CHAPTER-III
RESEARCH METHODOLOGY

3.1 INTRODUCTION

Research methodology is the general sample of organizing the procedure for collecting legal and reliable data for an investigation. It is a detailed description of the research procedures which are followed during the investigation. This chapter discusses the detailed research methodology for the present investigation used in this chapter.

Research methodology is a scientific approach to solve the research problem undertaken for the study. This is a science of studying different tools and techniques available and to be adopted for collecting desired information for the solution of problem identified by the researcher. Survey research is characterized by the selection of random samples from large and small population to obtain empirical knowledge of contemporary nature. This knowledge allows generalization to be made about characteristics, opinions, beliefs, attitudes, and so on of the entire population being studies. The methods of survey research allow investigators to gather information about target population without undertaking a complete enumeration.

3.2 DEFINITION OF RESEARCH

Kothari (2004) defines that the research is an original contribution to the existing stock of knowledge making for its development. The systematic approach concerning generalisations and formulation of a theory is also research. As such the term ‘research’ refers to the systematic method consisting of enunciating the problem, formulating a hypothesis, collecting the data, analysing the facts and reaching certain conclusions either in the form of solutions(s) towards the concerned problem or in certain generation for some theoretical formulation.
Also Noltingk (1965) believes that Research is in essence an investigation into processes. Therefore a research is the finding of answers related to the questions. It is a systematic search for truth, finding new knowledge about our world through combination of ideas and facts.

3.3 TYPES OF RESEARCH

There are 5 types of research.

1. Historical research
2. Descriptive research
3. Ex-Post Facto research
4. Experimental research
5. Field Research

The present study made an attempt to investigate the “Information seeking habits of software professionals in Western India”, being empirical in nature. The descriptive research method has been used for the present study with survey as a research technique. The primary data for the present research has been collected using questionnaire as a tool of data collection.

3.4 SURVEY TECHNIQUE

Researcher has selected survey method for the present study because survey method permits the researcher to come in direct contact with the people whom he wants to study. A survey is any activity that collects information in an organized and methodical manner about characteristics of interest from some or all units of a population using well-defined concepts, methods and procedures, and compiles such information into a useful summary form.

A survey typically begins with the need for information where no data – or insufficient data – exist. Sometimes it arises from within the statistical agency itself, and sometimes it results from a request from an external client, which could be another government department or a private organization. Typically, the statistical department or the client request to study the characteristics of a population, build a database for analytical ideas or test a hypothesis.

A survey can be thought to consist of some interconnected steps which include:
• Defining the objectives
• Selecting a survey frame
• Determining the sample design
• Designing the questionnaire
• Collecting and processing the data
• Analyzing and disseminating the data and
• Documenting the survey.

The life of a survey can be broken down into several phases. The first is the planning phase, second is the design and development phase, and then the implementation phase. Lastly, the entire Survey process is reviewed and evaluated.

The purpose of this chapter is to provide an overview of the involved activities conducting a statistical survey. To help illustrate the teaching points of this manual, the reader inspired to read the Case Study manual which takes the reader through the planning, design and implementation of a fictitious statistical survey.

3.5 QUESTIONNAIRE DESIGN

Questionnaire is often using in survey as primary data collection tools. Questionnaire is a device for securing answer to questions by using a form which the respondent fills the responses. It is a fairly reliable tool for gathering data from large, diverse, varied and scattered social group.

3.6 CONSTRUCTION OF QUESTIONNAIRE

The questionnaire has been equipped keeping in view and suggestions given by the software professionals & information seeking related articles. It was desirable to use questionnaire technique, keeping in a view of the time factor and time frame first of all the questionnaire has been prepared and sent to software professionals who are working in western region of India. Necessary changes have been done in the Questionnaire according to the valuable suggestions from the Research Guide & professionals. Finally pervasive
Questionnaire has been prepared for study of Information seeking habits of software professionals in western India.

