for conducting training/orientation programmes.

The preferred choice to conduct training programme as opined by research scholars reveals that 61.8% from IGM library, UOH, 60% from Dr NTR UHS library preferred library staff; subject experts were preferred by 50% from ANGRAU Central library, 33.8% from University library, JNTUH; computer professionals was opined by 16.7% from ANGRAU Central library, 14.6% from University library, JNTUH; combination of all the above professionals preferred by 11.5% from University library, JNTUH, 10.7% from Dr V. S. Krishna library and 5.3% from IGM library, UOH. (Table 5.3.17.6)

It can be concluded that respondents preferred library staff as first priority, followed by subject experts as second and computer professional as third.

6.3.4 Library collection

This section covers findings on opinion of respondents rating the adequacy of library collection housed in respective libraries.

Adequacy of library collection in traditional print format

The overall opinion of faculty from different disciplines rating adequacy of library collection in traditional print format reveals that 48.8% of book collection, 53.9% of reference book collection, 58% current journals, 60.3% of back volume journals, 42.7% of conference proceedings, 40% of government publications, 41.7% of research monographs, 44.1% of thesis/reference collection and 39.7% of abstracting and indexing
databases as good; 38% of non book materials, and 35.9% of patents / standards were considered to be satisfactory. (Table 5.4.4.1)

It can be concluded that majority of faculty from six university libraries expressed mixed opinions regarding adequacy of their library collection in traditional format. Faculty from different disciplines expressed book collection, reference book collection, current journal collection, back volume journal collection, research reports, conference proceedings, government publications, research monographs, thesis/ dissertations and abstracting /indexing databases as good whereas patents /standards and non book materials were not satisfactory.

The overall opinion of research scholars from different disciplines rating adequacy of library collection in traditional print format reveals that the following collections 49.3% of book collection, 53.4% of reference book collection, 58.8% of current journals, 53% of back volume journals, 41% of research reports were rated as good; satisfactory was opined for 48.7% of conference proceedings, 47.2% of government publications, 49.3% of research monographs, 46% of thesis and dissertations, 45.4% of patents and standards, 45.8% of abstracting and indexing databases and poor was remarked by 35.3% for non book materials. (Table 5.4.4.2)

It can be concluded that majority of research scholars from different disciplines expressed varying levels of satisfaction about their library collection. It is clear that research scholars opined book collection, reference book collection, current journal collection, back volume journal collection, research report collection as good; conference proceedings, government publications, research monographs, thesis/ dissertations, patents/ standards, abstracts and indexing databases as satisfactory and non book materials as poor.

**Improvement in library collection: Users point of view**

The overall ranking opinion of faculty regarding improvement in library collection reveals that 26.1% marked e-books as first order, 14.6% ranked it as second and 2.7% opined it as third order to be improved. (Table 5.4.4.3)

It can be concluded that faculty from six university libraries preferred improvement in library collection both in print and in electronic format. It reveals that e-books have been given first priority, followed by printed books, printed journals, e-
journals as second priority and thesis & dissertations, e-thesis & dissertations as third priority.

The overall ranking opinion of research scholars regarding improvement in library collection reveals that 25.2% preferred printed books as first order, 12.8% opined it as second and 20.2% marked it as third priority. (Table 5.4.4.4)

It can be concluded that research scholars from different disciplines preferred improvement in printed books, followed by printed journals, e-journals and thesis & dissertation, e-thesis & dissertations and e-databases.

6.6 Testing of Hypothesis

In view of the objectives of the study, the following hypothesis has to be tested through analysis of data. For present study, following hypothesis are proposed and tested:

**Hypothesis 1:** “All university libraries have a collection development policy that is revised keeping in view the developments in electronic resources”.

It is observed that conventional university libraries have well framed collection development policies and amongst special university libraries only ANGRAU central library and NALSAR library framed CDP statements whereas University library, JNTUH and Dr NTR UHS library do not have CDP statements. Those libraries with CDP statements have not revised and updated it regularly to address e-resource collection. (Table 4.4.1)

Hence this hypothesis is partially true.

**Hypothesis 2:** ‘The university libraries are striking balance between print and electronic resources, specifically the periodicals”.

