Chapter 3

Methodology

RESEARCH METHODOLOGY

- Variables Used for the Study
- Sample Used for the Study
- Sample Size
- Break up of the Sample
- Tools Used for the Study
- Data Collection Procedure
- Consolidation of Data
- Statistical Techniques Used
- Citation Used
- Conclusion
RESEARCH METHODOLOGY

3.1 Introduction

The quality research process depends on how the investigator scientifically applies the methods for collecting data as well as analysing it for getting the accurate result. Research methodology involves the systematic procedure by which the researchers starts from the initial identification of the problems to its findings and conclusions.

The present study is an investigation to understand the Role of Public Library on Women Empowerment in Kerala. The methodology followed for the study is described under the following headlines:-

- Variables used for study
- Sample used for the study
- Tools used for data collection
- Data collection procedure
- Consolidation of data
- Data analysis techniques

3.2 Variables used for the Study

The variables used for the study are broadly divided in two, namely classificatory variables and study variables.

3.2.1 Classificatory variables

The following are the classificatory variables.

- Age.
- Qualification
3.2.2 Study variables

The following are the study variables of the study.

- Extent of use of public library
- Educational, cultural and socio political development of women
- Women empowerment
- Availability of Information Communication Technology
- Problems and difficulties faced by the women users.
- Facilities and service offered by the public library

3.3 Research Design

The present study is designed to assess the role of public library on women empowerment in Kerala. To meet the specific objectives of the present study, a combination of qualitative and quantitative methodology has been employed. It is summarised in the following figure for the clarity and easy information.
Chapter III

Methodology

Research Design

Quantitative Methods
- Questionnaire
  - Women users

Qualitative Methods
- Interview
  - Librarian

Data Analysis
- Percentage Analysis
- Chi-square Test
- Standard Deviation
- Arithmetic Mean

Result and Interpretations

Conclusion and suggestions
3.4 SAMPLE OF THE STUDY

The present study is intended to find out the role of public library on women empowerment in Kerala, it is not practical to study whole population and to arrive at generalisation, though the result of the research is to have universal application. The process of sampling makes it possible to draw valid inferences or generalisation on the basis of careful observation of variables with a relatively small proportion of population. The sample consists of the present studies in the women users in Thiruvanathapuram, Kottayam, Ernakulam, Thrissur, Kozhikode and Cannanore public libraries.

There are 14 districts in Kerala, all the district has its public libraries. Studying all these district public libraries is not practical. Hence the investigator selected six public libraries for the study. For the study investigator divided Kerala into three parts such as South, Centre and North zone and from each zone, two public libraries were selected for the study. All these libraries were selected on the basis of following criteria that the Thiruvanathapuram public library has to represent the state central library in Kerala. In the case of Kottayam it was known as the first district to achieve 100 per cent literacy rate in the state. Ernakulam is popularly known as the commercial capital of Kerala and also called as the district of Information Communication Technology in the state. Considering the cultural capital of Kerala, Thrissur was taken in this study. In the case Kozhikode, known as the capital of Malabar and Cannanore is one of the oldest public library in the northern part of the state.

Population of the study is not fixed, because it changes every day as and when people take membership in the library or cancel their membership. The investigator personally visited and collected the population from the public library as per the register. The total population of this six libraries are 82238 and it is not possible to study whole population, hence
the small portion of the sample was taken for the study. Stratified random sampling techniques were used to ensure representation of all the categories of the women users.

3.4.1 Sample Size

The investigator has selected US National Education Statistical table to determine the sample size which is the most accepted method of Social Science as expressed by Krejcie and Morgan (1970). This formula determine the Small Sample Techniques published by National Education Association.

The formula was

\[ s = x^2 \cdot N \cdot P \cdot (1-P) - d^2 \cdot (N - 1) + x^2 \cdot P \cdot (1-P) \]

Following is the description of the formula:

- \( S \) = required sample
- \( x^2 \) = the table value of chi-square for 1 degree of freedom at the desired confidence level (3.841)
- \( N \) = the population size
- \( P \) = the population proportion (assumed to be .50 since this would provide the maximum sample size)
- \( d \) = the degree of accuracy expressed as a proportion (.05)

Krejcie and Morgan (1970) pointed that there is no need of calculations by using above formula. In order to determine the sample size of given population, only the table has to be considered.
Table shows the total population and the sample size of the selected public libraries.

