CHAPTER 6
FINDINGS, SUGGESTIONS AND CONCLUSION

This chapter deals with the summary of the findings and suggestions based on the analysis of collected data with respect to the use of online databases in the faculties of Social Sciences and Arts in the central universities of Delhi and UP, some of the major findings to enhance the use of online databases are summed up as follows:

6.1. FINDINGS

Part- A

Major Findings derived from the Responses of Librarians

The major findings of the study, in summarized form, conducted among the librarians/librarian-in-charges of the libraries under study are following:

1. Amongst the surveyed libraries, only the library of BHU has separate budget for the subscription of online databases, whereas the other surveyed libraries did not have any budget for the purchase of online databases (Table 5.1).

2. Amongst the four libraries under study, DU has the highest number of online databases, 79 followed by JNU (66), BHU (24) and AMU (24) (Table 5.2).

3. In the libraries of DU, JNU, AMU and BHU, Faculty recommendations are the prominent source for selection of online databases, followed by user recommendations in DU, JNU and AMU, while the recommendations of library committee are considered by for selecting online databases in the libraries of JNU, AMU and BHU. News groups, reviews and vendor’s recommendations are the less preferred sources for selection (Table 5.3).

4. Selection of online database in the surveyed libraries is mostly done according to the coverage, authority/publisher, cost, licensing policy, user’s need, and functionality and reliability of the sources. The other options of selection include; authentication, technical feasibility, vendor support and user interface as the least preferred for selecting online databases (Table 5.4).

5. Online databases are procured in all the select university, viz., DU, JNU, AMU and BHU libraries through both consortium and direct subscription from vendors (Table 5.5).

6. Libraries of DU, JNU, AMU and BHU are mostly preferred publishers to be an important and reliable mode of acquisition, followed by online database
aggregators (Proquest, EBSCOhost etc.) in JNU, AMU and BHU and professional organizations are the other modes used in JNU and BHU for acquisition of online databases (Table 5.6).

7. The libraries of DU, AMU and BHU provide on campus access to online databases through recognized IP address; while on campus ID & password protected access to subscribed databases is provided in the libraries of JNU, AMU and BHU. Only the JNU’s library offers remote access to online database which enables its registered users to access it anywhere from the world (Table 5.7).

8. The libraries under study are using proxy servers to provide access of its subscribed online databases to registered users only.

9. Library staff of the libraries under study of Delhi and UP, agreed that the usage of print sources has decreased as use of online databases has increased (Table 5.8).

10. In DU, JNU, AMU and BHU libraries, usage statistics is used to find out the use of online databases. However, log analysis is also used to determine the overall use of online databases, but it is not applicable for the discipline wise usage study. In the library of DU, usage of online databases is also determined by the Usage Register used to record the particulars of online databases (Table 5.9).

11. According to the usage statistics usage provided by the library of JNU, JSTOR has the highest usage in 2013 and 2014 respectively. In both the years, Annual Reviews was recorded as the least used online database (Table 5.9 a).

12. In AMU, in the consecutive years 2013 and 2014, Science Direct recorded the highest usage whereas Annual Reviews with least usage marked in 2013 and Project Muse in 2014(Table 5.9 b).

13. Science Direct was found to be among the highly used online databases in BHU in the years of 2013 and 2014, while as Project Muse recorded minimum usage in both the years, i.e., 2013 and 2014 respectively(Table 5.9 c).

14. Comparative usage analysis of online databases among JNU, AMU and BHU reveals that, in the years 2013 and 2014, JSTOR was the most used online database in the faculties of Social Sciences and Arts in JNU. However, Science Direct was highly used by the users in AMU in 2013 and 2014. The same pattern of usage was seen in BHU, where Science Direct had maximum
usage among the online databases. Annual Reviews was found to be among the less used online databases in JNU, while, Annual Reviews in 2013 and Project Muse had comparatively less usage in AMU for the 2014. In the years of 2013 and 2014, Project Muse was ranked as least used online databases in BHU (Table 5.9.d).

15. Price of online databases and limited access to number of users and sites are the main problems faced by the library staff of JNU, AMU and BHU, whereas back issues & archiving in DU and AMU and lack of value added services in AMU only while procuring online databases. In JNU library staff does not face any problems while subscribing to online databases (Table 5.10).

16. Difficulties related to networking, insufficient collection, lack of skilled/trained IT personnel and inadequate library resources (equipments), lack of skilled or trained staff and technical problems are identified as the major problems by library staff of all the surveyed libraries except JNU (Table 5.11).

17. The facility of computer lab, adequate number of terminals, 24x7 accessibility through Wi-Fi and support services are provided by all libraries, while audio visual devices are provided by the AMU and JNU libraries. The facility of Ask a librarian in DU, AMU and BHU and the facility of trial access in DU, JNU and AMU, whereas online tutorials is only provided by the DU library (Table 5.12).

18. Library website is the most popular medium used by the libraries to alert and inform about its collection and services. The libraries of DU, JNU AMU and, BHU update their users by providing information through their library websites. University web pages and Emails are used by the libraries of JNU and AMU, while notification by AMU’s library used to update their users (Table 5.13).

