CHAPTER IV

RESEARCH METHODOLOGY

AN OVERVIEW OF RESEARCH APPROACH

Research methodology is a systematic way that solves the research problem. It may as a science of studying how research is done scientifically. It is, research study the various steps that are generally adopted by a researcher in studying the research problem along with the logic behind them. It is necessary for the researcher to know not only the research methods are techniques but also methodology. Researchers not only need to know how to develop certain tests, how to calculate the mean, the mode, the median or the standard deviation or chi-square, how to apply particular research techniques, but the researcher also need to know which of these methods or techniques are relevant and which is not. Researcher also needs to understand the assumptions underlying various techniques and researcher has to know the criteria by which researcher can decide that certain techniques and procedures will be applicable to certain problems and others will not.

In order to perform a thorough, objective investigation of the cases, data should consist of both first- and second-hand materials and be collected from multiple sources. In this thesis, literature on planning and economic models concerning share market and documents obtained from governments were reviewed. Following the literature review, semi-structured interviews were conducted to collect information and data from Governments and share markets

private companies. In addition, surveys were conducted to the residents in the two cases to collect information about the factors that influence the participation in investment programs. On-site observation was also performed to collect first-hand information concerning the investors opinion about the impact of economic reforms on share market.

According to the features and properties of various data sets, different analytical methods are required to obtain valuable and reliable results. Qualitative methods as well as quantitative methods can be effective analytical tools in case studies, especially in embedded case studies. A systematic model was proposed as a framework for the multi-level comparative analysis. In light of specific local conditions in each case, minor variations of the systematic model were applied in order to enhance the model's applicability. Based on this model, this thesis organized and analyzed both first-hand materials and data collected from interviews and on-site observations, and second-hand information extracted from statistical data, legislative documents, and relevant reports. The data collected from surveys were analyzed by quantitative methods and further compared.

It is necessary for the researcher to design his methodology for his problem as the same may differ from the problem. The research methodology has many dimensions at research methods do constitute a part of the research methodology. The scope of the research methodology is wider than that of research methods. The research methodology concerns a research problem or study.[1]

SAMPLING PROCEDURE

Sampling may be defined as the selection of a part of an aggregate or totality on the basis of which a judgement or inference about the aggregate or totality can be made. For this research work, two types of sampling methods are used.
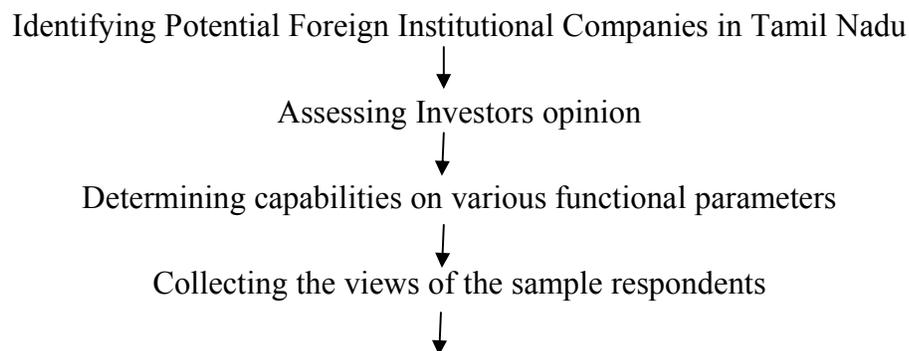
As this study is basically an impact study, to assess the views of the shareholders households in the study areas, this type of sampling is used. To collect the necessary information from the investors households, 'Judgement Sampling', is used. In this method of sampling, the choice of sample items depends exclusively on the judgement of the investigator. In other words, the investigator exercises his judgement in the choice and includes those items in the sample which he thinks are most typical of the universe with regard to the characteristics under investigations.

METHOD OF RESEARCH APPROACH

The schematic given below briefly explains the approach adopted by researcher to achieve the objectives of the study:

