CHAPTER 5
RESEARCH METHODOLOGY

The objective of the present chapter is to provide detail information about survey taken includes identification & selection of users, questionnaire design, data collection, analysis and interpretation of the research study.

The focuses for present study were the library professionals who are working in Government aided Academic College Libraries under the jurisdiction of Dr. Babasaheb Ambedkar Marathwada University, Aurangabad. The librarian were selected to complete the tools because only they are actually taking part in obtaining fund, decision making, library automation and implementation of ICTs use and technological development in library. A cross sectional design with emphasis on norms of critical incident technique was followed. While the design of the study was prepared in June 2013, collection of data took place mainly between the year 2014 and 2016.

The investigative methodologies adopted as well as data collection tools used are complementary to each other and have been designed in such a manner so as to make inroads.

5.1 IDENTIFICATION AND SELECTION OF USERS

The term person, professionals, personnel and users covers the College Librarians of various Colleges affiliated to BAMU. The faculty members namely, Professor, Associate Professor & Assistant Professor, Assistant Librarians working in affiliated colleges have been excluded in this study. The study does not cover the quality of services provided by the libraries and hence a user satisfaction was not undertaken.

5.1.1 Population Sample

The population of the study mainly comprised Government and Aided Colleges affiliated to Dr. Babasaheb Ambedkar Marathwada University (BAMU)
Aurangabad. Under the jurisdiction of BAMU, Aurangabad having 4 districts of Marathwada and total 404 affiliated colleges at various places. Present study is limited to 120 affiliated colleges (Government & Aided) out of them Seven (07) was Government Colleges while other 113 Colleges were Private aided located in rural and urban areas of Aurangabad, Jalna, Beed and Osmanabad district and affiliated to BAMU, Aurangabad. The user population according to colleges is given table 5.1

The list of 120 academic libraries (List of Colleges) is available on website of BAMU and also on the website of Joint Director of Higher Education, Aurangabad Region. Among this selected 120 college libraries sent questionnaire to fill up by postal services of Government Post office in some cases personally visit to several colleges which are near.

<table>
<thead>
<tr>
<th>Type of College</th>
<th>No. of Colleges</th>
<th>%</th>
<th>Response Received</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arts, Commerce &amp; Science</td>
<td>52</td>
<td>43.33</td>
<td>46</td>
<td>44.66</td>
</tr>
<tr>
<td>Arts &amp; Commerce</td>
<td>17</td>
<td>14.17</td>
<td>14</td>
<td>13.59</td>
</tr>
<tr>
<td>Arts &amp; Science</td>
<td>10</td>
<td>8.33</td>
<td>9</td>
<td>8.74</td>
</tr>
<tr>
<td>Arts</td>
<td>23</td>
<td>19.17</td>
<td>19</td>
<td>18.45</td>
</tr>
<tr>
<td>Commerce</td>
<td>1</td>
<td>0.83</td>
<td>1</td>
<td>0.97</td>
</tr>
<tr>
<td>Science</td>
<td>4</td>
<td>3.33</td>
<td>4</td>
<td>3.88</td>
</tr>
<tr>
<td>Education</td>
<td>4</td>
<td>3.33</td>
<td>3</td>
<td>2.91</td>
</tr>
<tr>
<td>Law</td>
<td>4</td>
<td>3.33</td>
<td>4</td>
<td>3.88</td>
</tr>
<tr>
<td>Social Work</td>
<td>2</td>
<td>1.67</td>
<td>1</td>
<td>0.97</td>
</tr>
<tr>
<td>Physical Education</td>
<td>1</td>
<td>0.83</td>
<td>1</td>
<td>0.97</td>
</tr>
<tr>
<td>Engineering</td>
<td>1</td>
<td>0.83</td>
<td>1</td>
<td>0.97</td>
</tr>
<tr>
<td>Pharmacy</td>
<td>1</td>
<td>0.83</td>
<td>0</td>
<td>0.00</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>120</strong></td>
<td><strong>100.00</strong></td>
<td><strong>103</strong></td>
<td><strong>100.00</strong></td>
</tr>
</tbody>
</table>
The sample size for user population of 120 is 92 as per Krejcie and Morgan population sample size table (Krejcie and Morgan, 1970). Accordingly, of the total 120 colleges, the questionnaire was distributed to all i.e. 100.00% colleges which are shown in table 5.1 Of the 120 respondents **103 (85.83%)** have returned the questionnaire duly filled in.

5.2 QUESTIONNAIRE DESIGN

Questionnaire is often used in survey as primary data collection tool. It is a written instrument. A structured questionnaire was consisting of factual questions, opinion and attitude questions and standards of action questions. It was largely self-administrated, for knowing use of e-resources as well as user opinions and various dimensions for e-resources. The questionnaire for data collection was to ensure cost-efficient coverage (Chaudhary, 1991).

