The hypotheses given in the Chapter I have been tested and proved by using data collected from libraries’ survey and users’ survey. The hypotheses of the study are:

1. That there has been an overall growth in the resources and services of the libraries over the years.
2. That the libraries have sufficient resources to meet all the needs of the researchers.
3. That the libraries render effective information services to support research programmes.
4. That the libraries are using modern information communication technologies to provide researchers wider access to information.

**Testing of Hypotheses**

1. **That there has been an overall growth in the resources and services of the libraries over the years.**

   University library collection consists of a variety of information sources like books, reference books, periodicals, indexing/abstracting journals, research reports, theses and dissertations etc. Reading materials are the basic bricks on which a library is built up. Hence, every library gives emphasis to collection development to meet the information needs of its users. Table 6A.7 shows the overall growth of library resources in university libraries under study. It is noted that on an average, the PbU library added 9777 documents, the PU library added 9021 documents and GNDU library added 6717 documents to the library collection per year for the period 2001-02 to 2010-11.

   Table 6A.8 indicates the steady growth in the collection development in terms of annual purchase of the books of three university libraries with some exception here and there. It is also found that on an average, the PbU library purchased 9538 books, PU library purchased 8033 books and GNDU library purchased 4758 books during 2001-02 to 2010-11. Therefore, the hypothesis about the overall growth in the resources stands vindicated or we can say that the findings of the study prove the hypothesis.
2. That the libraries have sufficient resources to meet all the needs of the researchers.

It is appropriate to know whether the exiting collection of library resources is adequate/sufficient to meet the information requirements of the researchers. Table 6B.15 shows that a majority of the respondents of all the universities find books, reference books, periodicals, online databases, Internet, maps and atlases adequate. Most of the respondents state that the collection of microfilms, indexing/abstracting periodicals, newspapers, research reports, conference proceedings and standards are inadequate. It is also noted that the respondents of PU with 100% response, GNDU with 96.30% response and PbU with 88.99% response state the collection of e-journals most adequate.

94.33% of the respondents of all the universities admit that the material on topic of research is available (Table 6B.16). The majority of the respondents of PbU (90.48%), GNDU (85.33%) and PU (81.40%) regard the library literature ‘average’ (Table 6B.17). Table 6B.18 presents the opinion about the collection of primary sources. It reveals that 76.09% of the respondents of PU and 60.55% of PbU regard the primary sources inadequate while the respondents of GNDU regard these adequate (56.79%). Hence, the hypothesis stands proved even though partially.

3. That the libraries render effective information services to support research programmes.

The research scholars expect adequate facilities and services to fulfill their research needs. Effective library services ought to be provided for the users of the library in a satisfactory manner. As evident from table 6B.42 to table 6B.92, a majority of the respondents are of the opinion that the information awareness services such as lists of new additions, information bulletin and compilation of theses services are satisfactory to meet their needs.

For information location service, table 6B.56 shows that 52.76% of the respondents of all the universities are satisfied with the bibliographic service. Also, regarding OPAC (Table 6B.87) and Internet section timings facility (Table 6B.89), a majority of the respondents have expressed their satisfaction with 64.89% and 77.30% response respectively. Further,
analysis shows that majority of the respondents regard the reference (Table 6B.61) and reprographic (Table 6B.68) services satisfactory or average with 95.04% and 93.82% responses respectively. They consider the services like current contents lists, published catalogue and database services as average satisfactory.

Table 6B.72 and table 6B.75 show that only one fourth of the aware users are satisfied with the microfilm reading facility and 38.64% with inter library loan service. It is also noted that the respondents of GNDU are more satisfied with the compilation of theses service with 96.38% response (Table 6B.53), the respondents of PbU are more satisfied with the reference service with 78.90% response (Table 6B.61) and the respondents of PU are more satisfied with the bibliographic service with 52.94% response (Table 6B.56). The responses show that the level of satisfaction about information services varies among the respondents of three universities. So we can say that almost all the respondents regard the information services either satisfactory or average. Therefore, the hypothesis is partially proved.

4. That the libraries are using modern information communication technologies to provide researchers wider access to information.

