Chapter 3: RESEARCH METHODOLOGY

The preceding chapters provide theoretical background for developing philosophical basis of the study. The present chapter is divided into two parts viz. Operational Programme and Research Methodology.

3.1 OPERATIONAL PROGRAMME

The operational programme provides the description about the Nature of the Study, Need of the Study, Statement of the Problem followed by Objectives and Hypotheses framed to carry out this investigation.

3.11 NATURE OF THE STUDY

The present study is empirical in nature and is carried out to know the impact of outsourcing on the library activities and services in Science and Technology libraries. Empirical Research is conducted to test a hypothesis by observation, experiment and evidences. Several types of tools viz Questionnaire, Interview and Observations were used by the researcher in order to collect empirical data. For analysis of empirical data various statistical methods viz. Mean, Standard Deviation, Percentage and Chi-Square are used. The results received from these statistical methods have been extensively used to form logical and valid conclusions. However, it is important that any of these statistical methods can only support a hypothesis or reject it.

3.12 NEED OF THE STUDY

After the careful examination of the existing literature it was found that the libraries tend to outsource their various activities and services to deal with shrinking budgets, lack of sufficient and / or trained manpower, to cope up with current technology and to enhance user services etc. Various authors have suggested from time to time that there is a need to do further research on practice of outsourcing in libraries.

Cubberley and Partners (1999) suggested that in order to get benefit from opportunities and advantages offered by outsourcing and to avoid the
pitfalls of poorly implemented outsourcing or the problems of inappropriate outsourcing, there is a need for conducting more research on outsourcing, collecting more information on outsourcing and more collaboration among heritage institutions on outsourcing issues.

ALA Outsourcing Task Force (1999) reported that, “This study is not the final word on outsourcing. It is, in fact, just the beginning and recommended [that] further research and study is needed to improve the use of outsourcing as an effective management tool in American libraries.”

Martin and others (2000) reported that when they reviewed the libraries for their study, they found only two empirical studies published in the 1990s that examined outsourcing in public libraries. In their findings submitted to the ALA, they suggested that “ALA should encourage and foster further research on the impact of outsourcing on library services and management.”

Hill (2009) suggested that outsourcing of public library management was rather an unexplored area of research, there were numerous options for future research. Further she reported that “future research would be needed on the macro level, exploring the causes and strategies that lead to outsourcing and the micro level, exploring the experiences of the individual communities and libraries.” She recommended that “further research on outsourcing of library management would be beneficial to the field of librarianship.”

After reviewing the available literature the need to examine the actual impact of outsourcing in libraries was felt because the literature was found related to implementation of outsourcing in libraries, editorial, critiques, praises on use of outsourcing and not on the impact of outsourcing in libraries.

3.13 STATEMENT OF THE PROBLEM

In India libraries are outsourcing their various activities in one form or the other, however, formally not much has been written. Now the concept of outsourcing as a theme and sub-themes of conferences and seminars (Annexure A), Coverage area of journals viz. Library Management, The Bottom Line:
Managing Library Finances, Library Hi Tech News and it is also forming part of curriculum in various Indian universities (Annexure B)

The Indian library science literature gives just the reflections of outsourcing being practiced in various libraries and no traces of survey(s) conducted in this area were found. It is first attempt to have a glance on this widely used concept in almost all types of libraries in one way or the other. This research may open discussions on practices which is being used by one and all libraries to cope up with the problems of shrinking budget, lack of sufficient manpower and to enhance user services, however, refrain to accept, considering outsourcing as an anti-professional activity. Hence the study is taken up to find out the type, status of outsourcing and staff attitude towards outsourcing. The present study reads as follows:

“IMPACT OF OUTSOURCING OF LIBRARY ACTIVITIES AND SERVICES IN SCIENCE AND TECHNOLOGY LIBRARIES IN NORTHERN INDIA: A CRITICAL STUDY”

3.14 OPERATIONAL DEFINITION OF THE TERMS USED

a) PRIVATIZATION: According to Black (1993) Privatization is “an agreement between two or more persons which create an obligation to do or not to do a particular thing.” ALA Outsourcing Task Force (1999) defined that “Privatization is the shifting of library services from the public to the private sector through transference of library management and/or assets from a government agency to a commercial company.” Here privatization means complete control over a service which is being transferred to a vendor.