19. The service of Tutorials or Manuals is also provided in libraries of DU, JNU AMU and BHU, to help the customers in using their product. The database providers offer Trial evaluation/ Promotional materials and Technical /Customer support to complement their services for the DU, JNU and AMU libraries. While the provision of product customization and feedback is provided in BHU and AMU library respectively (Table 5.14).
20. According to the librarians, lack of awareness in JNU, AMU and BHU; while as lack of IT skills / expertise in DU, AMU and BHU are the major factors responsible for the less usage of online databases. However, lack of interest in online sources is observed in DU and BHU, lack of orientation programmes in AMU and JNU and more dependence on print sources and improper provision of library services in AMU are mentioned as reason for less usage of online databases in AMU (Table 5.15).

21. The libraries of DU, JNU and BHU are regularly organizing different types of training and orientation programmes for their staff and users to help them in using online databases. However, the library of AMU does not organize any training programme or orientation programmes either for staff or users for better use of online databases (Table 5.16).

22. The libraries of all the three universities except AMU are regularly organizing library orientation and training programmes. The Demonstration of online resources through Publishers/ Commercial Vendors is conducted in BHU and JNU libraries. Training/ workshops were organized by the libraries of DU, JNU and BHU, while as the libraries of DU, JNU and AMU organized different types of Information Literacy Programmes to educate their staff and users about the benefits and use of online resources (Table 5.17).

Part- B

Major Findings of the Responses Derived from the Library Users

This part discusses major findings of the survey conducted among the users of the select libraries under study as given below:

1. Awareness of online databases among the users in the universities of Delhi is higher as compared to the users in the universities of UP, i.e., 38.04% in DU and highest 71.93% in JNU 28.35%, whereas in AMU, and 20.27% in BHU. Amongst the user groups, faculty members (90.91% DU, 100% JNU, 50% AMU, 44.44% in BHU) have more awareness about online databases as compared to research scholars (62.92% DU, 75.63% JNU, 41.24% AMU, 33.33% in BHU) and postgraduates (26.74% DU, 57.14% JNU, 15.86% AMU, 11.44% in BHU) in all the select universities. This is finding is supported by the study of Mannan, Zaidi and Bharah (2009), which showed that faculty members and research scholars are well aware of the availability of online databases and largely used them Realizing the fact the online
databases today is recognized as an essential component for study and teaching, it is heartening to note that only a very small percentage (15.86%) of the PG students in AMU were confident about their level of awareness with online databases, the condition is still poorer when it comes to as only 11.44% of the PG students are confident about their awareness (Table- 5.18).

2. Internet is regarded as the main source of information through which majority of the users in BHU (67.08 percent) followed by DU (59.71 percent) and AMU (57.83 percent) get acquainted with online databases, while a significant number of users (77.83 percent) in JNU got informed about online databases from the library website. Friends and colleagues are considered as second most preferred source of information in JNU (66.21%) and BHU (52.47%), although ‘teachers’ in DU (56.94%) and AMU (57.09%) are considered as an important means to be informed with online databases. This is supported by the study of Panda (2010) that the majority of users seek information from library staff or experts and from friend. Internet users’ majority belongs mostly to Research Scholars, as 73.03% in DU, 67.01% in AMU and 76.39% Research Scholars in BHU, on the contrary, most of the Research Scholars (79.83%) in JNU used library website as source of information about online databases (Table 5.19).

3. A high percentage of users in all the select universities except JNU use online databases occasionally, though in JNU, users mostly used online databases in 2-3 times a week. Amongst the occasional users, PG has the higher percentage as compared to others groups in DU, AMU and BHU. In JNU, majority of the faculty members used the online databases 2-3 times a week. (Table 5.20).

4. Majority of the respondents in DU most of the users like to use online databases for updating knowledge, conversely in JNU, online databases are mostly consulted for writing papers, while in AMU and BHU use online databases for preparing assignments and project. This corresponded to the results given by Atakan (2008) that revealed the databases were largely used for research, educational purposes and for getting information. However, research scholars in the all universities of Delhi and UP had higher use of online databases for writing papers in DU and JNU and for preparing assignments and project in AMU and BHU (Table 5.21).
5. Journal articles are the most preferred online database resources in the universities of Delhi and UP, i.e. faculty members in DU (100%) and all the faculty members and research scholars in JNU as 100% use online databases for accessing journal articles, while in AMU and BHU, research scholars (100% and 95.83%) are the prominent users of Journals articles. Among the respondents of DU, BHU and AMU, miscellaneous materials (reviews and editorials) are the least preferred sources, while books are kept under the category of least used resources in JNU (Table 5.22).

6. More than fifty percent of users in DU, AMU and BHU; i.e. mainly research scholars (75.84%, 76.29% and 70.14 % respectively) access online databases from the university computer centre. However, university library is considered as a central place for accessing online database by the majority of users (79.83% research scholars) in JNU. This finding is supported by the study of Thanuskodi (2013) that the central library is the most preferable place of using online resources (Table 5.23).