Table 6A.17 shows the availability of electronic devices used for library automation and networking in the universities under study. PU library records the highest number of electronic devices available (9 items) in comparison to PbU (8 items) and GNDU (6 items). Table 6A.19 shows the availability and use of the information communication technologies in all the universities. The PbU library possesses the greater number of computer terminals i.e. 70 along with other peripherals and 13 printers, followed by PU library with 60 computers and 10 printers and GNDU with 48 computers and 6 printers. Table 6B.76 shows that out of the total sample, more than 96% of the respondents are aware of the computerized information services provided by their universities and 78.31% of them use the services (Table 6B.77).

Table 6A.20 shows that the libraries use different softwares for the database creation and library services. Further, table 6B.80 indicates that 88.33% of the respondents are aware of the database services provided in
their libraries. All the respondents have shown awareness of online facility available in their respective libraries and e-journals are accessible in all the universities under study. Again, all the respondents are aware of the OPAC facility available in their libraries and make use of it to access the information. Therefore, the hypothesis is also fully established.

**Findings of the Study**

Findings of the study have been placed under two categories:

- Findings of the Libraries’ Survey
- Findings of the Users’ Survey

**Findings of the Libraries’ Survey**

- PU library is kept open for maximum hours i.e. 14 hours per day whereas the GNDU library remains open for maximum days i.e. 363 days in a year.
- The study shows that all the university libraries have full time librarians. GNDU is running without Deputy Librarian. All the university libraries under study are suffering from inadequate staff.
- Regarding membership, all the university libraries have shown a rising trend with slight fall for the years 2001-02 to 2010-11.
- The major share of the collection of the university libraries under study have been in the form of books.
- The university libraries under study are dependent on both print as well as e-resources.
- There has been overall growth in the resources of the libraries over the years.
- The study also indicates the steady growth in the collection development in terms of annual purchase of books of three university libraries with some exception here and there.
- The rate of growth of periodicals is not uniform in all the university libraries. There is fall in the number of periodicals subscribed over the years from 2001-02 to 2010-11 in all the three university libraries.
- All the three university libraries avail the benefits of UCG-INFONET e-journal consortium and INDEST consortium for access to online journals.
The university libraries have allocated negligible budget for procurement of e-resources and ICT infrastructure.

The PU library and GNDU library are using the Dewey Decimal Classification and Anglo-American Cataloguing Rules to organize and list their collection whereas PbU library uses Ranganathan’s Colon Classification and his Classified Catalogue Code for this purpose.

All the libraries have open access to information resources.

PU library records the highest number of electronic devices available for library automation and networking as compared to other libraries.

All the libraries provide the list of new additions, current content lists and compilation of lists of theses. No library provides press clipping, audio visual and translation services.

All the libraries provide computer facilities, OPAC facility and some of the Internet services and computerized lending service to the users.

The PbU library possesses the greater number of computer terminals i.e. 70 along with other peripherals and 13 printers, followed by PU library with 60 computers and 10 printers and GNDU with 48 computers and 6 printers.

Along with the MS-DOS and Windows, the CDS/ISIS software package is used at all the libraries. The PU library exclusively uses Tech Lib Plus software for library management and SLIM-21 is being used for issue of books whereas PbU library uses DELDOS and GNDU uses CLIPS for the automation of library operation.

The PU library has fully computerized its house-keeping operations whereas the PbU library is partially computerized. The GNDU library has fully automated their cataloguing and circulation functions whereas the acquisition and serial control are partially computerized.

Findings of the Users’ Survey

Duration of Research

A majority of the respondents of all the universities are doing research since two years (36.17%), followed by three years (28.72%), one year (20.21%) and more than three years (14.89%).
The percentage of the respondents who are doing research since two years is the highest (43.12%) at PbU, 39.46% at PU and 25.93% at GNDU showing highly significant differences (p≤0.001) among them.

**Research Motivation of Scholars**

- The respondents of PbU have highest percentage (64.22%) regarding higher qualification marked as motivation factor to do research, followed by GNDU with 59.26% and PU with 58.70% responses.
- Regarding academic interest, the respondents of GNDU with 60.49% response followed by PU with 45.65% and PbU with 44.04% responses marked it as their motivation factor for research.

