CHAPTER 4

RESEARCH DESIGN

Research design is the conceptual structure within which the research is conducted. The research design is an outline of the researcher’s plan from writing the hypothesis and operational implications to the final analysis of data. The present study is prepared with a well-organised research design. The present study is an attempt to understand the challenges of library professionals in engineering colleges in the southern districts of Tamil Nadu. It aims at studying the challenges of the library professionals in the area of library automation, electronic sources, networking, skill development for modern library, and preservation of digital and paper-based materials and problems in intellectual property rights and copyrights. In particular, it tries to identify various kinds of problems which engineering college libraries face in the study area.

4.1 SELECTION OF THE STUDY AREA

In Tamil Nadu, 486 Engineering Colleges (2010) are functioning. Out of these colleges, Sixty-nine engineering colleges have been selected for the study in the Southern Districts of Tamil Nadu comprising of 6 Districts. There are two reasons why the researcher has selected this area. Firstly, Engineering Colleges are largely and newly established in this area. Secondly, the professionals working in the new Engineering College Libraries need a lot of guidance for their professional development.
4.2 OBJECTIVES OF THE STUDY

The objectives of the study are as follows:

1. To study the challenges and problems in computerised and, automated services and electronic sources in respect of the modern computerised environment of the engineering colleges.

2. To analyse the challenges and problems in the networking and Internet in providing e-resources and e-services in the study area.

3. To explain the library professionals’ skill development needed to face the challenges in the modern era.

4. To elucidate the challenges of library professionals in the preservation of both digital and paper-based resources.

5. To gauge the challenges of library professionals in the intellectual property rights and copyrights needed for the engineering libraries.

6. To suggest favourable solutions to library professionals of engineering colleges to confront the challenges and problems of modern library.

4.3 HYPOTHESES OF THE STUDY

The following are the major hypotheses framed in the study.

1. There is no significant difference of opinion among the library professionals in the emerging technologies in the Internet.

2. There is no significant difference of opinion among library professionals about the managerial skills required for the present library management.
3. There is no significant difference of opinion among the library professionals in the technical skills required for computerised environment in the library.

4. There is no significant difference of opinion among library professionals about the knowledge of intellectual property rights.

5. There is no significant difference of opinion among library professionals about the knowledge of current and proposed technologies for protecting intellectual properties.

6. Library professionals do not have significant difference of opinion in the awareness of possible threats to the intellectual properties contained in digital resources.

7. There is no significant difference of opinion among library professionals about the challenges in knowing the intellectual property rights system existing in the country.

8. There is no significant difference of opinion among library professionals about the awareness of copyright system existing in the country.

9. There is no significant difference of opinion among library professionals in creating awareness among users about IPR and copyright in the library.

10. There is no significant difference of opinion among library professionals about necessity of censorship in Engineering College Libraries.
4.4 CENSUS METHOD-COMPLETE ENUMERATIVE SYSTEM

All items in any field of inquiry constitute a ‘universe’ or ‘population’. A complete enumeration in all items in the ‘population’ is known as census enquiry. It is comprehensive, no element of chance is left and highest accuracy is obtained. The study area which consists of six districts includes sixty-nine engineering colleges is a small number. The researcher felt that all engineering libraries could be taken from the study area. Hence, complete enumerative system of study has been selected.

4.5 DATA COLLECTION: QUESTIONNAIRE METHOD

In survey research, questionnaire is widely used to gather data on a particular problem. A questionnaire is administered to a sample of population in order to know their opinions, experiences and attitudes. The primary advantage of this technique is that one can make broad generalisations from a relatively small number of responses. For gathering data about the present research, two questionnaires have been used. A questionnaire was designed for Librarians, Deputy Librarians, Assistant Librarians, and Professional and Library Assistants of the Engineering College libraries to unearth the challenges of the modern computerised and information technology environment. Another questionnaire was used to elicit information about the sources and services of the Engineering College Libraries.