7. Full text documents in online databases are usually preferred by a larger percentage of users, such as in DU (90.91% FM, 100% RS, 90.84% PG %), in JNU (91.67% FM, 96.63% RS, 87.62% PG), AMU (84.64% FM, 100% RS, 84.83% PG) and BHU (86.11% FM, 98.61% RS, 81.7%PG). On the other hand, multimedia based information is least preferred by the users of DU (36.36% FM, 21.91% RS, 20.69%PG) and JNU (16.67% FM, 18.06% RS, 10.48%PG). Respectively, whereas numeric or statistical type of information got least responses in AMU (93.23% FM, 20.62% RS, 14.48%PG) and BHU (16.67% FM, 16.67% RS, 7.19%PG) (Table 5.24).

8. In all the surveyed libraries of Delhi and UP, the majority of 68.03% from DU 84.2% in JNU, 71.27% in AMU and 66.46% in BHU determined the relevance and reliability of documents through its content. However, the hyperlinks preferred least by the users in DU (7.26%), JNU (10.08%), AMU (4.85%) and BHU (5.55%) to determine the worthiness of the documents retrieved through the online databases (Table 5.25).

9. In DU, JSTOR, Science Direct and Project Muse were the most used online databases by the faculty members, research scholars and postgraduates respectively. On the contrary, LISTA and ISI Emerging Markets CEIC Asia
were less used online databases in the faculties of Social Sciences and Arts in DU (Table 5.26).

10. Science Direct was the most used database amongst the faculty members and research scholars, while JSTOR was preferred mostly by the postgraduates in JNU (Table 5.27).

11. JSTOR was the most popular database amongst the faculty members and research scholars, while Emerald was most used by the postgraduates. While the databases, Annual Reviews, Wiley Inter science and ISID were least used by all the user groups in AMU (Table 5.28).

12. The online database JSTOR was ranked first by the faculty members and postgraduates, while Emerald rated at first position by most of research scholars, in BHU (Table 5.29).

13. Comparative study shows that, JSTOR is the most used online database among DU, AMU and BHU, while Science Direct is the online databases that most commonly used by the users of JNU (Table 5.30).

14. Search engine is the most preferred and easiest means to access online databases. Majority of users as in AMU (75.75%) with (46.15%FM, 70.1%RS, 84.83%) PG 70.99% in BHU (55.55%FM, 75%RS, 70.91% PG), 70.57% in JNU (58.33% FM, 71.85% RS, 70.48% PG), and 67.11% in DU (48.48%FM, 86.52%, RS 61.9%PG), was accessed online databases through search engines. Although, access to online databases through publisher website was the least preferred means to access online databases among the users of all the surveyed universities i.e. total 29.06% in DU comprising 33.33%FM, 47.75%RS, 22.71% PG followed by 25.61% in JNU comprising 16.67%FM, 29.41%RS, 19.05% PG, total 20.15% in AMU including 38.46%FM, 20.62%RS, 16.55% PG and 24.07% in BHU including 50%FM, 26.39%RS, 19.93% PG, were least Preferred access library website to access online databases (Table 5.31).

15. In the universities of Delhi and UP, highest responses received were for Basic search (88.24% in DU, 83.92% in JNU, 88.06% in AMU and 84.77% in BHU, respectively), followed by Advanced search (69.75% in DU, 56.54%, in JNU, 40.67% in AMU and 27.57% in BHU respectively), Expert search (8.32% DU, 11.44%JNU, 6.34% AMU and 4.93% BHU respectively) and a very less number of users as 3.04% in DU, 7.36% in JNU, 4.48% in AMU and
1.85% in BHU used Citation locator technique for searching citation related information in online databases (Table 5.32).

16. With regard to the advanced search technique, Boolean operators is the most preferred search strategy used by majority of users in DU (69.7% faculty members, 77.52% research scholars, and 60.80% postgraduates) and BHU (55.55% faculty members, 63.89% research scholars, and 53.92% postgraduates), on the contrary, the option of searching by field search is used most by the respondents of JNU (75% faculty members, 84.45% research scholars and 76.19% postgraduates) and AMU (69.23% faculty members, 75.26% research scholars and postgraduates 58.62%). However, the proximity search is used very rarely in all the select universities of Delhi and UP, i.e., in DU (5.81%), JNU (11.72%), AMU (6.34%) and BHU (4.11%) respectively (Table 5.33).

17. PDF is the most preferred format used to read or download documents from online databases, as 100% users in JNU and DU respectively; while a little less in AMU (97.39 percent) and BHU (96.50 percent) used it to access information from online databases. Kattimani (2010) elaborated that majority of the users preferred PDF to download the online information rather than using other formats of downloading (Table 5.34).

18. Print journals are more favoured by the users of AMU and BHU respectively. On the contrary in DU and JNU a large number of users showed more interest towards online journals rather than print documents. In DU and JNU a large number of users in the faculties of the Social sciences and Arts 51.52% and 65.94% respectively showed more interest towards the online journals rather than the print documents, On the contrary, in the universities of UP (AMU and BHU), print forms were more preferred by the users i.e., 64.92% and 65.43% respectively. The reason of using more print resources may be that, the required information is mostly available in print form; also the lack of awareness about online resources prevents users from making use of online resources. This finding supported by Tyagi (2012), who asserted that users depended more on print sources, because of having less awareness of electronic resources (Table 5.35).