**Scholars’ Job Trial**

- 206 (73.05%) respondents of all the universities tried for the job while doing their research showing statistically significant differences (p≤0.05) among them.
- The respondents at PU are in majority (80.43%) of those trying for jobs, followed by PbU (70.64%) and GNDU (67.90%).

**Research Interest Vs Accepting Job**

- The respondents who tried for the job while doing research, 185 (89.81%) respondents of them replied that they wish to continue their research.
- The PbU scholars are very much interested to go for a job and continue research with 75 (97.40%) responses, followed by GNDU with 50 (90.91%) responses and PU with 60 (81.08%) responses showing highly significant differences (p≤0.001) among them.

**Job Preference**

- Two top most job preferences of all the universities are teaching and research oriented jobs with 174 (61.70%) and 93 (32.98%) responses respectively.
- 70.64% of the respondents at PbU prefer teaching job along with research work, followed by PbU with 58.70% and GNDU with 53.09% responses showing statistically significant differences (p≤0.05) among them.
• 36.96% of the respondents at PU prefer research oriented jobs, 34.57% at GNDU and 28.44% at PbU follow it.

Reasons for Choosing your University for Research Work
• 34.75% of the respondents of all the universities opt their university as it is suitable to their interest showing statistically significant differences ($p \leq 0.001$) among them.
• The GNDU scholars opt their university basically because it is the institution where they studied and where good research facilities are available.
• 54.35% of the respondents at PU and 33.03% at PbU opt their university because it is suitable to their interest.

Satisfaction of Research Facilities
• 62.77% of the respondents of all the universities are partially satisfied with the research facilities available in the university, 34.04% are satisfied and 3.19% are not satisfied showing highly significant differences ($p \leq 0.001$) among them.
• The percentage of partially satisfied respondents is the highest at PbU (83.49%) and lowest at GNDU (32.10%).
• The percentage of satisfied respondents is the highest at GNDU (64.20%) in comparison to PU (30.43%) and PbU (14.68%).

Academic Environment
• 65 (80.25%) respondents of GNDU find the academic environment as stimulating, followed by PU with 42 (45.65%) and PbU with 43 (39.45%) responses showing highly significant differences ($p \leq 0.001$) among them.

Importance of Research Facilities
• The respondents of all the universities have ranked guidance and library support as the two most important research facilities for research work.

Frequency of Library Visits
• 61.35% of the total respondents visit the library 2-3 times a week, 19.15% daily, 14.89% once a week and 4.61% rarely.
A majority of the respondents of PU visit the library 2-3 times a week (67.39%), followed by PbU (62.39%) and GNDU (53.09%).

The respondents of GNDU are on top for visiting the library daily with 18 (22.22%) responses, followed by PU with 20 (21.74%) and PbU with 16 (14.68%) responses.

**Purpose of Visit to the Library**

- 201 (71.28%) respondents of all the universities use the library mainly to seek information related to research and comparatively less number of respondents i.e. 136 (48.23%) uses the library to borrow documents showing highly significant differences ($p\leq 0.001$) among them.
- 85.19% of the respondents of GNDU use the library to seek information related to research, followed by PU (80.43%) and PbU (53.21%).

**Use of other Libraries**

- A majority of the respondents of all the universities make use of other libraries to get the information not available in their respective libraries showing non-significant differences ($p\geq 0.05$) among them.

**Users’ Preference of types of Documents**

- It is observed that the books (mean value of 11.98 at PU, 11.36 at GNDU and 11.28 at PbU), followed by periodicals (mean value of 11.59 at PU, 11.15 at GNDU and 9.63 at PbU) and reference books (mean value of 9.53 at GNDU, 9.26 at PU and 9.16 at PbU) are the most preferred sources used by the respondents to locate the information.
- The preference of other information sources varies among the respondents of three universities while the rank for online databases is similar among them.