b) OUTSOURCING: Shirk (1994) opined that outsourcing is “the purchasing from an outside source, of goods and services that an organization previously produced or provided for itself.” ALA Outsourcing Task Force (1999) reported that “Outsourcing involves transfer to a third-party, or outside vendor, or contractor, or independent workers, or provider to perform certain tasks involving recurring internal activities that are not core to the mission of the library.” Here outsourcing means the delivery of a service is transferred to
the vendor, but control, including governance and policy setting, is not transferred.

c) **Core Services:** ALA Outsourcing Task Force (1999) defined “Core services” as those professional activities that define the profession of librarianship. These include collection development and organization; gathering and providing information; making the collection accessible to all library users; providing assistance in the use of the collection; and providing oversight and management of these activities.” Librarians have different perceptions of where core services end and peripheral services begin e.g. cataloguing, once taken for granted as core service is now being outsourced by most of the libraries. Hirshon and Winters (1996) provided most innovative solution, when they asserted, “*While the final output generated by technical services is core, the operations themselves are not.*”

d) **Professional-Automated Activities and Services:** include those professional activities and services which are performed and provided through the use of ICT e.g. Library Automation, Website Creation and Updation, Database Creation, Database Updation and Maintenance, Digitization, RFID Tagging and Maintenance and Web OPAC etc.

e) **Professional-Manual Activities and Services:** include those professional activities and services which are performed and provided manually to the users e.g. Cataloguing, Classification, Circulation, Collection Development, Indexing and Abstracting Services and Stock Verification, etc.

f) **Non-Professional Activities and Services:** include those activities and services of libraries for which library professional skills are not required. e.g. Photocopying, Binding, Security, Labeling and Pasting and Printing etc.

### 3.15 Objectives

The study is conducted with the following objectives in view:

1. To find out the extent of outsourcing used in libraries.
2. To find out the reasons of adopting outsourcing in libraries.
3. To find out the type of outsourcing practiced in libraries.
4. To find out the areas in which outsourcing is implemented in libraries.
5. To study the effects of outsourcing on library activities and services.
6. To find out whether outsourcing provides the desired results.
7. To know the staff reactions towards practice of outsourcing in libraries.
8. To find out whether libraries intend to reuse outsourcing and expand its scope in future.
9. To study the preferences of libraries’ to adopt in-sourcing vs. outsourcing.
10. To suggest a model of the possible phases of the outsourcing life cycle in libraries.

3.16 HYPOTHESES

The following hypotheses were developed based on the research problem:
1. It has become a common practice to outsource library activities and services.
2. There is a significant difference between the outsourcing practices in the libraries of science and technology institutes.
3. There is a significant difference between the outsourcing practices of govt. funded and non-govt. funded libraries.
4. Libraries outsource due to lack of the required permanent human resources and to improve the quality and quantity of the services.
5. Libraries tend to outsource both Professional and Non-Professional Activities and Services.
6. There is a significant difference between the type of outsourcing used and location of Science & Technology libraries.
7. There is a significant difference between the outsourcing of Professional-Manual and Professional-Automated Activities and Services.
8. There is a significant difference between the outsourcing of Professional-Automated Activities and location of Science & Technology libraries.

9. Libraries intend to reuse outsourcing and desire to expand its scope.

3.17 **SCOPE OF THE STUDY**

The scope of the study covers libraries of science and technology Universities, Research Institutes, Deemed Universities and the Institutes of national importance in Haryana, Delhi and Chandigarh. The sample selected for the purpose of the present study is delimited to the Statement of the Problem and Objectives. There are a large number of science and technology libraries in Northern India and thus it is not possible to study them all due to the limitations of the time and resources. The scope of the study has been delimited in two ways:

1. Area wise only science and technology libraries situated in Haryana, Delhi and Chandigarh have been included in the study.

2. The Science and Technology Universities, Research Institutes, Deemed Universities and the Institutes of national importance have been studied. The list of science and technology libraries included in the study is appended at Annexure C.

3.2 **RESEARCH METHODOLOGY**

The following research methodology has been adopt in the study in order to find out the answers to the issues raised in the hypotheses.