19. Amongst the different features of online databases, ‘search option’ was the most preferred option among the users of JNU, AMU and BHU whereas
‘browsing’ got highest rank in DU. The features, ‘help & support’, ‘customization’, ‘news/updates’ and ‘quick links’ or ‘active links’ were used for searching the online databases by the users in AMU, BHU, DU and JNU respectively (Table 5.36).

20. A large number of users in all the surveyed universities opined that the use of online databases has tremendously benefitted them and enabling them to locate their information within a fraction of time with greater ease. Majority of users in the faculties of Social sciences and Arts in the surveyed universities was around, 89.10% users in JNU followed by 81.50% in DU, 85.18% in BHU and 77.24% from AMU (Table 5.37).

21. Variations are seen regarding the impact of online databases on education and research in the select universities of Delhi and UP. In DU, 80.39% users mentioned, access to wider range of information and 75.53% of the users in JNU, stated easier and faster access to information of interest as a major impact factor of online databases. In AMU (78.26%) mentioned that they accessed authentic and reliable information through online databases, while access to more up-to-date information is stated as one of the impacts of online databases by 62.08% of the users in BHU (Table 5.38).

22. The non availability of off campus access to online database is the main obstacle in the optimal use of online databases according to 75.69 percent of the users in DU. As it is seen that the ratio of problems in JNU is lesser than as compared to other surveyed universities, as only 40.95 percent of total respondents mentioned that the inadequate collection of online databases impeded the use of online databases. However, having more interest in print sources is recognized as a main factor responsible for less usage of online databases in AMU (76.49%) and BHU (57.82%) respectively. It is justified that more interest in print sources is the foremost problem in the usage of electronic resources (Rogers. 2001) (Table 5.39).

23. Majority of users reported networking problems (connectivity or slow speed) as the main problem that prevented them from making optimum use of online databases in all the surveyed universities except JNU, such as 76.35% (81.82% of FM, 75.28% RS and 76.37% PG) from DU, 79.48% (76.92% FM, 81.44% RS and 78.62% PG) in AMU, in BHU around 53.91%(77.78% FM, 65.28% RS and 45.75% PG) stated about this problem. However, the majority of
24. Some of respondents in the surveyed universities strongly agreed that online databases are sufficient enough in catering to their information needs. However, a moderate percentage of users in all the surveyed universities of Delhi and UP, such as 74.39% in JNU, 56.41% in DU as compared to 44.78% and 54.94% from AMU and BHU were agreed that sufficient number of online database available in their libraries (Table 5.41).

25. A majority of users in the universities under study were quite satisfied with the online database collection and services provided by their respective libraries; which is higher in JNU as 75.48 percentage followed by DU (56.54 percentage), BHU (49.38 percentage) and AMU (40.3 percentage). Only a few users in DU, AMU and BHU showed high level of dissatisfaction regarding the online database collection in the central university libraries of Delhi and UP (Table 5.42).

26. As far as efficiency of library staff of the surveyed libraries of Delhi and UP is concerned, a considerable percentage of users, i.e., 66.48% in JNU followed by 57.82% in BHU, 55.97% from AMU while 55.35% in DU pointed out that the library staff of their libraries is quite efficient in providing help regarding the use of online databases (Table 5.43).

27. Accessibility of online databases through the computer lab is the most appreciated facility among the users of DU (59.31%), and BHU (71.81%), whereas in JNU around 67.57% mentioned about the facility of 24x7 accessibility through Wi-Fi to online databases. However, majority of users in AMU i.e., 44.78% mentioned help & support as an important facility provided by library staff of their respective library (Table 5.44).

28. Majority of online database users from the faculties of Social Sciences and Arts of central universities of Delhi and UP, as in DU (83.35%), followed by JNU (78.75%), BHU (62.96%) and AMU (56.34%) revealed that their libraries are providing assistance by different means to enhance the use of online databases (Table 5.45).

29. With respect to the types of support provided by the libraries, the majority of users in all the three libraries; JNU (56.25% FM, 65.93% RS and 65.43% PG),
AMU (62.5% FM, 57.33% RS and 75% PG) and BHU (70% FM, 65.96% RS and 75.74% PG) responded that they are greatly benefitted by the personal help provided by the library staff for proper utilization of online databases. However in the University of Delhi (DU) higher appreciation of the users goes to online tutorials such as, 53.85% of FM, 68.92% by RS and 48.14% from PG (Table 5.46).