**Availability of the Needed Books**

- 44.68% of the respondents of all the universities find that the books needed were not available ‘sometimes’ showing highly significant differences ($p\leq 0.001$) among them.
Adequacy of Information Sources

- The overall opinion as expressed by the research scholars is that the e-journals, books, reference books, periodicals, databases, Internet and maps & atlases are adequate information sources to meet their needs whereas microfilms, indexing/abstracting periodicals, newspapers etc. are considered inadequate.
- All the respondents of PU find e-journals most adequate, followed by GNDU with 96.30% and PbU with 88.89% response in their respective libraries.

Availability of Material on Topic of Research

- 94.33% of the respondents of all the universities admit that they find the information sources available in their libraries related to research.

Satisfaction of Literature Available on Topic of Research

- Of the respondents who find the material available on research topic, majority of the respondents from PbU (90.48%), GNDU (85.33%) and PU (81.40%) are average satisfied with the literature available showing non-significant differences (p≥0.05) among them.

Adequacy of Primary Sources to Support Research

- 76.09% of the respondents of PU and 60.55% of PbU regard the primary sources inadequate whereas the respondents of GNDU (56.79%) regard it adequate.

Strong Reference Collection to Support Research

- 61.35% of the respondents of all the universities do not find the reference collection strong enough to meet their research needs.
- 78.26% of the respondents of PU and 63.30% of PbU do not find the reference collection strong whereas 60.49% of the respondents of GNDU are satisfied with reference collection in their library.

Indexing/Abstracting Sources to Support Research

- 50 (54.35%) respondents of PU find the indexing/abstracting sources available in their respective library to meet their research needs followed by GNDU with 41 (50.62%) and PbU with 52 (47.71%) responses.
Special Collection

- The respondents of PU (89.31%) are more aware of special collection than those of GNDU (62.96%) and PbU (44.95%) showing highly significant differences (p<0.001) among them.
- Of the aware respondents, 70.59% of the respondents of GNDU and 53.66% of PU are using the special collection rarely while 71.43% of the respondents of PbU are using it ‘often’.

Catalogue Facilities

- All the respondents are aware of the catalogue facility available in their respective libraries. They found that card catalogue is helpful in locating the documents.

Principle Approach to Catalogue

- 85.82% of the respondents of all the universities approach the documents through author and 82.98% through title in their respective libraries.
- 97.53% of the respondents of GNDU follow author approach in locating the documents, followed by PU with 86.96% and PbU with 76.15% responses. 92.59% of the respondents of GNDU follow title approach, followed by PU with 89.13% and PbU with 70.64% response.
- The respondents of GNDU constitute the largest percentage (28.40%) to follow subject approach than those of the respondents of PbU (27.52%) and PU (19.57%).

Adequacy of Library Catalogue

- All the respondents of GNDU find the library catalogue adequate whereas 34.86% at PbU and 19.57% at PU find the library catalogue inadequate.

Specific Catalogue Problems

- Of the respondents who find the library catalogue inadequate, the respondents of PbU and PU identify the problems of catalogue such as ‘no instructions’ (48.21%) ‘missing cards’ (33.93%) and ‘wrong filing’ (17.86%).
Satisfaction of Library Catalogue
- 79.01% of the respondents of GNDU are satisfied with the catalogue facility, while 78.26% of the respondents of PU and 69.72% of PbU regard the service as average showing highly significant differences (p<0.001) among them.

Arrangement of Books on Shelves
- All the respondents identify that it is easy to locate the document with the help of library catalogue.
- 93.83% of the respondents of GNDU find the arrangement of books on shelves helpful, followed by PU with 47.83% and PbU with 41.28% response showing highly significant differences (p<0.001) among them.
- 41.49% of the respondents of all three universities do not find the arrangement of books helpful.

Problems with Arrangement of Books
- Of the respondents who are dissatisfied with the arrangement of books, 79.69% of the respondents of PbU face the problem of ‘Books not in order’, followed by PU with 62.50% and GNDU with 60% response.

Arrangement of Reading Facilities
- All the respondents of GNDU find proper reading facilities such as lighting and seating arrangement, ventilation, drinking water and sanitary facilities.
- All the respondents of PbU find good lighting arrangement and 97.83% of the respondents of PU find good seating arrangement facilities.

