CHAPTER II
OBJECTIVES AND METHODOLOGY

2.1 Introduction

Economic reforms and globalisation have created enormous ramifications on economic policies. The new economic policy integrates Indian economy with the world economy. The process of integration has brought new challenges for small and medium enterprises in India. Adoption of Total Quality Management (TQM) in Small and Medium Enterprises (SMEs) has become vital to meet future challenges in realising the vision of the country. The SMEs striving to take on foreign competition need to expand their mindset and culture on innovation and responsiveness to changes. This would lead to the successful adoption of TQM. Hence, there is a need for an in-depth study on the importance and implementation of TQM in SMEs. This chapter presents the design of the study in terms of statement of the problem, objectives, sampling and data collection procedures, framework of analysis, scope and limitations and chapter scheme.

2.2 Statement of the Problem

Total Quality Management is an essential strategy to develop any organisation. There is a common agreement among the management experts on the relevance of TQM practices in large enterprises. Thus, several researches conducted on TQM were focused on large scale industries. At the same time the possibility of TQM practices in SMEs is widely debated. Management practitioners hold the view that the adoption of TQM practices is very difficult for SMEs for many reasons, including paucity of resources and poor innovative
capabilities. It is true that SMEs have to take up the responsibility to meet the standards required in the global market. In other words SMEs operating anywhere in the country have to fulfill the standards set by the global giants operating in the same country. Realising this, the Fifth India global summit on SMEs stressed the need for transforming SMEs into world class entities. The United Nations Conference on Trade and Development’s expert group also pointed out that there is a need to scale up and upgrade the capabilities of SMEs in order to make them effective partners for transnational corporations. It is quite pertinent to note that the importance of the total quality management in SME is well recognised and highlighted in the document published by Government of India. Though there is a need for the adoption of TQM practices in SMEs in the era of globalisation the available literature reveals that the practices are not exclusively followed in developing countries like India.

Further, the empirical studies on this area are scanty in India. In this context, an attempt has been made to study the gap between importance and implementation of TQM in SMEs in Tamil Nadu and examine the impact of TQM factors on the organisational performance.

Under this situation, it is quite essential to get answers for the following questions relating to the TQM practices in small and medium enterprises:

(i) to what extent do the small and medium manufacturing enterprises attach importance to the use of total quality management practices?

(ii) to what extent are the total quality management practices implemented in small and medium manufacturing enterprises?
(iii) is there any gap between importance and implementation of TQM in SMEs?, and
(iv) does any relationship exist between soft factors, hard factors of TQM components and organisational performance?

2.3 Objectives

The objectives of the study are:

(i) to study the perceived importance of the various components of total quality management in small and medium enterprises,

(ii) to examine the extent of implementation of the various components of total quality management in small and medium enterprises,

(iii) to analyse the gap between the implementation and perceived importance of the components of total quality management in small and medium enterprises,

(iv) to explore the characteristics of small and medium enterprises implementing total quality management practices; and

(v) to study the soft TQM factors and the hard factors of TQM determining organisational performance.

2.4 Hypotheses Tested

Based on the above objectives the following hypotheses were framed and tested in this study:

(i) There is no significant difference between the importance of total quality management practices of small and medium enterprises classified in terms of type of ownership, type of products manufactured, quality certification, quality award status, markets and year of establishment.
(ii) There is no significant gap between the implementation of total quality management practices of small and medium enterprises classified in terms of type of ownership, type of products manufactured, quality certification, quality award status, markets and year of establishment.

(iii) There is no significant difference between the importance and implementation of total quality management practices of small and medium enterprises,

(iv) There is no significant difference in the profiles of two groups of firms classified in terms of total quality management implementation, and

(v) The impact of total quality management of soft factors and hard factors on organisational performance is insignificant.

2.5 Choice of the Study Unit

Tamil Nadu is one of the well developed states in terms of industrial development. In the post liberalisation era Tamil Nadu has emerged as one of the front-runners by attracting a large number of investment proposals and hence the researcher has chosen Tamil Nadu State for the present analysis.

2.6 Research Methodology

The study aims at exploring and analysing the implementation and importance of total quality management. It is an intensive study of TQM practices in small and medium manufacturing enterprises in Tamil Nadu. The primary purpose of the study is to identify the critical factors of quality management in small and medium manufacturing enterprises from management’s perspective, based on an empirical analysis. Such an empirical
study demands a rigorous research methodology with reliable and valid instruments. A study using such instruments is expected to enhance the process of theory building in quality management. Also, such instruments and the findings of the study can be effectively used by practitioners for the evaluation and betterment of the quality programme in their organisation. This can be achieved only by measuring the perception of the practitioners of the industry.

2.6.1 Area of the Study

The present study relates to the small and medium manufacturing enterprises located in Tamil Nadu State, India.

2.6.2 Data Collection Procedure

The study uses both primary and secondary data. Since the majority of the objectives were centered on primary data, the study relied more on the primary data. Primary data were collected using a pre-tested interview schedule. The researcher personally collected the data from 208 respondents during the months January - April 2009 through interview method. Secondary data were extracted from the official records and reports of various Ministries of Government of India, Government of Tamil Nadu, and Confederation of Indian Industry (CII) to assess the performance of SMEs in Tamil Nadu.