6.2. **TENABILITY OF HYPOTHESES**

In the light of the findings of the study, the tenability of hypothesis is checked and presented below:

**Hypothesis 1**

*There is significant difference in the level of awareness of online databases among users (Faculty Members, Research Scholars and Postgraduates) from faculties of Social Sciences and Arts in the Central universities of Delhi and U.P.*

The table 5.18 depicts that the users of all the select universities have shown variations in all the three categories of awareness level, as JNU (71.93%) are extremely aware of online databases then DU (38.04%), AMU (28.35%) and BHU (20.37%), while, the majority of respondents from DU (30.19%) followed by BHU (29.22%), AMU (21.64%), JNU (21.25%) have rated themselves to be neutral to the statement. However, majority in BHU (51.41%) are less aware of online databases followed by AMU (50%), DU (31.83%) and JNU (6.81%). It is noted that there is a significant difference, which shows that awareness of online databases is higher among the users of JNU and DU as compared to AMU and BHU.

On applying Chi- Square test on table 5.18, the calculated Chi-Square value is 303.398; while Chi-Square tabulated value with 6 degree of freedom at 5% level of significance is 12.592. It is observed that the calculated Chi-Square value is greater than the Chi-Square tabulated value. Therefore, it is confirmed that there is significant difference in the perception (awareness) of online database services among the users in the Central universities of Delhi and U.P. Therefore, in this case the drafted hypothesis is accepted.

**Hypothesis 2**

*There exists significant difference in the collection of online databases among the libraries of select universities in Delhi and U.P.*
It is clear from the table 5.2 that amongst the four libraries, DU has the highest number of online databases (79) followed by JNU (66), BHU (24) and AMU (24). Although, all the four universities are having same status of being central universities, but DU has the vast collection of online databases as compared to others. The collection of online databases is found to be more in libraries of Delhi as compared to UP.

Table 5.5, clearly shows that DU and JNU are acquiring 23 and 22 databases through UGC INFONET consortium, while both AMU and BHU have 23 and 19 online databases acquired through UGC INFONET. While, DU has 56 subscribed online databases followed by JNU (44), BHU (4) and AMU (1). It is clear from the above discussion that among the four libraries, the select universities in Delhi have more collection of online databases than U.P. Thus, the hypothesis is accepted.

**Hypothesis 3**

*Impact of online databases is higher among the users of the faculties of Social Sciences and Arts in the central universities of Delhi as compared to users of the faculties of Social Sciences and Arts in the central universities of U.P.*

Results in Table 5.37 shows that online databases have significant impact on the users work or study. The obtained data shows that, a good majority of the users in all the surveyed universities, i.e., 81.50% in DU, 89.10% in JNU, 77.24% from AMU and 85.18% in BHU, opined that the use of online databases has tremendously benefitted them and positively affected their teaching and learning abilities.

Table 5.38 reveals that variations are seen in the responses regarding the impact of online databases in all the select universities, as the majority of users (80.39%), in DU mentioned that access to wider range of information, whereas in JNU, easier and faster access to information of interest was stated as a major element that had an impact on the use of online databases for education and research as stated by 75.53% of the users. The majority of the respondents (78.26%) in AMU mentioned that acquiring more authentic and reliable information is viewed as a factor for greater impact of online databases whereas access to current and up-to-date information was identified as another factor that affected the users (62.08%) in BHU.
Chapter 6

Findings

Table 6.1: T- Test for Impact of Online Databases

<table>
<thead>
<tr>
<th>Paired Differences</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>Std. Error Mean</th>
<th>95% Confidence Interval of the Difference</th>
<th>T</th>
<th>df</th>
<th>Sig. (2-tailed)</th>
</tr>
</thead>
<tbody>
<tr>
<td>TOTAL_DL - TOTAL_UP</td>
<td>185.000</td>
<td>195.161</td>
<td>138.000</td>
<td>-1938.456</td>
<td>-1.341</td>
<td>1</td>
<td>.408</td>
</tr>
</tbody>
</table>

Based on t- test used in table 5.37, the above table shows that shows that the t statistic, t = -1.341 and p =0.408, since p>0.05, thus there exists ample impact of online databases, but not higher among the users of Delhi as compared to U.P.

According to the above analysis and discussions, it can be concluded that there is ample impact of online but not higher among the users of Delhi as compared to U.P. Hence, the hypothesis is rejected.

**Hypothesis 4**

*There exists a significant difference in the purposes of using online databases among the users of central university libraries in Delhi and U.P.*

The responses regarding the purposes of using online databases among the respondents as shown in Table 5.21 states that majority of respondents in DU (50.37%) respectively preferred to use online databases to update their knowledge. However, 69.20% in JNU mentioned that they mostly preferred to use online databases for writing papers, on the contrary, in AMU (74.63%) and BHU (53.70%) preferred to use online databases for preparing assignments and projects.

On using the Chi square test on the table 5.21, shows that the calculated chi-square value (63.645) is more than the tabulated value (21.026) with 12 degree of freedom at 5% level of significance p <0.05. Thus, above discussion and test results reveal that there exist significant differences in the purposes of using online databases among the users of the central university libraries. The hypothesis is hence proved.