Satisfaction of Reading Facilities
- The percentage of the respondents who are satisfied with the reading facilities is the highest at GNDU (96.30%) and lowest at PU (43.48%) showing highly significant differences (p<0.001) among them.
- 35.46% of the respondents of all the universities regard the service as average satisfactory.
Borrowing Facilities

- All the respondents find the provision for lending books for home reading.

Change of Borrowing Regulations

- 82.98% of the respondents of all the universities think that borrowing regulations should not be changed to allow them for ‘unlimited number of books’, followed by other regulations relating to ‘issue of dissertations’ (68.44%), ‘issue of backsets of periodicals’ (67.38%) and ‘issue of reference books’ (54.26%).

Adequacy of Library Tickets

- 81.48% of the respondents of GNDU, 37.61% at PbU and 26.09% at PU indicate that they are happy with the tickets provided by their libraries to borrow books for home reading showing highly significant differences (p<0.001) among them.

Use of Others’ Pass Book

- 84.78% of the respondents of PU are using others’ passbook in case of extra need for borrowing books, followed by PbU with 80.73% and GNDU with 60.49% responses showing highly significant differences (p<0.001) among them.

Borrowing Tickets from Others

- Of the respondents who used others’ passbook, 86.36% of the respondents of PbU are meeting such a demand by taking tickets from friends, followed by PU and GNDU with 74.36% and 71.43% responses respectively.
- 67.35% of the respondents of GNDU take tickets from their guide in comparison to PU (64.10%) and PbU (34.09%).
- 4.08% of the respondents of GNDU also resolve the extra need with the help of ‘reading in the library’.

Issue Procedure

- A majority of the respondents at GNDU (93.83%), PU (86.96%) and PbU (61.47%) find the issue procedure convenient showing highly significant differences (p<0.001) among them.
• 16.67% of the respondents of all the universities find the present procedure as time consuming while 4.26% as complex procedure.

**Working Hours**
• 81.48% of the respondents of GNDU are satisfied with the library working hours and 58.70% of PU as average satisfied. Only 1.83% of the respondents of PbU are dissatisfied with these showing highly significant differences (p<0.001) among them.

**Location of the Library**
• All the respondents find that the libraries are appropriately located in the centre of the reading community within easy reach.

**Distance between Library and Work Spot**
• 93.83% of the respondents of GNDU are satisfied with the location of the library and work spot, followed by PbU (67.89%) and PU (65.22%) showing highly significant differences (p<0.001) among them.
• The percentage of the respondents of all the universities who regard the library location average satisfied range from 6.17% to 32.61%. Only 2.17% of the respondents of PbU are dissatisfied.

**Disturbance in the Library**
• About 27% of the respondents of all the universities find some kind of disturbance in their libraries.

**Satisfaction of Library Atmosphere**
• 85.19% of the respondents of GNDU regard the library atmosphere satisfactory whereas PU with 71.74% and PbU with 62.39% regard it as average showing highly significant differences (p<0.001) among them.

**Attitude of Library Staff**
• A majority of the respondents of PbU (98.17%), GNDU (97.53%) and PU (95.65%) find the attitude of library staff helpful.

**Help from Library Staff in General**
• Of the respondents who find helpful attitude of the library staff, a majority of the respondents of GNDU (62.03%), PbU (57.01%) and PU (27.27%) are getting staff help ‘always’ whereas 68.18% of the
respondents of PU, followed by PbU (41.12%) and GNDU (37.97%) are getting staff help 'sometimes'.

**Information Services**

**List of New Additions**

- 84.78% of the respondents of PU are aware of the current awareness lists/list of new additions service, followed by the respondents of PbU (79.82%) and GNDU (75.31%).
- Of the aware respondents, 56.41% of the respondents of PU make use of the service sometimes, followed by GNDU (49.18%) and PbU (45.98%). About 31% of the respondents of all the universities make use of it frequently.
- 43.48% of the respondents of all the universities regard the service as satisfactory and 42.39% as average.