Table 3.1

Total populations of public libraries

<table>
<thead>
<tr>
<th>Libraries</th>
<th>Registered members</th>
<th>Number of female members</th>
<th>Sample size</th>
</tr>
</thead>
<tbody>
<tr>
<td>T V M</td>
<td>49210</td>
<td>6240</td>
<td>300</td>
</tr>
<tr>
<td>K T M</td>
<td>4991</td>
<td>1630</td>
<td>250</td>
</tr>
<tr>
<td>E K M</td>
<td>7851</td>
<td>2690</td>
<td>250</td>
</tr>
<tr>
<td>T C R</td>
<td>10719</td>
<td>3420</td>
<td>220</td>
</tr>
<tr>
<td>K K D</td>
<td>8320</td>
<td>2465</td>
<td>200</td>
</tr>
<tr>
<td>C N R</td>
<td>1297</td>
<td>295</td>
<td>150</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>82338</strong></td>
<td><strong>16740</strong></td>
<td><strong>1370</strong></td>
</tr>
</tbody>
</table>

After determining the sample size of women users based on the Krejcie and Morgan table, the sample size of the present study. One thousand three hundred and seventy questionnaire were distributed among the women users in the six public libraries of Kerala. Out of these one thousand three hundred and seventy questionnaires distributed, 1120 questionnaire were received back. Hence, these one thousand one hundred and twenty questionnaire were selected for the final analysis and the response rate in 81.75 per cent.
Table 3.2

**Questionnaire distribution among women users in various public libraries**

<table>
<thead>
<tr>
<th>Libraries</th>
<th>Questionnaire distributed</th>
<th>Number of questionnaire received</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>T V M</td>
<td>300</td>
<td>240</td>
<td>80.00</td>
</tr>
<tr>
<td>K T M</td>
<td>250</td>
<td>200</td>
<td>80.00</td>
</tr>
<tr>
<td>E K M</td>
<td>250</td>
<td>220</td>
<td>88.00</td>
</tr>
<tr>
<td>T C R</td>
<td>220</td>
<td>180</td>
<td>81.81</td>
</tr>
<tr>
<td>K K D</td>
<td>200</td>
<td>160</td>
<td>80.00</td>
</tr>
<tr>
<td>C N R</td>
<td>150</td>
<td>120</td>
<td>80.00</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>1370</strong></td>
<td><strong>1120</strong></td>
<td><strong>81.75</strong></td>
</tr>
</tbody>
</table>

3.5 BREAKUP OF THE SAMPLE

**Age-wise distribution of the sample of women users.**

The age-wise distribution of sample has been categorised into five groups, the survey result has shown in table 3.3

Table 3.3

**Age-wise distribution of the sample of women users**

<table>
<thead>
<tr>
<th>Group</th>
<th>Age</th>
<th>Number</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>15-25</td>
<td>381</td>
<td>34.02</td>
</tr>
<tr>
<td>2</td>
<td>25-30</td>
<td>415</td>
<td>37.05</td>
</tr>
<tr>
<td>3</td>
<td>30-35</td>
<td>227</td>
<td>20.27</td>
</tr>
<tr>
<td>4</td>
<td>35-40</td>
<td>74</td>
<td>6.61</td>
</tr>
<tr>
<td>5</td>
<td>40 and above</td>
<td>23</td>
<td>2.05</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>1120</strong></td>
<td><strong>1120</strong></td>
<td><strong>100.00</strong></td>
</tr>
</tbody>
</table>
Table 3.2 reveals that 37.05 per cent of the women users are belongs to the age group of 25-30, 34.02 per cent respondents belongs to below 25 years and 20.27 per cent are with in the age of 30-35 and 6.40 per cent are belongs to group 35-40. Only few of them (2.05 per cent) are above 40.

**Qualification-wise distribution of women users.**

The qualification-wise distribution of sample has been categorised into four groups, the survey result has shown in table 3.4

**Table 3.4**

<table>
<thead>
<tr>
<th>Qualification</th>
<th>Number</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>SSL C</td>
<td>86</td>
<td>7.68</td>
</tr>
<tr>
<td>Plus Two</td>
<td>226</td>
<td>20.18</td>
</tr>
<tr>
<td>Degree</td>
<td>518</td>
<td>46.25</td>
</tr>
<tr>
<td>Post Graduate</td>
<td>290</td>
<td>25.89</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>1120</td>
<td>100.00</td>
</tr>
</tbody>
</table>

Table 3.4 shows that 46.25 per cent women users are graduate degree holders and 20.18 per cent are plus two holders. At the same time 25.89 per cent are post graduate degree holders and only few of them have SSL (7.68 per cent).
Status wise distribution of women users

The status - wise distribution of sample has been categorised in to four groups, the result are shown in table 3.5