**Hypothesis 5**

*There exists significant difference in the satisfaction level with respect to the use of online databases among the users of the faculties of Social Sciences and Arts in the central universities in Delhi and U.P.*

Table 5.42 reveals that users of DU are highly satisfied with 4.09%, 3.27% in JNU, and only 2.61% in AMU stated to be highly satisfied with online databases. Likewise, majority 75.48% in JNU followed by 56.54% in DU, 49.38% of BHU and
40.3% in AMU were satisfied with the available online databases. According to this finding, it is revealed that the user satisfaction with the available online databases is higher among the users of central universities in Delhi than that of U.P.

Table 6.2: T-Test for level of Satisfaction

<table>
<thead>
<tr>
<th>Paired Differences</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>Std. Error Mean</th>
<th>95% Confidence Interval of the Difference</th>
<th>T</th>
<th>Df</th>
<th>Sig. (2-tailed)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pair 1 TOTAL_DL TOTAL_UP</td>
<td>-74.000</td>
<td>161.974</td>
<td>72.437</td>
<td>-275.117 127.117</td>
<td>-1.022</td>
<td>4</td>
<td>.365</td>
</tr>
</tbody>
</table>

On applying the t-test to table 5.42, the resulting table 6.2 shows that the t statistic, t = 1.022 and p = 0.365, since p > 0.05, thus there is no significant difference between the satisfaction level of the users of online databases in the faculties of Social Sciences and Arts of the central universities in Delhi and U.P. Thus, the hypothesis is partially accepted.

6.3. RECOMMENDATIONS AND SUGGESTIONS

The following are the recommendations made by the investigator on the basis of analysis of the data and suggestions from the users as given below:

6.3.1. Budget

- Due to inadequate budget as well as non-availability of separate budget for purchasing of online databases, libraries of AMU and BHU have insufficient collection of online databases. On the other side, the libraries of AMU and JNU neither have separate budget for online databases nor for e-resources, they subscribed to online databases under other heads. Hence, the library authorities should make an attempt to acquire separate budget for acquiring online databases as they constitute a major source of information for consultation by all sections of the Academia. Moreover, university administration should provide adequate funds or resources to the libraries for purchasing the online resources.

- With a limited budget, the library has difficulty to purchase adequate databases. Therefore to optimize the use of the budget, the library should regularly analyse the data from the user reports and frequently conduct quick surveys to identify the amount of usage of each subscribed databases. These
results help in taking decisions on whether to continue an existing subscription or replace it with a new database.

6.3.2. Awareness

- Awareness and user education programmes should be arranged to promote the use of online databases amongst the users of all the surveyed libraries. Mainly, the library of AMU should organize user education program, information literacy programmes for creating awareness and educating them to make maximum use of online databases for academic work.

- E-mail and SMS services are the best communication means to create alerts for new or change of online sources. In all the four universities (DU, JNU, AMU and BHU), library staff can use emails and SMS to keep the users updated with new information, guidelines and announcements from the library and to answer promptly to the user’s requests.

- Information of title deletion, addition, change in provider or drop of online databases should be managed by library staff.

- To alleviate the confusion among users about the duplication of titles, provided by two or more providers, libraries should use an article linking software program to list multiple resource providers for the same title in order of the most preferred.

6.3.3. Use of Online Databases

- It is revealed from the study that a less percentage of the users, especially postgraduates in AMU and BHU use the online databases. Hence, to increase the frequency of use of online databases subscribed by the libraries of AMU and BHU, they should be informed about the importance and availability of online databases and the techniques used for finding the required information from the databases. The teachers should motivate their students to use online databases more for obtaining the required information for their study and research work.

- Less usage is also caused due to lack of awareness and lack of skills to access and use online databases. Hence, the library authorities, particularly in AMU and BHU should create awareness among users and provide sufficient skills for accessing online databases. The staff may be trained to provide education to the PG students so that the database available in the libraries may sufficiently used.
6.3.4. Acquire more Online Database

- The study reveals that libraries in universities of UP have a comparatively less collection of online databases as compared to Delhi’s university libraries. So, libraries of AMU and BHU should subscribe to more databases and facilitate more full-text access either through UGC-INFONET consortium or from other sources to fulfill the diverse needs of users. This is also implies that the research output is directly related to the use of online databases.

- However, an average percentage of users in all the select university were using those online databases that they already knew, although the other databases also possessed good literature on Social Sciences and Arts and are an excellent source for research and teaching. This may be due to the lack of awareness about the available online sources. The libraries should take serious step to enhance the use of all the subscribed online databases and fulfill the first law of library and information science that information is for use.

- The libraries of AMU and BHU should subscribe to different types of online databases in different disciplines.

6.3.5. Source of Information

- As the library website is an important means of getting information about accessibility of online databases, but the users of AMU, BHU and DU prefer it less as compared to JNU. Library websites of concerned libraries should be redesigned to provide adequate information or links of online databases available in the libraries.