Figure 4.1

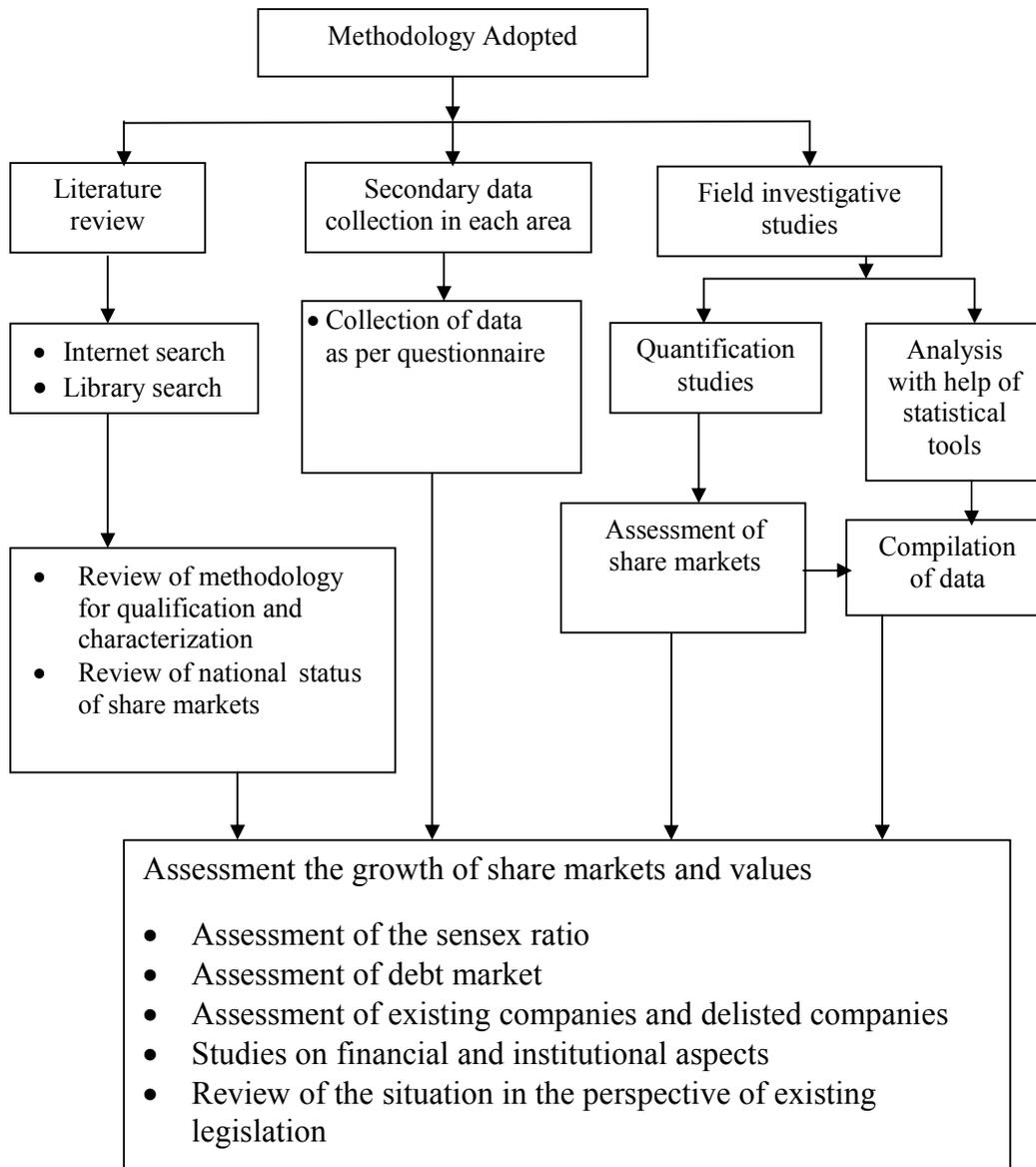**Method of Research Approach**

Identifying Potential Foreign Institutional Companies in Tamil Nadu

↓

Assessing Investors opinion

↓

Determining capabilities on various functional parameters

↓

Collecting the views of the sample respondents

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Providing Strategic Recommendation and suggestion to the policy maker and planners by researcher

Figure 4.2

Methodology Adopted for the Study

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                        ┌─────────────────────┐
                        │ Methodology Adopted │
                        └─────────────────────┘
          ┌──────────────────┬──────────────────────────┐
          ▼                  ▼                           ▼
   ┌────────────┐   ┌───────────────────┐     ┌──────────────────┐
   │ Literature │   │ Secondary data    │     │ Field investi-   │
   │ review     │   │ collection in     │     │ gative studies   │
   └────────────┘   │ each area         │     └──────────────────┘
          │         └───────────────────┘         ┌───────┴────────┐
          ▼                  │                     ▼                ▼
   ┌────────────┐   ┌───────────────────┐   ┌────────────┐  ┌────────────┐
   │ • Internet │   │ • Collection of   │   │Quantifica- │  │ Analysis   │
   │   search   │   │   data as per     │   │tion studies│  │ with help  │
   │ • Library  │   │   questionnaire   │   └────────────┘  │ of statis- │
   │   search   │   │                   │         │         │ tical tools│
   └────────────┘   └───────────────────┘         ▼         └────────────┘
          │                  │             ┌────────────┐         │
          ▼                  │             │Assessment  │         ▼
   ┌────────────────┐        │             │of share    │─▶┌────────────┐
   │• Review of     │        │             │markets     │  │Compilation │
   │ methodology    │        │             └────────────┘  │of data     │
   │ for qualifica- │        │                   │         └────────────┘
   │ tion and       │        │                   │               │
   │ characteriza-  │        │                   │               │
   │ tion           │        │                   │               │
   │• Review of     │        │                   │               │
   │ national status│        │                   │               │
   │ of share       │        │                   │               │
   │ markets        │        │                   │               │
   └────────────────┘        │                   │               │
          │                  ▼                   ▼               ▼
   ┌─────────────────────────────────────────────────────────────────┐
   │ Assessment the growth of share markets and values                 │
   │                                                                   │
   │  • Assessment of the sensex ratio                                 │
   │  • Assessment of debt market                                      │
   │  • Assessment of existing companies and delisted companies        │
   │  • Studies on financial and institutional aspects                 │
   │  • Review of the situation in the perspective of existing         │
   │    legislation                                                    │
   └───────────────────────────────────────────────────────────────────┘
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Source: Analysed by the researcher