**Current Contents Lists/Periodicals Received**

- 71.74% of the respondents of PU, 48.62% at PbU and 43.21% at GNDU are aware of the current contents lists.
- Of the respondents who are aware of the service, 88.57% of the respondents of GNDU make use of the service sometimes, followed by PU (45.45%) and PbU (24.53%). The percentage of frequent users is the highest at PbU (56.60%) and lowest at GNDU (11.43%).
- 49.02% of the respondents at PU and 46.51% at PbU regard the service as satisfactory. The percentage of the respondents who make use of the service frequently and feel satisfactory with the service is similar at GNDU (11.43%).

**Issuing of Information Bulletin**

- A majority of the respondents of GNDU and PbU are aware of the information bulletin service. The percentage of respondents of GNDU (80.25%) is the highest than it is at PbU (54.13%).
- Of the respondents who are aware of the service, 58.46% of the respondents of GNDU make use of the service frequently and 57.63% at PbU make use of the service sometimes.
- 63.08% of the respondents of GNDU and 38% of PbU are satisfied with information bulletin service.
Compilation of Theses

- All the respondents of GNDU are aware of the service showing 100% awareness, followed by PU (80.43%) and PbU (63.30%).
- Of the awared respondents, 95.06% of the respondents of GNDU are frequent users of the service, followed by PU (64.86%) and PbU (34.78%). The percentage of respondents who make use of the service sometimes is the highest at PbU (47.83%) and lowest at GNDU (4.94%) showing highly significant differences (p<0.001) among them.
- Of the respondents who are satisfied with the service, GNDU leads with 96.30% response, followed by PU with 51.47% and PbU with 31.58% response.

Information Location Services

Bibliographic Service

- GNDU dominates in case of level of awareness of the service with 96.30% response. The other universities i.e. PU with 71.74% and PbU with 56.88% responses follow it.
- GNDU leads in case of use of the service frequently (69.23%), followed by PbU (46.77%) and PU (39.39%) showing highly significant differences (p<0.001) among them.
- The respondents of GNDU again come on the top in case of satisfaction level of the service with 60.26% response, followed by PU (52.94%) and PbU (41.18%).

Published Catalogue Service

- All the respondents are aware of the published catalogue of the periodical holdings/latest books/theses indicating 100% awareness.
- Of the respondents who are aware of the service, the majority of the respondents of PbU (88.99%) and GNDU (67.90%) make use of the service sometimes whereas 34.78% of the respondents of PU make use of the service frequently.
- Of the respondents who make use of the service, 59.75% of the respondents regard the service as average and 35.59% as satisfactory.
Reference Service

Assistance from Library Staff

- 89.13% of the respondents of PU take assistance from the library staff occasionally, followed by PbU (85.32%) and GNDU (53.09%). The percentage of the respondents of GNDU who make use of the service frequently is the highest in comparison to PbU (14.68%) and PU (10.87%).

Purpose of taking Assistance from Library Staff

- 86.96% of the respondents at PU, 86.42% at GNDU and 74.31% at PbU take staff assistance for locating documents.
- 52.17% of the respondents of PU take staff help in getting answers to specific queries, followed by GNDU and PbU with 29.63% and 27.52% responses respectively.

Satisfaction of Reference Service

- The percentage of the respondents who feel satisfied with the service is the highest at PbU (78.90%) than those of the respondents of GNDU (41.98%) and PU (14.13%).

User Education Programme

- All the respondents of GNDU have shown awareness of the library instructions/user education programme, followed by PbU (77.06%) and PU (69.57%).
- Of the awared respondents, who attend the programme, PbU leads with 83.33% response, followed by PU with 78.13% and GNDU with 62.96% response.
- More than 96% of the respondents of all the universities consider the programme useful for the optimum use of the library resources and services.
- More than 84% of the respondents of all the universities show their willingness to attend the lectures on ‘How to use the Library Effectively’ if these are organized by the library. The percentage of such willingness is the highest at GNDU.

Reprographic Service

- All the respondents have shown awareness of the service.
• More than 97% of the respondents of all the universities make use of the service and use it primarily for getting articles to be photocopied.
• 94% of the respondents regard the service either as satisfactory or average. The percentage of satisfied respondents is the highest (62.96%) at GNDU than it is at other universities.