It is evident that both conventional and specialized university libraries have more collection of printed books and more journals in electronic format. The book collection sparingly include electronic format. This increase in e-journal collection is mainly due to participation of libraries in consortia initiatives. It is observed that there is no balance between the number of print books, journals and number of e- books and e-journals subscribed amongst six university libraries. (Table 4.6.1, Table 4.6.2)

Hence this hypothesis is disproved.
**Hypothesis 3:** “The libraries opt for consortial subscription of e-journals owing to its economic value. The consortia are well structured and libraries do not have any problem”.

All six university libraries participated in consortium. However librarians do have problems with license agreements. They have expressed that subscribing to required number of e-journals according to their requirement is not an easy task with packaged subscription in consortia. A further fitting license agreement according to library needs is difficult. (Table 4.10.1 and Table 4.10.3)

Hence this hypothesis is partially supported.

**Hypothesis 4:** “The faculty and research scholars of universities under study are familiar with e-resources and prefer to use them for research, publication and teaching in that order”.

The study revealed that cent percent of faculty and research scholars from six university libraries had awareness of their library subscription to e-resources. It is true that faculty preferred to use e-resources primarily for research, followed by teaching and publication in that order whereas research scholars heavily depended on e-resources mainly for research and publication. (Table 5.3.1.1, Table 5.3.1.2, Table 5.3.2.1 and Table 5.3.2.2)

Hence this hypothesis is proved correct.

**Hypothesis 5:** “The user community prefers e-journals over other e-resources and prefers them for their currency and reliability”

The study established that both categories of user groups prefer to use e-journals more than other types of e-resources like e-books, e-research reports, e-thesis and dissertations and e-abstracting and indexing databases. It is observed that faculty ranked speed of access as first criteria, followed by reliability whereas research scholars opined currency as first criteria followed by reliability as second criteria. (Table 5.3.3.1, Table 5.3.3.3, Table 5.3.4.1 and Table 5.3.4.3)

Hence this hypothesis is proved correct.

**Hypothesis 6:** “The users always retrieve relevant information from consortia based e-journals and are satisfied with available consortium”
The study revealed that 74.6% of faculty and 77.1% of research scholars experienced satisfaction upto some extent. In addition 70.8% of faculty and 73.80% of research scholars retrieved sometimes relevant and sometimes irrelevant information from consortia based e-journals whereas only 7.5% of faculty and 1% of research scholars expressed that they are accessing always relevant information. (Table 5.3.10.1, Table 5.3.10.3, Table 5.3.14.1 and 5.3.14.3)
Hence this hypothesis is partially supported.

6.7 Suggestions

An in-depth study of collection management by selected university libraries of Andhra Pradesh and perspectives of users on strengths of collections to access the same paved way to understand the functioning of the existing system and identify the areas where improvement is required. The following areas may be considered by the concerned for the improvement of the collection management system in different types of university libraries. The suggestions are applicable to any university library in India, in general, that will increase the utility of e-resources by faculty and research scholars.

1. The University libraries have to redefine their collection management policy giving focus to electronic resources. The policy has to define the ratio between print and electronic material striking a balance between the two.
2. Creation of a separate electronic resource management section/department may be considered as it is a complex process with puzzled licensing agreements.
3. Half of the respondents stated that they do not need training and sizable percentage from some libraries under study indicated low level of satisfaction of library collections and services. This reflects the user’s perspective on library and library staff. The libraries have to take initiatives to install confidence and trust among users that library staff is knowledgeable and approachable to get the required information.
4. The libraries are expected to play a vital role in the implementation of open access initiatives among scientific community through awareness programmes so that the scientific community can publish in open access journals to achieve more visibility of their publications.
5. There is variation on application of technology among the libraries under study. The study revealed that six libraries provided their services mostly through manual means and mixed response is observed for services offered by online mode. Libraries mainly concentrated on conventional activities and services. Hence higher authorities have to adopt the principles of Total Quality Management (TQM) and Change Management in order to achieve maximum efficiency and provide better services to the user with available resources.

6. Along with faculty, individual scholars can also contribute much to book/journal selection. This will increase user satisfaction and greater organizational flexibility.

7. The study found out that few faculty members and research scholars i.e. 9.8% and 3.9% of do not visit and 10.2% of faculty and 8.2% of research scholars visit other library and information centres. Therefore library authorities have to take necessary steps to find reasons and initiate steps to make non users to become regular users.