6.3.6. More importance to print documents rather than online documents

- It is clear from the study that majority of the users in AMU and BHU, particularly faculty members and postgraduates mostly preferred to use print documents, in spite of using online documents. They considered print documents as a chief source of getting the required information. Therefore, concerned libraries should subscribe to online databases after assessing the requirements of the users; also teach them about its worthiness so as to increase the use of subscribed online databases. The librarians must find out the reasons for the less usage of the online databases. Feedback can also be taken from users to find out the reasons.
6.3.7. Search methods

- The users use different types of search methods for getting the required information. The study shows maximum number of users in all the universities under study prefers to use mostly ‘Basic/Keyword search’ for searching their required information. The other search methods are less used by the users, like Advanced search, Expert search and less frequently Citation Locator. Thus, there is need to provide practical training to help users to acquire better search skills for using different search methods.

- The librarian must teach the users about the potential of searching, specifically advanced searching for accessing online information in a better way.

6.3.8. Problems faced in using Online Databases

- The problematic areas as mentioned by the users faced while accessing the online databases include more interest in print form, non availability of off campus access and inadequate collection. The libraries, mainly AMU and BHU should organize awareness programmes to develop user’s interest in online databases.

- The limitation to access online databases either through IP address or login ID & password in DU, AMU and BHU to be overcome by providing remote access to enable users to use online databases from anywhere at any time.

- The main problem in using online databases is Networking (poor connectivity) in the universities of DU, AMU and BHU. The university administration should provide proper and high speed Internet connectivity to overcome the problem of networking. Another problem is the irrelevant retrieval of information in JNU. Therefore, the library staff should impart knowledge to users for refining their search for searching and proper utilization of online databases.

- A moderate percentage of users in all the libraries complained about the problem of limited downloading of articles. The libraries should pay for the requisite articles or journals.

- The librarians of DU, JNU, AMU and BHU should conduct user survey and get feedback from time to time to identify the gap in their services and to rectify them.
6.3.9. Facilities for accessing online databases

- The study shows that no postgraduates are allowed to access online databases from the university library in AMU. This may be due to inadequate computer facilities or limited space in library’s computer lab. More number of networked computers with access to online databases should be installed, and repair of the non-working computers in the library should be carried out. PG students should be allowed to use the online databases, so that they are not kept away from this important source.

- Additionally, there is need to provide better computer infrastructure in the libraries for the better usage of online databases. Libraries should provide adequate infrastructural facilities such as adequate power supply, effective internet connectivity and adequate number of terminals and other facilities to encourage users for using the available online databases.

- The results suggest that 24-hour accessibility to online databases either through Wi-Fi or through remote access should be provided by the libraries of DU, AMU and BHU to increase acceptance and use of online databases.

6.3.10. Satisfaction with online database

- More than thirty percent of the users of AMU and BHU were dissatisfied with the online databases subscribed by their libraries. The users of DU and JNU were more satisfied with online database collection available in their respective libraries as compared to the users in Universities in UP. The library authorities should necessary steps to improve the subscription of the online databases after assessing the needs of the users, especially postgraduates. Furthermore, the publishers/aggregators of online databases should come forward to publish more number of online databases in the field of Social Sciences and Arts as there are no separate databases available for these disciplines.

6.3.11. Assistance by library staff

- To provide adequate assistance to the users in using online databases, library staff must possess skills to assist the users in accessing online databases. The staff should be given enough training in using or accessing online databases.

- The availability of online databases in different forms and formats of online databases necessitates the need of help, support, and explanation at an appropriate time for the users. Therefore, the library staff of all the libraries
should provide assistance through online and in-person assistance by compiling manuals and handbooks on the use of online databases.

- A demo-presentation of the databases subscribed in the libraries should be arranged for the students and faculty members to ensure maximum usage.
- The library staff should cooperate with the users and help them in overcoming the technical difficulties faced while using online databases.

6.3.12. User Training Programmes

- The study shows that the research scholars in all the universities under study have more knowledge and are using more online databases than other user groups. Libraries should conduct special training programmes to the postgraduates and faculty members of the faculties of Social Sciences and Arts in making them aware of online databases, how to use and how to access online databases efficiently and effectively. There is a need for extensive training programme on regular basis at the beginning of each semester for the students and faculty members of both the faculties under study in both Delhi and U.P.
- The study shows that the library of AMU does not provide any kind of training either for staff or for users with regard to the use of online databases. However, users also mentioned it as one of the factors that was responsible for less usage of online databases. Hence, the libraries must organize different types of user training programmes, library orientation programmes and workshops for the proper utilization of online databases.
- For maximum utilization of online databases, libraries should provide orientation/assistance by organizing orientation workshops and seminars for students to guide them on how to use and how to access online databases efficiently and effectively.

6.4. AREAS FOR FURTHER RESEARCH

Based on the findings of this study, the following suggestions have been made for further research:

- The present study was conducted among limited number of central universities; the study can be extended to understand the use of online databases in other central universities of India.
- A study can be conducted to find out overall growth and development of online databases by using usage statistics.
A comparative study can be undertaken to evaluate the accessibility and usage of subscribed online databases in other fields of education.

A citation analysis can also be conducted to know the citation trend of use of online databases in the thesis/dissertations and research publications in the central universities in the country.