Microfilm Reading Facility
• A majority of the respondents of GNDU (88.89%), followed by PU (73.91%) and PbU (68.81%) are aware of the service.
• Only 9.77% of the respondents make use of the service.
• Of the respondents who are aware of and make use of the service, 76.19% of them make use of the service sometimes. Moreover, none of the respondents make use of the service frequently.
• Of the actual users of the service, 50% of the respondents of PU and 40% of GNDU feel satisfied with the service. At PbU, the number of such respondents is non-existent.

Inter Library Loan Service
• All the respondents have shown awareness of the service.
• Use of inter library loan service is more among the respondents of PU (36.96%) than it is at PbU (18.35%) and GNDU (11.11%) showing highly significant differences (p<0.001) among them.
• Of the respondents who are aware of and make use of the service, respondents of GNDU lead with 100% response in comparison to PbU (70%) and PU (61.76%) for getting positive response of the libraries to acquire books from other libraries.
• 38.64% of the respondents of all the universities are satisfied with the service. The percentage of satisfied respondents is the highest at GNDU (88.89%) and it is lowest at PU (19.05%).

Computerized Information Services
• A majority of the respondents of GNDU (97.53%), PbU (96.33%) and PU (95.65%) are aware of the computerized information services.
• Of the aware respondents, 78.31% of them have made use of the service i.e. the respondents of GNDU lead with 89.87%, followed by
PU with 88.64% and PbU with 60.95% responses showing highly significant differences ($p \leq 0.001$) among them.

- Respondents of GNDU lead in case of use of the service sometimes with 81.69% followed by PU and PbU with 69.23% and 65.63% responses respectively showing highly significant differences ($p \leq 0.001$) among them.

- The percentage of the satisfied respondents is the highest at GNDU (53.52%) than it is among the respondents of PbU (35.71%) and PU (29.69%) showing highly significant differences ($p \leq 0.001$) among them.

**Database Service**

- A majority of the respondents of GNDU (92.59%) are aware of the database service in comparison to PU (88.04%) and PbU (72.48%) showing highly significant differences ($p \leq 0.001$) among them.

- Of the respondents who are aware of the service, 83.40% of the respondents of all the universities make use of the service.

- PbU dominates in case of frequent use of the service with 40% response. The other universities i.e. PU with 19.72% response and GNDU with 18.46% response follow it.

- A majority of the respondents of GNDU (53.85%) than those of PU (39.62%) and PbU (35.19%) feel satisfied with the database service.

**Online Search Facility**

- All the respondents have shown awareness of the online search facility indicating 100% awareness.

- Use of online search facility is more among the respondents of GNDU (95.06%) in comparison to PU (91.30%) and PbU (89.91%).

- The percentage of the respondents who make use of the service sometimes is very significant at GNDU (72.73%) in comparison to PbU (58.16%) and PU (41.67%). The percentage of frequent respondents is the highest at PU (52.38%), followed by PbU (32.65%) and GNDU (27.27%).
OPAC Facility

- All the respondents have shown awareness of OPAC facility indicating 100% awareness.
- 96.30% of the respondents of GNDU approach the OPAC by title, followed by the respondents of PU (92.39%) and PbU (87.16%). Regarding author approach, respondents of GNDU and PU hold almost similar views with slight variation in percentage while the percentage is the lowest at PbU with 68.81% response.
- A majority of the respondents of GNDU (74.07%) and PbU (72.48%) regard the service satisfactory while 52.17% of the respondents of PU regard it as average.

Internet Facility

- All the respondents have shown awareness of the Internet facility.
- 47.16% of the respondents of all the universities spend less than one hour and only 22.34% more than two hours per week on the Internet.
- The respondents of PbU lead in the case of spending less than one hour per week on the Internet with 62.39% followed by the respondents of GNDU with 58.02% and PU with 19.57% responses showing highly significant differences (p≤ 0.001) among them.
- A majority of the respondents of GNDU (92.59%) are satisfied with the Internet section timings, followed by PbU (76.15%) and PU (65.22%) showing highly significant differences (p<0.001) among them.
- Of the Internet services, e-mail and www have been chosen as the most popular Internet services with 100% responses. Next in priority comes the search engines and FTP with 92.55% and 89.01% responses respectively in all the universities.