Table 3.5

<table>
<thead>
<tr>
<th>Profession</th>
<th>T V M</th>
<th>K T M</th>
<th>E K M</th>
<th>T C R</th>
<th>K K D</th>
<th>C N R</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Student</td>
<td>146</td>
<td>86</td>
<td>100</td>
<td>68</td>
<td>68</td>
<td>59</td>
<td>527</td>
</tr>
<tr>
<td></td>
<td>(60.83)</td>
<td>(43.00)</td>
<td>(45.45)</td>
<td>(37.78)</td>
<td>(42.50)</td>
<td>(49.17)</td>
<td>(47.05)</td>
</tr>
<tr>
<td>Teachers</td>
<td>24</td>
<td>28</td>
<td>22</td>
<td>26</td>
<td>24</td>
<td>27</td>
<td>151</td>
</tr>
<tr>
<td></td>
<td>(10.00)</td>
<td>(14.00)</td>
<td>(10.00)</td>
<td>(14.44)</td>
<td>(15.00)</td>
<td>(22.50)</td>
<td>(13.48)</td>
</tr>
<tr>
<td>Employees other than teachers.</td>
<td>66</td>
<td>16</td>
<td>60</td>
<td>68</td>
<td>52</td>
<td>27</td>
<td>289</td>
</tr>
<tr>
<td></td>
<td>(27.50)</td>
<td>(8.00)</td>
<td>(27.27)</td>
<td>(37.78)</td>
<td>(32.50)</td>
<td>(22.50)</td>
<td>(25.80)</td>
</tr>
<tr>
<td>Others including house wife</td>
<td>4</td>
<td>70</td>
<td>38</td>
<td>18</td>
<td>16</td>
<td>7</td>
<td>153</td>
</tr>
<tr>
<td></td>
<td>(1.76)</td>
<td>(35.00)</td>
<td>(17.27)</td>
<td>(10.00)</td>
<td>(10.00)</td>
<td>(5.83)</td>
<td>(13.66)</td>
</tr>
<tr>
<td>Total</td>
<td>240</td>
<td>200</td>
<td>220</td>
<td>180</td>
<td>160</td>
<td>120</td>
<td>1120</td>
</tr>
</tbody>
</table>

Table number 3.5 shows status - wise distribution of women users. It shows majority of the women users in Thiruvanathapuram (60.83 per cent) are student, 27.50 per cent of them were employees other than teaching. Only 10.00 per cent of women users are teachers and number of house wife are very low (1.76 per cent)

In Kottayam public library, 200 questionnaire were received back. Among these 200, a good number of them are (43.00 per cent) are student, 14.00 per cent are teachers and 8.00 per cent of them are employees other than teacher. At the same time 35.00 of the women users in Kottayam are house wife.
It can be observed that about half of the women users in Ernakulam are students (45.45 per cent), 27.27 per cent are employees other teachers, 17.17 per cent of them are housewife and 27.00 per cent of them are teachers.

In Thrissur public library 37.78 per cent are students and employees other than teachers, 14.44 per cent are teachers and 10.00 per cent are housewife.

In Kozhikode public library 160 questionnaires were received back. Out of 160, 42.50 per cent are students, 15.00 are teacher, 32.50 per cent are employees other than teachers and 10.00 per cent are housewife.

In Cannanore around half of the women users are students (47.05 per cent), 22.50 per cent are teachers and employees other than teacher and 5.83 per cent housewife.

The overall data indicate that major part of sample is students. It can be found that the more number of housewife is in Kottayam than other libraries. A good number of users are employees other than teachers except in Kottayam. Only 13.48 per cent of them are teachers, among these Cannanore is ahead.

3.6 Tools used for Data collection

Appropriate tools and methods are necessary for collecting the required data. Hence constructing tools are an important task for an investigator. In the present study, the investigator constructed the appropriate tools for collecting data with the help of the guide and experts. For the present study investigator used questionnaire and schedule for the data collection purpose.
3.6.1 Questionnaire

Questionnaire is the most popular instrument for collecting the required data. Questionnaire administered to the women users in the six public libraries in Kerala to solicit information about the functions and services of the public libraries for the women empowerment programmes. The questionnaire consist of 9 sections.

Section A consisted of general information such as name, age, qualification and status of the women users.

Section B was to collect the data about reading progress of women and to know the language of preference in reading.

Section C was meant for experience in library general information regarding frequency of visit, duration of time spending and purpose of visit the library.

Section D was intended to collect the information about reading materials and related question about the women magazines and its usage.

Section E was to gather information about the activities of public library for Women empowerment and discuss about the information literacy programme.