The figure illustrates the various parameters that each shareholders and securities companies were evaluated on each of the parameters of a set of measurements to ascertain the degree of growth of share markets after economic reforms by the Indian Government.

Sample Selection

For the purpose of convenience and adequate representation, a total of 250 sample households selected from study areas. To study the impact of economic reforms on share markets in the study areas investors 250 households were taken from each one of the sample areas. This detail is provided in a tabular form below.

Table 4.1

Sample Investor Households in the Study Areas

Sl. No.	Sample Areas	No. of selected sample Households
1.	Thiruvanmiyur	50
2.	Parrys	50
3.	Adyar	50
4.	Ambattur	50
5.	Velachery	50
	Total	**250**

Source: Judgment Random Sampling by Researcher.

Descriptive research includes surveys and fact-finding enquires of different kinds. The major purpose of descriptive research is description of the state of affairs, as it exits at present. In other terms, Ex-post facto research is

used for descriptive research studies. The main characteristic if this method is that the researcher has no control over the variables, the researcher can only report what has happened or what is happening. It also includes attempts by researchers to discover causes even when researcher cannot control the variables.

SAMPLING TECHNIQUE

The need for adequate and reliable data is ever increasing for taking policy decisions in different fields of human activity. There are two ways in which the required information may be obtained:

a)   Complete enumeration survey

b)   Sampling technique

This research work has made use of sampling survey method. Under this method, data are collected for each and every unit belonging to the population or universe. First the sample size is taken 10 investors in share markets in the study area, Secondly, the sample size taken here is 250 investor households. The method and techniques adopted in this course of the study are referred to as methodology. This research work has made use of both descriptive and analytical methods.[2]

PERIOD OF STUDY

The present study is basically "a study on the impact of economic reforms on share market with special reference to Tamil Nadu". It covers a period of 14 years that is from 2000 to 2013. Data were collected to assess the

performance of share market in Tamil Nadu and India. The study takes of analysing the impact of economic reforms on share market in the study areas. For the purpose, primary data were collected from between the years 2000-2013. Essentially, this study follows survey method which is recommended by share market experts.

RESEARCH METHODS

Literature and Document Review

The major content of the literature review provides the base for the system model and data analyses. In addition to the review of relevant literature, statistical data and documents concerning listed, delisted and existing companies securities in the share markets in each of the study areas were also reviewed.

The requirements of the data are the details regarding the facilities available for development. To realise the attractive features of share market in the study areas, data about the different departments were gathered from share and stock market information from the National Stock Market.

In order to study the growth rate of share market in India. Secondary data for 14 years (2000-2013) were collected from the Department share market.

Relevant Statistical informations such as investors, share values, equity market, debt market and sensex were collected from the Department of Statistics, Chennai.

Various books, periodicals, reports, theses etc. were also referred from libraries such as University of Madras, Madras Institute of Development Studies (MIDS), Madras School of Economics (MSE), American Information Resource Center (AIRC), British Council and Connemara Public Library. NCAER materials were also used in framing the questionnaire.

Interviews

Semi-structured interviews were conducted to collect further background information about share market, concerns in decision making, and program initiatives and organization, and participation on investment programmes.

Making use of the 'Investor Households Questionnaire', Primary data were collected for the purpose of gathering informations such as the general status of the households. 'Household Questionnaire' was used in the survey to collect informations from the households of the study areas to know the extent of the impact of economic reforms in the study area. The survey was conducted between May and July 2013.

The type of Questionnaires used in this work is 'Fixed Questionnaire'. In this type of Questionnaire, the respondents are asked to select only one category of reply from a few given choices. This study contains mostly such type of questions.

Survey

On-Site Observation

Data collection is an important process in research, which is essential in arriving at conclusions. The data can be primary or secondary. Primary data are collected by the researcher directly either by survey or experimentation. Secondary data are those which are already collected by someone else and which have already been passed through the statistical process. This study essentially has made use of both primary and secondary data.

