CHAPTER - I

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CHAPTER - I

RESEARCH DESIGN

1.1 INTRODUCTION :

In this chapter the data has been collected from the selected small scale agro based industries regarding Scope, Objectives, Methodology and Limitations.

The Scope of the study is to bring light on the application of Quantitative Techniques to the selected small scale agro based industries for the working pattern operations and performance.

The present study has been undertaken with the prime objective of examining the significance of Quantitative Techniques to selected small scale agro based industries.

The simple random sampling method is used for selection. A list is made of all small scale agro based industries situated in Udyamnagar, Kolhapur.

The data collected here lacks in accuracy. It was very difficult to get the essential imformation in the precised format from these industries. The small scale agro based industries selected here does not maintain the information regarding production details, like assembly, painting and Testing etc. in the required format.

1.2 OBJECTIVES OF THE STUDY :

The present study has been undertaken with the prime objective of examining the significane of the Quantitative Techniques to selected small scale agro based industries Udyamnagar, Kolhapur.

The other objectives of the study are :

1. To study and analyse to production and manufacturing process in detail by collecting data regarding material, labour, machines, from all the industries.

2. To study the sales trends and forecast the sales for all the products of these industries.

3. To study the procedure adopted presently, in case of maintaining inventory and suggest economic order quantity policy for these industries.

4. To study the working pattern and performances of these industries and suggest some improvements using Quantitative Techniques.

5. To formulate Linear Programming Model by utlizing available resources in an optimum way which gives optimum product mix and maximum profits.

6. To study the quality control procedures adopted by the industries and suggest some improvements by using statistical quality control technique.

7. To make some suggestions and recommandations for improving overall functioning of the selected industries.

1.3 SCOPE OF THE STUDY :

The Scope of the Study is to bring light on the application of Quantitative Techniques to the selected small scale agro based industries for the working pattern, operations and performance.

This study helps to the management taking dicision regarding working pattern, optimum utilisation of available resources and ordering policy.

In this study the Researcher has shown how the profit can be increased by applying Linear Programming Technique by utilising available resources in an optimum way. From this study one can conclude that Quantitative Techniques are applicable even to small scale industries. One should make use of the available Quantitative Techniques in improving performance, productivity and profits.

This study helps to the management in utilising the available resources such as Machine capacity, Manpower, Money, Time and other resources etc. in an optimum way to get maximum profits. It enables to concerned authorities of industries to estimate production quantity, Inventory, Sales and Profits.

In order to make study more comprehensive emphasis is laid on latest five years sales (1985 to 1989) and inventory for each firm.

1.4   SOURCES OF DATA :

The necessary data regarding company's production capacity, Inventory, Sales and profits etc. has been collected by conducting personal interviews. Actual data regarding production has been collected by observation method. The production process details such as assembly hours, painting hours, testing hours, and labour and machine hours has been collected by actual observation and holding discussion with production Manager. Company's balance sheets and Brochares are reffered for collecting the data regarding profits, sales for the last five years and investments.

The data regarding the Theoriotical Introduction to the subject has been collected from the various books and literature. However the emphasis is laid on primary data relating to assembly, painting, testing labour and machines for formulating and developing the Linear Programming model. And also emphasis is laid on sales and Inventory for forecasting and inventory model.

1.5 METHODOLOGY OF THE STUDY :

Methodology adopted here is as follows :

Four small scale agro based industries are selected randomly for the purpose of research study. The simple random sampling method is used for selection. The method adopted here for selecting is lottery method. The procedure adopted here is as follows.

A list is made of all small scale agro based industries situated in Udyamnagar, Kolhapur. These are number from one to Ten. Ten chits of uniform colour and size are made and they are put in a box. Four chits are selected randomly giving equal chance to all the chits.

1.6 LIMITATIONS OF THE STUDY :

The data collected here lacks in accuracy. It was very difficult to get the essential information in the precised format from these industries. The small scale agro based industries selected here does not maintain the information regarding production details, like assembly, painting and testing etc. in the required format.