6.5. CONCLUSION

The developments in ICT have brought about major changes in the way users’ access and retrieve information. With the effect of these technologies, the concept of information retrieval has been transformed from automated to online information retrieval system. Further, due to information explosion, the use of online retrieval sources has increased in Indian academia and now, these are considered as excellent tools for information retrieval and are largely used for searching of information. These have become indispensable sources for academics and research and its use has facilitated the process of teaching and learning in educational institutions. The availability of online databases as an information retrieval source provides many opportunities and potentials for the academic community including for the libraries. These assist libraries in providing current information services more efficiently and effectively. Thus, it is the task of library professions to create awareness about the availability of online sources among the users and provide them a genial and responsive environment to make better use of the online facilities. Moreover, libraries need to identify and balance the factors that help possible exploitation of online databases and services successfully.

The objective of this study was to provide a comprehensive view of research addressing differences in usage of online databases among users of the faculties of Social Science and Arts in the central universities of Delhi and UP. Efforts were made to ensure the comprehensiveness of the study by using different parameters to gauge the use of online databases, such as budget, collection development policy of online databases, modes and methods of acquisition, level of awareness, most used online databases and their features, problems from both users and librarians perspectives, impacts, satisfaction regarding library services and collection through survey as a primary source of information and usage statistics as a secondary source of information.

The results of the study offer significant information on the status of the use of online databases, the preferences of the users and their evaluation of the online
databases among the users of Social Sciences and Arts in Delhi and U.P. Interestingly, the users have knowledge of the availability of online databases, but are not able to express their satisfactory level. The most surprising finding of the study was that there was no separate budget for purchase of online databases in the surveyed libraries except BHU. DU had substantial collection of online databases with 79 online databases, followed by JNU (66), BHU (24) and 24 databases were available in AMU. Libraries used different means or modes to acquire it, but the prominent source was UGC INFONET consortium. In the libraries, recommendations of faculty members were mostly preferred for selection of online databases, also by keeping in mind the functionality and reliability, cost, coverage, user’s need and licensing policies of the online databases. Access to online databases was provided through IP address and ID & password, while the provision of remote access was available in JNU only. Libraries faced problems related to price, limited access, unskilled personnel, networking and some technical problems while acquiring and providing access to online databases. Training and library orientation programmes as part of information literacy programmes were regularly organized in all the libraries except in AMU.

This study reveals that most of the users were aware of the availability of online databases through internet search and the library website. The purpose of using online databases mainly was for preparing projects and assignments, followed by updating knowledge and writing paper. More than seventy percent of the users used online databases to locate journal articles literature followed by books, theses/dissertations, reference work and miscellaneous materials and these resources were mostly accessed from the university computer centre. Search engines were very popular means for accessing online databases among the respondents, due to ease in use to access such resources remotely anywhere limited restrictions.

On ranking the most popular online databases in the Social Sciences and Arts in terms of usage, JSTOR found to be the most popularly used online database in DU, AMU, BHU, whereas ScienceDirect was used in JNU. While on the basis of UGC-INFONET usage statistics of online databases, JSTOR was the most used online database among the users of faculties of Social Sciences and Arts in JNU in the years 2013 and 2014, whereas, ScienceDirect was highly used online database by the users in AMU and BHU in 2013 and 2014.
However, the preference for the online information is related to the academic status of the respondents and is higher among the research scholars, though all the user groups were convinced with the potential of the online databases. Many respondents from universities of UP also mentioned that they used the print format more as compared to universities of Delhi. This study shows that PDF is the most preferred format for online journals, only a few users preferred HTML format in the universities under study. More interest is observed for print sources among faculty members, research scholars and postgraduates students non availability of off campus accessibility and inadequate collection of online databases in the library were the major de-motivating factors in the use of online databases. Users of all the select universities except AMU had attended training that was organized by their respective libraries. This also stimulated greater access to the online databases in DU and JNU.

The findings of this study indicate that inadequate collection, more interest in print and no off-campus access were some major problems students experienced. Students had problems related to slow connectivity and retrieval of irrelevant information. These problems raise the need for training for both users and library staff. The level of satisfaction among the respondents regarding the collection of online databases provided by the library was found to be satisfactory. On the basis of all these parameters, it is observed from the study that research scholars are the most frequent users of online databases as compared to faculty members and postgraduates, the reason may be that research work increases the scope for more use of online databases. Thus, databases are considered as one of the most important sources for research activities.

Unfortunately, not enough researches have been conducted on the use of online databases in the fields of the arts and social sciences in India, only a few studies have addressed the use of online databases in academics. This is probably because of the lack of online databases separately for the Social Sciences and the Arts. This is probably because of the lack of online databases separately for the Social Sciences and Arts. The outcomes of the study explores various aspects regarding the use of online databases in the faculties of Social Sciences and Arts in central universities in Delhi and UP, and answers some questions relating to the use of online databases and its impacts on teaching and research in the areas of the Social Sciences and Arts. The study observes that online databases have become an essential part of information access and retrieval in academia. The findings of this study will help the
librarian to know the importance of online databases and to improve the services related to online databases. It will provide useful insights for the library administration to evolve strategies in a more balanced and systematic way to impart awareness and skill to the users and help in them optimum utilization of the online databases.
REFERENCES