A structured questionnaire was prepared for the purpose of collection of data. The questions in the questionnaire were closed ended in nature, while some questions were open ended in nature. The respondents were interviewed and probed about their views and opinions. The responses were recorded and data collected were analyzed. Relevant information was also gathered from sample households in the study area of this research work.

PRE-TESTING

A pre-testing of the questionnaire was done by the researchers to remove the questions, which are vague, and ambiguity in nature, a sample 10 investors households was selected and the questionnaire was pre-tested. There was no modifications was required for the researchers as no significant variations was found.

To carry out the research work, a well-structured and tested questionnaire to study the share market problems related factors among households and an existing questionnaire prepared by NCAER (National

Council of Applied Economic Research) to study the impact of economic reforms on share market.

STATISTICAL TOOLS USED IN THIS STUDY

The following mathematical and statistical tools were used to test the hypothesis framed and other relevant information.

Chi-square test was done to study the association between the self rating factors and the aim of households and the impact of economic reforms on share market investment in the study areas.

TOOLS OF ANALYSIS

1. Growth Rates

Growth rates are used to study the nature of growth of sensex value in the study area.

The important variants of growth rate are:

I. Linear Growth Model

A generalized linear model is a model of the form $y = g(b'x)$ where y is a vector of dependent variables, x is a column vector of independent variables, b' is a row vector of parameters (that is, b is not a function of x) and g( ) is a possibly random function called a link function[3]

Examples: linear regression (y=b'x+errs) and logistic regression $y=l/(l+e^{-x})$+errs.

II.   Trend Growth Rate

It is a compound growth rate. But unlike the compound growth rate, it is worked out for a period on the basis of the value of a variable for all the years. Therefore, it is considered to be a better estimate. In this case, least square trend is fitted for given years and the given value of the variable for these years.

It is known as semi-longarithematic least square trend growth rate. The exponential equation used is :

$$y_c = ab^t$$

where $b = \dfrac{1+g}{100}$ hence,

$g = b \ (b\text{-}1) \ 100$ and $(b\text{-}1) \ 100$

y_c is the computed value of concerned variable and 'a' and 'b' are the parameter estimate, t is the time period. When the estimated value of log b, is known, then

$$8 = [\text{Antilog (log b) -1}] \ 100$$

Where $b = \dfrac{1+g}{100}$ hence, $g - (b - 1) \ 100$

Once we get the estimated value of log b, then $g = [\text{Antilog (log b) - 1}] \ 100$. Such types of growth rates formulas are used in share market studies generally.[4]

Chi-Square Analysis

Chi-Square test is a non-parametrical test used most frequently by research to test the hypothesis. Chi-Square test aims at determining whether the significant difference exists among the groups of data/whether difference due to sampling when a small no. of degree of freedom is involved. Curve is skewed. As the No. degree of freedom increase the distribution curve becomes more symmetrical and resembles and normal curve[5].

The χ^2 test is one of the simplest and most widely used non-parametric tests in statistical work. The symbol χ^2- is the Greek letter Chi. The quantity χ^2 describes the magnitude of the discrepancy between theory and observation. It is defined as:

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

Where O refers to the observed frequencies and E refers to the expected frequencies.

The expected frequency can be calculated from the following equation:

$$E = \frac{RT \times CT}{N}$$

E = Expected frequency

RT = The Row total for the row containing the cell

CT = The column total for the column containing the cell

N = The total number of observations

Percentage Analysis

Percentage refers to a special kind of ratio in making comparison between two or more data to describe relationships. Percentage can also be used to compare the relative terms, the distribution of two or more series of data.

$$\text{Percentage} = \frac{\text{No. of respondents}}{\text{Total respondents}} \times 100$$

DESCRIPTIVE STATISTICS

Descriptive statistics is concerned with data summarization, graphs, charts and tables that will describe the various facts of a data set. Diagrammatic and graphic presentations are of high value to provide an instant idea about the presented facts. Pie-diagram and adjacent bar diagram are used in this work.

LIMITATIONS OF THE STUDY

The present study is subjected to the following limitations.

1. The study particularly analyses the share market / stock market in India as well as in Tamil Nadu.

2. The Study had taken only 250 share investor sample that is 125 each from large investor and small investors in the study areas. The sample sizes may not be too adequate to explain the share market impact of Foreign Institutional Investor and Economic Reforms by the Government of India. However, any research work is constrained by

time and resources. Hence this choice can be considered as adequate on the basis of these constraints.

3. The study is very critical in the sense that it is subjected to recall bias of the respondents due to limitations of human memory.

RECAPTULATION

This chapter has presented the details regarding the selection of the study areas, period of the study, the sampling procedure used to analyse the collected data. Thus, this chapter has become the basis for this study.

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