2.6.3 Period of the Study

Primary data were collected from the individual SME respondents from January 2009 to April 2009. Secondary data were collected for a period of 18 years from 1991 to 2008.
2.6.4 Sampling Procedure

In India, total quality management initiatives were first set by the CII. This has motivated the researcher to choose SMEs registered with CII for the present analysis. A list of SME members registered with CII was obtained for choosing the sample respondents. As on 31.10.2008, there were 1040 manufacturing SMEs registered with CII, Tamil Nadu. The selected firms were organised in nature and have a total investment of less than 10 crores each. These units were stratified into small and medium enterprises that were registered with CII. It was found that there were 463 small enterprises and 577 medium enterprises. A sample of 20 per cent of the total units from each group has been taken for the present study. Thus, the sample constitutes 93 small and 115 medium enterprises. In toto, 208 respondents were selected for the present study. These sample respondents were chosen based on stratified systematic random sampling method.

2.6.5 Framework of Analysis

In the present study objective-wise analysis was made. Percentile analysis was done to study the characteristics of respondent enterprises. The ‘t’ and paired ‘t’ tests were used as tests for examining the equality of group means. Discriminant analysis was done to study the discriminating profiles of two groups of firms. The discriminant analysis model involves linear combinations of the following form:

\[ Z = b_0 + b_1X_1 + b_2X_2 + \ldots + b_{10}X_{10} \]
Where,

\[ Z = \text{Discriminant score; One for high implementing and zero for low implementing enterprises.} \]

\[ X_1 = \text{Dummy variable; zero for private Ltd company and one for public Ltd company} \]

\[ X_2 = \text{Dummy variable; zero for consumer goods and one for capital goods} \]

\[ X_3 = \text{Number of Employees} \]

\[ X_4 = \text{Dummy variable; zero for non-awarded enterprises and one for awarded enterprises.} \]

\[ X_5 = \text{Dummy variable; zero for untrained management and one for trained management} \]

\[ X_6 = \text{Dummy variable; zero for Domestic market and one for International market} \]

\[ X_7 = \text{capital investment measured in money value} \]

\[ X_8 = \text{Dummy variable; zero for Firms established before National Economic Policy of 1991 and one for Firms established in 1991and after.} \]

\[ X_9 = \text{Dummy variable; zero for non-certified enterprises and one for certified enterprises.} \]

\[ X_{10} = \text{Dummy variable; zero for Firms partly familiar with TQM practices and one for Firms completely familiar with TQM practices.} \]

As many as 89 statements were included in the schedule to study the extent of implementation of TQM practices in SMEs in Tamil Nadu. The scores for all the 89 statements given by each individual respondent have been
summed up and the median value has been computed for the series. The respondents who have scored more than the median value have been taken as high implementing category and others as low implementing category.

The coefficients in the discriminant function have been standardised to make them directly comparable to the discriminant power by their magnitude and to find the direction of discrimination by their sign. Standardisation of coefficients has been done with the help of the pooled within groups standard deviation.

The multiple regression lines were estimated to analyse the impact of soft total quality management and hard total quality management factors on organisational performance. The general form of the regression model for the present study is given below.

\[ Y = a_0 + a_1 X_1 + a_2 X_2 \]

Where,

\( Y \) is Organisation performance, which was measured as the arithmetic mean of business outcome expressed in terms of percentage, namely profit improvement, sales improvement, production performance improvement, delivery improvement and quality improvement.

\( X_1 \) is measured as the arithmetic mean of scores assigned by the respondents for the soft TQM components namely top management commitment leadership, organisation culture, customer focus, human resource management, employee empowerment, communication and employee involvement and attitude.
X₂ is measured as the arithmetic mean of scores assigned by the respondents for the hard TQM components namely strategic planning, benchmarking, information feedback, infrastructure, supplier management and continuous improvement.

2.7 Scope and Limitations of the Study

The research findings of the study would offer ample scope to those SMEs which are willing to adopt TQM practices in their unit. The findings of the study would enlighten the existing situation of TQM practices in SMEs. Therefore this study would help the economic planners, the policy makers and the SMEs to identify the priority areas in their developmental or expansion efforts. In this sense this study has significant policy implications. Besides, the findings of the study would evoke an interest among the researchers and academicians. However, the study has certain limitations. As the researcher has mainly depended on the primary data the weaknesses associated with it may not be ruled out. The sample size (208) and area selected are small in character. Hence, the findings and conclusions of the study are valid to only small and medium manufacturing enterprises limited to Tamil Nadu. Due to time and resource constraints the researcher has restricted the area of the study to Tamil Nadu. Therefore, findings and conclusions of this study are valid to the SMEs in the study area and these findings cannot be generalised in other areas. The conclusions arrived at in the present study may not be applicable to other states of the country. Further, the outcome of this research should not be generalised for large scale enterprises and service sector.
2.8 Organisation of the Thesis

The thesis is divided into nine chapters. The first chapter deals with the introduction of the topic. The second chapter focuses on the problems, objectives, hypotheses, methodology, the scope and the limitations of the study. The third chapter presents the review and concepts related to the topic selected for the study. Chapter four provides the profile of the study area and the sample respondent manufacturing units. Chapter five traces the perception of respondents on the importance of total quality management. The actual implementation of TQM, the gap between importance and implementation have been assessed in chapter six. Chapter seven provides the characteristics of TQM implementing enterprise. A detailed analysis of the relationship between soft TQM factors, hard TQM factors and organisational performance is given in chapter eight. The last chapter provides a summary of the major findings of the study, conclusion and policy implications.

2.9 Conclusion

This chapter is devoted to specification of the frame work of the thesis. This study deals with the problem of TQM in SMEs in Tamil Nadu. Five objectives were delineated to study the importance and implementation of TQM and organisational performance. Tools used and the rational for the selection are also discussed. This chapter purports to elucidate the research background and its significance to the research field.