3.7 CONTENT OF QUESTIONNAIRE

- Information about the professionals: - It includes the questions, Full name, Qualification, Age, Designation, Organization name, Total service in organization, Total experience in organization, Languages known, Membership of any professional organization, Hobbies etc.
- Information seeking procedure
- Non-book material
- Method used to find information sources
- Accidental discovery of information
- Accessing information sources
- Conference/Workshops
- Medias used by professionals
- Standard sources used
- Library used
- Non use of library
- Difficulties/ problems faced by the professionals
- Library services and usage
- Inputs required from librarian
- OPAC
- Webopac
- Opinion/Suggestion

3.8 DATA COLLECTION

The data was collected by the software professionals who are working in western region of India. The questionnaires has been distributed among 1000 software professionals out of which only 812 respondents favorably responded whereas 188 professionals not responded to it in the process of collection of primary
data for the present study. Researcher has distributed 1000 questionnaire to the software professionals through E-mails (Microsoft Word) and Google forms. First reminder was sent after 10 days of the first email followed by second reminder with the gap of 10 to 12 days. Some professionals was very helpful for the researcher to distribute the questionnaire to all software professionals, project lead, managers. While emails and telephone was extensively used to make them understand the purpose of the research and assure them that the data was supplied by you would be kept confidential and used for research purpose only. Information was collected through questionnaire in order to substantiate the data gathered. The responses received from the region wise are mentioned below. 313 responses received from Mumbai region, 365 responses received from Pune region and 134 software professionals does not mentioned their location. Whereas 188 software professionals does not respond.

3.9 GOOGLE FORMS
Researcher has used a recent techniques i.e. Google forms & Emails for collecting the responses which is freely available on Google. It is very helpful for the researcher to distribute and collect the responses in a specific format and saving the researchers valuable time.

3.9.1 How to create a form in Google Documents
When you are in a Google Document, go to Create New and select Form and go to Google Form (Figure 1). (You can find this drop-down in a word processing document or a spreadsheet document.)
Find create new form (Figure 2)
3.9.2 Customizing your form

1. Select a theme for the form by clicking the Theme button.
2. Give the form a title. In my example, the primary question asked ("Favorite Desktop/distribution combination") is also the title of the form.
3. Add any text necessary to aid the users in filling out the form. This might be required to help users understand their choices or maybe why these questions are being asked. (This text is not required.)
4. In the Question Title field, give the first question a title. This title is also the first question.
5. In the Help Text field, add any copy that will help the user answer the question. (This text is not required.)
6. In the Question Type drop-down, select the type of question from these options:
   - Text
   - Paragraph text
   - Multiple choice
   - Checkboxes
   - Choose from a list
   - Scale
   - Grid

The last two options are possible points of confusion. The Scale option allows for a question to have a scale of answers (such as from least to most desirable) and can range from 1-10. The Grid option allows the creation of a matrix with rows and columns so users can select from numerous combinations (Figure 3). The maximum number of columns is five, but rows can be unlimited.
7. Enter possible answers to your question if appropriate.
8. Click the done button to save the question.
9. Check the box next to make this a required question if appropriate for the form.
10. If you want to ask another question, click the Edit button to open the question editor.

11. Create the second question by repeating steps 4-9 (make the appropriate changes as needed).
12. Save the form.

13. Once you finish entering questions, you're ready to email the form to users. When you click the Email This Form button (which is at the top right of the form), a new window will pop up (Figure 5) where you can add recipients' email addresses (separate each email address with a comma). If you do not check Include Form In The email, the email will only contain a link that will take the user to the online form. Finally, click the Send button.

Once the form is sent, you will receive an email with instructions on how to view the collected data. Figure 6 shows a screenshot of a spreadsheet with some responses from my Google Docs forms questions (neither question is one that I used in my previous examples).
3.10 DATA ANALYSIS

The responses were coded and entered in the computer using Microsoft Excel. Required analysis was done with the help of SPSS (Statistical Package for Social Sciences) 16.0 Version. Certain statistical methods were applied on the data to get the results which are analyzed.

An enormous data was collected through questionnaire. The analysis of data will help in drawing certain findings which in turn, helped to reach at some important conclusions on the Information seeking habits of Software professionals in Western India.

The data has been represented in Tabular & graphical form. Inferential statistics were used to reach conclusions and make simplifications about the characteristics of populations based on data collected from the sample. Mean, Mode, Chi-square and t-tests were used for this study.

3.11 IDENTIFICATION AND SELECTION OF THE SAMPLE

It was found that the approximate total number of software professionals in western region of India was near about 1000. The target was to cover 81.2% of
the software professionals. Researcher has distributed 1000 questionnaire to the software professionals through E-mails (Microsoft Word) and Google forms. Out of which the 313 responses received from Mumbai region, 365 responses received from Pune region and 134 software professionals does not mentioned their location. Whereas 188 software professionals does not respond. The population surveyed consist of Software professionals who are working in Mumbai and Pune region which is in Western India.

Collected data has been analysed and presented in the data analysis and interpretation chapter.