3.21 **DATA COLLECTION**

In order to conduct an appropriate research, it is essential to collect adequate theoretical and empirical data. Theoretical data was collected by reviewing relevant literature and Empirical data has been gathered by means of interviews and observation etc.
A. THEORETICAL DATA

The literature was collected from Print and E-resources books and articles which is divided into two main types- the literature related to outsourcing in general and outsourcing in libraries. For both types the internet has been the main contact point for searching books, articles and P.h.D. theses. E-databases viz. Emerald, EBSCO, ERIC and Taylor and Francis were mainly used to get research articles, Research Reports and P.h.D. theses. Various open access journals were also used to get theoretical data. Main keywords used for searching were ‘Outsourcing’, ‘Outsourcing in libraries’, ‘Impact of outsourcing on libraries’, ‘Outsourcing in international libraries’ and ‘Outsourcing in Indian libraries’ etc.

B. EMPIRICAL DATA

Empirical data was gathered by means of survey method viz. Questionnaire, Interviews, Observations, e-mails and Internet (Institutional and Libraries’ Websites). Primary empirical data was collected through questionnaires supplemented by personal interviews, discussions and interaction with librarians and library staff as well as personal observations of activities and services of various science and technology libraries. This includes both descriptive and statistical data. Secondary empirical data was obtained from Institutional and Libraries’ Websites.

3.22 DATA COLLECTION TOOLS USED

In the study, the questionnaire and interview tools were used for the data collection. The details of each are given below.

A. QUESTIONNAIRE

Two structured questionnaires were prepared, to collect data First questionnaire was for Librarians of science and technology libraries and Second questionnaire was for the Library Staff.

a) LIBRARIANS’ QUESTIONNAIRE

The Librarians questionnaire was used to collect the data regarding the general information about the library, various library resources, ICT
infrastructure and impact of the outsourcing on library activities and services. The Librarians questionnaire was divided into the following four parts:

- **Part I: General Information:** about Institution and Library which includes name of the Institution and Library, Area of Specialization, Establishment year, website etc.
- **Part II: Resources:** Financial and Learning Resources.
- **Part III: ICT Infrastructure:** Computers Hardware, Software, Operating System, Networking and Databases etc.
- **Part IV: Use of Outsourcing:** in Library Activities and Services: Professional-Automated, Professional-Manual and Non-Professional. The questions included were related to identify the type of outsourcing, how decisions about outsourcing were made, reasons, benefits and problems of outsourcing, staff reaction towards outsourcing, how outsourced activities and services were measured and finally, comparing the in-house vs. outsourced activities and services preferences.

**b) Questionnaire for Library Staff**

The main objective of this questionnaire was to get the staff views about using outsourcing in libraries. The questions asked in this questionnaire were aimed to know the name and designation of the staff and institution; name of the section of working, type of outsourcing used in library, their opinion about outsourcing used in library and finally, comparing the in-house vs. outsourced activities and services preferences from the staff perspectives. The details of both questionnaires have been appended in Appendix D and E.

**B. Interview**

There was no formal interview schedule designed for the study as most of the questions were included in the questionnaires. However, informal interviews were conducted with the librarians/functionaries of the libraries and library staff. Questions were asked to know their views about reasons, problems, advantages and disadvantages of using outsourcing in library activities and services. The responses given by them were noted in a diary and used while analysing the data.
3.23 Response Rate and Sample Size

Random Sampling technique was used to select the sample. Approximately 80 science and technology libraries of Delhi, Haryana and Chandigarh made up the sample frame and questionnaires were e-mailed to the librarians of selected libraries. Only five questionnaires could be received through e-mail. After that investigator personally visited all selected libraries of Delhi, Haryana and Chandigarh. 80 questionnaires were distributed to librarians and 125 to library staff. Staff questionnaire were distributed to the selected library professionals up to the designation of assistant librarian and head/incharge of the various sections in library. After the repeated requests the investigator was able to get 40 librarians and 80 library staff questionnaires and out of these 34 questionnaires (response rate is 85%) duly filled up by librarians and 76 questionnaires (response rate is 95%) were duly filled up by library staff were found valid for the analysis.

Table 3.1: Cumulative Response of the Librarians and Library Staff

<table>
<thead>
<tr>
<th>Category</th>
<th>Questionnaires Distributed</th>
<th>Questionnaires Received</th>
<th>Questionnaires Valid for Analysis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Librarian</td>
<td>80</td>
<td>40</td>
<td>34</td>
</tr>
<tr>
<td>Library Staff</td>
<td>125</td>
<td>80</td>
<td>76</td>
</tr>
</tbody>
</table>

A thorough analysis of both the theoretical and empirical data of these libraries could lead the researcher to an opinion that helped to generalise the findings of this research.