Section F solicited data on the Information Communication infrastructure of the public library, it contain use of Information Communication Technology for women and the support of ICT for women users to get the information for their decision making process.

Section G has discuss the public library as an educational institution and helpful to women users in educational, cultural, personal and political development.
Section H deals about the women organisation which is helpful to empower women and which organisation as co operate with library activities for women empowerment.

Section I was intended to collect information about the library staff/professionals, this section covering items such as attitudes towards the library profession to women users as well as women empowerment programme.

3.6.2 Semi-structured Interview

The investigator conduct a semi structured interview to complete the quantitative information obtained by the questionnaire. Interview conducted among librarian of public libraries is intended to collect details about sections, collections and various services, programme and activities offered to the user community. It is conducted with both telephone and face to face interview with librarian. (Detailed analysis shown in analysis part II)

The investigator used structured interview schedule for conducting personal interview with library authority and staff.

- First question reveals that circulation details and types of membership in the various Public library and grace period allowed to the users.
- Second question deals with collection including newspaper and periodicals in different languages.
- Third question deals the Automation of public libraries and also discuss the various software which is used.
- Fourth question deals with various services provided by the public library includes Members reading room, OPAC, Date conversion, Internet Browsing, Mobile library, Digital library, British library and American Corner.
• Fifth question regards the details about the working staff of the Public libraries.

• The last section contain the question about Other activities provide by the public library it includes Study Centre, Music club, Readers forum, Film club, Auditorium and Art Gallery etc.

3.7 Data collection procedure

Investigator personally visited all the public libraries and distributed questionnaires among the women user. Sufficient number of questionnaire were prepared initially for the present study the investigator has taken 1120 samples of women users from six public libraries in Kerala.

The questionnaires distributed were collected with the help of public library staff.

3.7.1 Consolidation of data

The data collected through questionnaires were consolidated by using “Micro soft Excel”. Data pertaining to classificatory and study variables were subjected to further analysis by using SPSS (Statistical Package for Social Science).

3.8 Statistical technique used

The investigator used four statistical methods at different stages of the study to draw the analysis and interpretation of the data.

3.8.1 Arithmetic Mean.

3.8.2 Standard Deviation.

3.8.3 Percentage Analysis:
3.8.4 Chi-square Test

Chi-square test is the important test for the statistical analysis, it is used to measure the actual divergence of the observed and expected frequencies, or value, if there is no difference between the actual and observed, the value is become zero. The greater difference between observed and expected frequencies the greater value of chi-square $c^2$, if the chi-square value is less than the table value, it indicates that there exists a difference between actual observed frequencies which may have arisen due to chance of fluctuation and can be ignored.

The chi-square test ($x^2$) is one of the simplest and most widely used non-parametric tests in statistical analysis. Chi-square is a measure of actual value divergence of the observed and expected frequencies ($x^2$) is defined as

$$x^2 = \sum \frac{(O-E)^2}{E}$$

Where 'O' refer to the observed frequencies and 'E' refers the expected frequencies. Steps to determine the value of ($x^2$) are

I. Calculate the expected frequencies

II. Take the difference between observed and expected frequencies and obtain the square of these difference i.e. obtain the value of $(O-E)^2$

III. Divide the quantity $(O-E)^2$ obtained in step (ii) by the expected frequencies and obtain the sum over all cell $\sum (O-E)^2 / E$

This give the value of $x^2$ and is compared with the table value of $x^2$ for given degree of freedom at certain specific levels of significance. If the calculated value $x^2$ is more than value of $x^2$ the difference between the theory and observation is considered to be significant, i.e. it could not have arisen due to fluctuation of simple sampling. If, on other hand, the calculated value
of \((x^2)\) is less than the table value, the difference between theory and observation is not considered as significant i.e. it is regard as due to fluctuation of sample sampling and hence ignored (www.2 Iv.Psu.edu/ixm 57/irp/chi square. Html)

3.8.3 Data scoring and Grading

In order to find out the perception of the women user regarding the activities of public library a three point likert scale was used whereas the score range between 1 and 3. The score 1 and 1.66 indicate that Poor, 1.67 and 2.32 means Average and between 2.33 to 3 means Good.

3.9 Citation style used

Reference and Bibliography are prepared according to the American Psychological Association (APA) edition 6 which is widely accepted in the Social science and other fields, such as Education, Management etc. The citation format requires parenthetical citations within the text rather than endnotes of footnotes.(American Psychological Association 2010)

3.10 Conclusion

The chapter has summarized the methodology adopted for the present study including the tools and methods used for data collection and various statistical techniques used for data analysis and interpretation and reaching the conclusion.
REFERENCES