Library Website

- All the respondents have shown awareness of the library website in their libraries.
- All the respondents of GNDU use the library website for getting information online indicating 100% response, followed by PU (95.65%) and PbU (66.97%) responses.
• Of the respondents who use the service, 91.36% of the respondents of GNDU regard the service as satisfactory while 71.23% of the respondents of PbU regard it as average.

**Overall Opinion about the Information Services**

• In general, a majority of the respondents of GNDU (93.83%), PU (81.52%) and PbU (64.22%) are satisfied with the services provided by their universities showing highly significant differences (p<0.001) among them.

**Required Services at University Libraries**

• All the respondents of three universities consider Internet and online services ‘essential’ in view of their educational and research needs.

• All the respondents of PbU and GNDU consider the current awareness service as ‘essential’ while 82.61% of the respondents of PU consider it ‘essential’, 14.13% as ‘desirable’ and 3.26% as ‘not necessary’.

• More than 85% of the respondents of all the universities consider the database service as ‘essential’ ranging from 67.89% to 97.83%. The other services are also considered either ‘essential’ or ‘desirable’.

**Suggestions**

Based on the findings, the following suggestions are made.

• Each library should provide the required information related to scholar’s studies and research through various information sources and services.

• Awareness among the researchers should be created to use e-resources to obtain current information.

• Advanced books and journals in all disciplines should be strengthened to support study and research work.

• Non-book material collection should be strengthened.

• More e-resources should be acquired to support research fully.

• In case of non-availability of documents, the library authority should make possible arrangement to acquire the same as soon as users make the request.

• The difficulties the users face in finding the relevant documents should be overcome by re-shelving the documents promptly and regularly.
• Printed lists of recently procured books and journals should be provided on regular basis.

• The delay in providing xerox service, reference service etc. should be minimized.

• It is essential to expand inter library loan (ILL) service in the libraries because of the reason that ILL service is important for the research scholars of history as they need to have access to a wide range of material.

• OPAC should be kept up-to-date by adding the new entries quickly.

• Only one fourth of the respondents use database service frequently and 37.45% use online service frequently and the reason may be that they don’t have enough skills to find the information. Therefore, it is suggested that more training sessions should be arranged in the libraries to develop in them the requisite skills.

• Users’ surveys should be conducted from time to time to determine their information needs.

• Information literacy programmes should be conducted regularly to literate the researchers how to find, evaluate and use the required information in an appropriate way.

• Computers and information communication technologies should be efficiently utilized for speedy information dissemination purpose and for the successful networking and resource sharing among the libraries.

It is only through the implementation of these suggestions that the research efforts in the universities to which these libraries form an information system can be optimized.

**Conclusion**

The study reveals that the research scholars depend upon their respective university libraries for information support in terms of information sources and services. The research scholars prefer to consult books, periodicals and reference books which serve their research purpose and prefer to visit the library 2-3 times a week to consult reference material.

The results show the significant differences among the research scholars of all the three universities with regard to the library use patterns for information.
Based on the use patterns of the university libraries, care has to be taken to attract the research scholars to visit the libraries more frequently to exploit the university library information sources, facilities and services to meet their research needs.

To conclude, we can say that information explosion has brought significant changes in the information service scenario in social sciences. Further, to match the information requirements of the research scholars, the university libraries have to equip the research scholars with world class information services at their desk tops.

Scope for Future Research

The present study concentrates to evaluate the existing collection, various types of facilities and services being provided in the libraries of Panjab, Punjabi and Guru Nanak Dev Universities and to identify the impression of research scholars towards the adequacy of library resources, their use of the libraries and their views on library services.

- User studies may be carried out from time to time with a view to determine the needs of research scholars and providing better services to them.
- The results of the present study act as a guide to proceed further in right direction in future.
- The present study is based on a survey. The same study can be done through interview method covering librarian, library staff and readers.
- This kind of study will be helpful for the libraries of other faculties and even other universities in creating better provision of library resources and services.
- The users study needs to be conducted at micro level in the form of case studies to make libraries more responsive in a changing scenario of a networked environment.
- This kind of study should further be encouraged and should be conducted for a particular academic community at a periodic interval.