3.24 Data Analysis

The collected data were coded, tabulated and analyzed with the help of statistical software ‘GNU-PSPP’ an Open Source Software (Version 0.6.2) for data analysis available at: http://www.gnu.org/software/pspp/ and ‘Mac Chi Square Analysis’ an Open Source Software for Chi Square Analysis (Version 2.5) available at: http://www.macupdate.com/app/mac/21765/mac-chisquare-analysis. As per the nature of the data various statistical techniques viz. Mean,
Standard Deviation, Percentage and Chi-Square were used to get inferences from the data.

### 3.25 Data Representation

The analysed data are presented through Tables and Graphs supported by interpretations. The data is presented and analysed according to three different ways namely Statewise, Institutionwise and Funding Sourcewise. The distribution of respondents in these categories is as follows:

#### a) Statewise Distribution of Libraries

Table 3.2 and Figure 3.1 show the strength of the science and technology libraries included in the study according to their location.

**Table 3.2: Statewise Distribution of Libraries**

<table>
<thead>
<tr>
<th>State/UT</th>
<th>Libraries</th>
<th>No.</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>HARYANA</td>
<td></td>
<td>9</td>
<td>26.47</td>
</tr>
<tr>
<td>CHANDIGARH</td>
<td></td>
<td>5</td>
<td>14.71</td>
</tr>
<tr>
<td>DELHI</td>
<td></td>
<td>20</td>
<td>58.82</td>
</tr>
<tr>
<td>TOTAL</td>
<td></td>
<td>34</td>
<td>100</td>
</tr>
</tbody>
</table>

**Figure 3.1: Statewise Distribution of Libraries**

#### b) Institutionwise Distribution of Libraries

Table 3.3 and Figure 3.2 give details about the libraries covered under different categories for convenience of analysis. The institutes under study were divided in four broad groups depending on the type of institution.
Table 3.3: Institutionwise Distribution of Libraries

<table>
<thead>
<tr>
<th>Institute</th>
<th>Libraries</th>
</tr>
</thead>
<tbody>
<tr>
<td>Universities</td>
<td>2</td>
</tr>
<tr>
<td>Deemed Universities</td>
<td>8</td>
</tr>
<tr>
<td>Research Institutes</td>
<td>16</td>
</tr>
<tr>
<td>Institute of National Repute</td>
<td>8</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>34</strong></td>
</tr>
</tbody>
</table>

Figure 3.2: Institutewise Distribution of Libraries

c) Funding Sourcewise Distribution

Table 3.4 and Figure 3.3 show the funding sourcewise distribution of libraries covered in the study.

Table 3.4: Funding Sourcewise Distribution of Institutions

<table>
<thead>
<tr>
<th>Funding Source</th>
<th>Libraries</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No.</td>
</tr>
<tr>
<td>Government Funded</td>
<td>30</td>
</tr>
<tr>
<td>Self Funded</td>
<td>4</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>34</strong></td>
</tr>
</tbody>
</table>

Figure 3.3: Funding Sourcewise Distribution of Institutions
d) **SUBJECTWISE DISTRIBUTION OF LIBRARIES**

Table 3.5 and Figure 3.4 show the subjectwise distribution of libraries covered in the study.

**TABLE 3.5: SUBJECT WISE DISTRIBUTION OF LIBRARIES**

<table>
<thead>
<tr>
<th>SUBJECT</th>
<th>LIBRARIES</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n</td>
</tr>
<tr>
<td>MEDICAL SCIENCES</td>
<td>11</td>
</tr>
<tr>
<td>GENERAL SCIENCES</td>
<td>10</td>
</tr>
<tr>
<td>ENGINEERING SCIENCES</td>
<td>6</td>
</tr>
<tr>
<td>AGRICULTURAL SCIENCES</td>
<td>5</td>
</tr>
<tr>
<td>DEFENCE SCIENCES</td>
<td>2</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td>34</td>
</tr>
</tbody>
</table>

**FIGURE 3.4: SUBJECT WISE DISTRIBUTION OF LIBRARIES**

3.26 **CITATION STYLE USED**

References and Bibliography are prepared according to the *Harvard Style of Referencing* guide available at the Website of Anglia Ruskin University. In *Harvard Style of Referencing* the sources should be listed alphabetically by author’s surname should be left justified and the references and bibliography should never be preceded by a bullet-point or number.
3.3 REFERENCES