5.2.1 Questionnaire

The questionnaire (Appendix - A) consisted of 08 sections; in all 5 sections there are 42 questions, viz.

**Section A**  Consists of 7 questions on basic information of the College Librarians i.e. Name, Age, Class, and Gender etc. all these questions were asked to get proper information of college.

**Section B**  Consists of 6 questions pertaining to Professional Development in Library Science Subject

**Section C**  Consists of 03 questions which deal with Physical Aspect of the Library i.e. Name of Parent Organization, Location of Library and Library Collections / Statistics.
Section D  Consists of 14 questions regarding ICT Awareness i.e. Use of computer as well as Internet. General Search, Open Source journals & Problems faced by users while using e-journals etc.

Section E  Consist of 04 questions about E-resources which covers the E-Publishing and E-Resources.

Section F  Contains 05 questions which deals with Library Automation i.e. Status of Library Automation, Which Software Used etc.

Section G  It include 01 question deals with what are the problems faced by librarians applying ICT.

Section H  Consist of 02 question regarding LIS Professionals attitude towards ICT i.e. Opinion regarding application of ICT in Library and Suggestions.

It was estimated that it would take about 20 to 25 minutes of user time for responding to the questionnaire.

5.3 DATA COLLECTION

After deciding the sample population researcher distributed 120 questionnaires to the College Librarians as per table no. 5.1. Primary data was collected with using of survey questionnaire. Filled questionnaire received by hand and post. After collecting the information the completed questionnaire were checked the omission and commissions have been rectified by the correspondence.

Of the 120 questionnaires distributed, 103 questionnaire duly filled in were returned by target audience, i.e. the response rate was 85.83%.

The main dependence on questionnaire method is to ensure maximum cost efficient coverage for questionnaire research. However, practical difficulties like user resistance, getting time / appointment with user were experienced (Das, 1986; Kasyap, 1969).
5.4 DATA ANALYSIS AND INTERPRETATION

The rich & wide variety of quantitative data obtained had been checked & tabulated before processing & analysis were carried out. Data handling, validation processing & analysis have been carried out with the help of computer.

The major part of checking, tabulating & calculation for the one way analysis to measure the difference was carried out. Tables have been generated (Negi, 2005; Panda, 1997).

Collected data has been analyzed by using Statistical Software Package i.e. SPSS package and presented data in table from. Data thus obtained were entered into a personal computer and were analyzed using SPSS 21.0. The analysis is mainly focused on bringing out comparison between Urban and Rural, Gender and Age of the LIS Professionals. The comparisons are made mostly by frequencies expressed in terms of percentages and where ever required Chi-square test was applied (Zar, 1999; Gupta, 2009).

5.4.1 Co-relation

“When the relationship is of a quantitative nature, the appropriate statistical tool for discovering & measuring the relationship & expressing in brief is a co-relation” (Croxton, 1969). Thus co-relation is a statistical tool which studies the relationship between two variables & co-relation analysis involves various methods & techniques used for studying & measuring the extent of the relationship between the two variables.

“A measure of the interdependence of two random variables. A correlation greater than 0.8 is generally described as strong, whereas less than 0.5 is generally described as weak, while the correlation in negative value is called as negative correlation” (Golwal, 2011).

This was used to study the relationship between individual gender, location & age groups with the Professional Attitude of LIS Professionals towards ICT.
5.4.2 Chi Square \([X^2]\)

The chi-square (chi, the Greek letter pronounced "kye") statistic is a nonparametric statistical technique used to determine if a distribution of observed frequencies differs from the theoretical expected frequencies. Chi-square statistics use nominal (categorical) or ordinal level data, thus instead of using means and variances, this test uses frequencies.

A test that uses the chi-square statistic to test the fit between a theoretical frequency distribution and a frequency distribution of observed data for which each observation may fall into one of several classes (Negi, 2005).

The Chi Square test measures the alignment between 2 sets of frequency measures. These must be categorical counts & not percentage or rations measures. The Chi Square is one of the most popular statistics because it is easy to calculate & interpret.

5.4.3 P-value

It indicates the probability of getting a mean difference between the groups as high as what is observed by chance. The lower the p-value, the more significant the difference between the groups.

The observations are supplemented by graphical presentations wherever possible for a better understanding of the observation made. The observations neatly tabulated and presented sequentially maintaining the logical flow of the Data Analysis.

5.5 CONCLUSION

Present chapter is based on survey taken for collecting data. It has covered the identification & selection of users, population sample, questionnaire design, data collection & data analysis techniques. Collected data has been analyzed, presented and interpreted in Chapter 6.
# REFERENCES