4.6 PILOT STUDY

To find the validity of questions, the four questionnaires were pre-tested before finalizing the questionnaires. The main objective of pre-testing was to find out respondents’ opinions, the language used, to rule out ambiguities and doubts, if any, so as to get accurate responses and results. During this exercise several suggestions were
received from librarians. In the light of these suggestions several questions were revised and some new questions were also included in the final draft.

4.7 SIZE OF THE POPULATION IN THE STUDY

Six southern districts, namely Tirunelveli, Thoothukudi, Kanyakumari, Virudhunagar, Madurai and Theni, were chosen for the entire analysis. All the sixty-nine engineering colleges in the study area have been selected for the study. These colleges are affiliated to Anna University, Tirunelveli. There are 256 library professionals including Librarians, Deputy Librarians, Assistant Librarians, Library Assistants and Professional Assistants in all Engineering Colleges Libraries in the southern districts of Tamil Nadu. All librarians and other library staff were treated as library professionals who are having the professional degree of Library Science. Questionnaires were distributed to all librarians and other library professionals. In some cases, questionnaires were mailed to those who could not be met directly. Out of 256 respondents, 227 questionnaires were received. Among them 4 questionnaires were incomplete which were excluded. The collected 223 questionnaires from the library professionals were taken into account for the entire analysis.

4.8 CLASSIFICATION AND TABULATION

After collection and editing of data the first step towards further processing is classification. It condenses the mass of data in such a manner that similarities and dissimilarities can be readily apprehended. The classification gives prominence to the important information gathered while dropping out the unnecessary elements. The data collected from the study area were duly classified and tabulated for statistical tool analysis.
4.9 DATA ANALYSIS AND INTERPRETATION

After having received the responses from librarians and other library professionals in the study area, the task of data analysis and its interpretation was started. Data analysis is the process of bringing order, structure and meaning to the mass of collected data. All the data and information collected through questionnaire and interviews have been analysed to bring out the results. The analysis of textual data has been done by organising data into categories, themes and patterns.

4.10 SCALING TECHNIQUES

The rating scale involves qualitative description of a limited number of aspects or traits of a person. Likert-type scales are used in the study. Likert-type scales are developed by utilizing the item analysis approach wherein a particular item is evaluated on the basis of how well it discriminates between those persons whose total score is high and those whose score is low. The opinion is divided into strongly agree, agree, undecided, disagree and strongly disagree. Likert scaling technique assigns a scale value to each of the five responses. The opinion ‘Strongly Agree’ carries 5 points, ‘Agree’ 4 points, ‘No Opinion’ 3 points, ‘Disagree’ 2 points and ‘Strongly Disagree’ gets 1 point. In the same way, ‘Very Useful’ gets 5 points, ‘Useful’ 4 points, ‘Undecided’ 3 points, ‘Useless’ 2 points and ‘Most Useless’ 1 point. The same thing is done in respect of each and every statement in the instrument. This way the instrument yields a total score for each respondent which would measure the respondent’s favourableness towards the given point of view.

4.11 STATISTICAL TOOLS OF ANALYSIS

Simple averages, percentages and frequency distribution were employed to study the information about the library professionals and the engineering college.
libraries. The Chi-square value has been often used to judge the significance of population variance. The Chi-square test is often used through the use of which it is possible for the researcher to test the significance of association between two attributes. To find out the significance of association of the opinions between the librarians and other library professionals with reference to selected variables, the Chi-Square test was employed.

4.12 LIMITATIONS

Despite the varied usefulness of the study, there are some limitations in this study. The following are the important limitations of the study.

1. It takes into account only the Engineering College library professionals. It does not consider the library professionals of Arts and Science Colleges and Universities.

2. The area of study is limited to the Southern Districts of Tamil Nadu which come under the Anna University of Tirunelveli. It does not take into account the other districts of Tamilnadu.

3. The engineering colleges which had got affiliation before 2009 are selected for the study.

4. Non-professionals who did not have Library Science degree or diploma are excluded from the study.

4.13 STANDARD USED FOR BIBLIOGRAPHICAL REFERENCES

American Psychological Association (APA) style is used for the bibliographical references.