8. A considerable percentage (26.1%) of faculty members and research scholars(19.4%) opined that improvement in e-book collection is necessary. It also shows that 24.1% of faculty and 25.2% of research scholars needed improvement in book collection Therefore there is a need to improve book collections in print and electronic format in different branches of disciplines in which collection is inadequate to meet the requirements of users. The budget for procurement of books and e-books should be enhanced in proportion to the rising cost of books and increasing demands of users.

9. Further 17.3% of faculty and 23.9% of research scholars expressed that there is a need to improve print journal and 10.2% of faculty and 11.1% of research scholars expressed the same for e-journal collection. It also shows that 16.6% of faculty and 13.8% of research scholars voted for printed journal. Therefore higher authorities have to take measures to improve periodical collection by allocating adequate budget for both print and electronic subscription keeping in view the increasing cost of both print and electronic journals and information requirement of users.
10. A considerable percentage of faculty and research scholars expressed inadequacy of other information sources viz. conference proceedings, research reports, thesis and dissertations and abstracting and indexing databases. The library authorities have to take necessary steps to obtain published and unpublished research reports, conference proceedings. More focus is necessary to subscribe indexing and abstracting journals and to guide users for their optimum use.

11. The study shows that 22.4% of faculty and 32.2% of research scholars opined broken links, 12.2% of faculty and 13% research scholars opined information overload as major problems associated while accessing information from consortium. Hence library authorities have to conduct staff meetings along with their respective consortium providers to find solutions to the above mentioned problems faced by their users. This interaction between library staff and consortia providers would help user community to overcome their problems while accessing information from consortia.

12. The study shows that 36.6% of faculty responded power failure and 33% of research scholars opined low speed of internet as major problems faced while accessing e-resources. Therefore higher authorities have to take necessary measures to increase speed of internet broad band as well as physical facilities provided in libraries.

13. The study shows that 76.3% of faculty and 54.6% of research scholars preferred to access e-resources from library as third priority. Hence library authorities have to take necessary steps to create a healthy atmosphere and eliminate reasons for their dissatisfaction to work in library.

14. The study reveals that manual methods of classification and cataloguing are still practiced in conventional libraries. Hence library authorities have to opt for web based copy cataloguing using World Cat, Ind Cat or Web OPACs of other libraries for print resources. They have to make necessary steps to implement cataloguing of e-resources using AACR2, MARC or use Metadata standards.

15. The study reveals that conventional libraries and specialized university libraries need continuous training in the use of digital library softwares, organization of CD-ROM collections and utilization of softwares to manage e-resources.
16. Information literacy programmes at basic and advanced level are the need of the hour. The user’s have to be aware of the do’s and don’t of e-resources and the network techniques. Though the users are elite group, their knowledge levels on the said area are superficial and need to have an indepth knowledge to make optimum use of the wealth of e-resources.

17. There is no evidence that libraries are making use of open access e-resources, except use of e-learning material of National Programme on Technology Enhanced Learning (NPTEL). The libraries can download the freely available peer-reviewed articles and add value to them by indexing and retrieving. This function is a necessity for developing country like India. The sister libraries can coordinate their activities in this regard to avoid possible duplication of efforts.

18. Libraries have to move ahead and take advantage in the application and use of latest technologies like Blogs, Wikis, Podcasting, Real-time Simple Syndication (RSS) to provide wide publicity about their available information resources and services. This enables some faculty and research scholars who have some knowledge about latest technologies utilize the services extended by their respective libraries. Those respondents lagging behind should be provided information literacy on web based services and web technologies.

6.8 Areas of Further Research

University libraries possess a hybrid collection of print and electronic resources through consortia initiatives. Sustained efforts in collection management should be undertaken by respective librarians and concerned consortia license provider to make consortia deals of e-resource collection efficient and effective for user community. The future possible areas of research that can be brought about after comparing existing facilities prevalent at six university libraries of Andhra Pradesh under study indicate that:

i. Intensive studies on duplication of e-journal titles and databases between different types of consortia.

ii. Study on use pattern of aggregator data base, consortia provider website and library website.

iii. Study on CDP for e-resources that address access, licensing, organization, preservation of both born digital and made digital e-resource collection.
BIBLIOGRAPHY


