CHAPTER One

INTRODUCTION AND RESEARCH DESIGN
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1.1 INTRODUCTION

In a competitive environment, growth of any business organization would entirely depend upon customer appreciation and loyalty it can command. These can be ensured only by offering products and services of high quality on a durable basis. Therefore, continuous enhancement of quality on a sustaining basis has become essential for the prosperity of any business organization at present and in the future as well.

Management of quality is important both for manufacturing and service organizations. For most business organizations today, superior quality is at the core of their business strategy. Attaining near-perfect quality of products/services is seen as a principal means of capturing market shares and profitability in global competition. Achieving superior product/service quality within a business requires a long-term process of changing the fundamental culture of the organization.

Today, managers of many manufacturing and service organizations have overhauled the structure of their organizations, changed their organization climates and redirected their product/service quality programmes towards becoming global quality leaders, through an effort that is known as “Total Quality Management” (TQM).

The role of human beings at work has changed as business and technology have changed over the years. Prior to the Industrial Revolution, skilled people had a major stake in the quality of the products produced and they were motivated by pride in their work as well as the need for survival. Later on, in the era of scientific management, F.W. Taylor’s system improved productivity by focusing on work methods design, the establishment of standards for daily work, selection and training of workers and piece work incentives.

Nowadays, the total quality movement has caused businesses to look more closely at the human side of work. The focus on customer satisfaction and flexibility to meet ever-changing customer demands has brought new approaches to work design and employee developments.

1.2 SIGNIFICANCE OF THE STUDY

As a result of rapidly changing business environment, organizations are adopting newer management practices. ISO 9000 Quality Management System is one such effort to stay in competition by implementing quality practices. The success or failure of quality management system in any organization is much dependent on the involvement of its employees in the implementation of that system. There are a variety of employee
involvement programmes being practiced in the organizations while implementing ISO Quality System and this is receiving attention both from academic as well as in-house researchers. However, a review of literature revealed that there is a lack of research endeavour comprising the Employee Involvement (EI) practices vis-a-vis ISO 9000 system’s implementation. The present research work has attempted to fill this void.

All these schemes cater to different aspects of management. A scheme like Quality Circle aims at problem-solving, whereas a scheme like Financial Participation is designed keeping productivity in mind. The ultimate aim of all these schemes is to increase the level of employee involvement, which is one of the essentials of the TQM.

But the questions like how far these schemes help in the implementation of ISO-9000 quality system and which among all these schemes play a leading role in the implementation are rarely answered. Understanding the interrelationship between the EI schemes and the implementation of the ISO-9000 is significant since it will help in pinpointing the major thrust areas with regard to ISO-9000 clauses and the use of employee involvement schemes to fulfill the requirements therein.

This study is also significant since it would help in understanding the mindset of employees at different levels through which the degree of acceptance about the EI schemes can be realized.

Though the study is mainly focused on the implementation of the ISO-9000 Quality System vis-a-vis the use of EI schemes in it, a fair picture about the success or failure of a specific scheme can be drawn up.

Kolhapur, being one of the growing industrial towns, has shown a favourable response to different quality management systems. Industries in and around Kolhapur are implementing ISO-9000 Quality Management System along with other systems to standardize their processes. Research work on the interrelationship between ISO-9000 System with the EI schemes being followed in organizations would certainly help them to pinpoint the areas where they need to focus. Through this research, attempt would be made to analyze the role of different EI schemes while implementing ISO-9000 system. The result will throw light on the usefulness and the effectiveness of EI in carrying out quality system activities. On the basis of these results, one can design strategies for EI which will lead to the overall quality improvement.

1.3 ISO-9000 QUALITY MANAGEMENT SYSTEM

Quality, in all its aspects, has been recognized by majority of the industries as an important factor in capturing the market share. Quality is a dynamic phenomenon, it improves every moment with the newer developments in technology and management techniques. As the leading organizations of the world improve the quality standards of their products or services, the quality expectations of the customers of the products and services also go up. In response, a number of organizations world-over have begun adopting new quality management techniques, so as to keep pace with the international quality standards.

Quality, in the present context, as per ISO 8402 or BS 4778, is defined as “the totality of features and characteristics of a product or service that bears on its ability to
satisfy the stated or implied needs”. Within the scope of this definition, the following concepts, namely, fitness for purpose, value for money, reliability, customer satisfaction and conformance to requirements, exist explicitly.

For achieving the goals of first attaining and then managing quality, various regional and international standards of quality measurement and assurances have been developed, so as to monitor and ensure quality at all the stages of manufacturing/production cycle.

ISO 9000 is one of the most widely recognized quality management tool that has been adopted by almost every quality-conscious organization in the world. ISO 9000 is a series of quality system standards, formulated and published by the International Organization for Standardization. It provides for the development and operation of a quality management system applicable to all types of organizations, and which can consistently meet the quality requirements of every kind of product or service.

These ISO 9000 standards are significantly different from the normal engineering standards that typically focus on units of measurement, technology, test methods, etc., while ISO 9000 attempts to standardize certain generic practices of quality management (the third kind of standardization). These standards aim at ensuring consistency in product quality by monitoring the process, since the concepts of quality is the ‘fitness for use’. It helps to maintain consistency of product quality so that the criterion of fitness for use is maintained. In the absence of such a consistency, the customers, particularly the international ones, may have to incur substantial inspection costs at their end to ensure consistency of quality and its continued fitness for use. Therefore, a credible assurance on the part of the supplier that he shall maintain consistency in the quality of his product can greatly reduce the cost as well as risks for the customers of the product.

Thus, industrial houses are vigorous in discussing and establishing the principle of Total Quality Management, so as to take full advantage of liberalization through export thrust. With the foreign markets opening up to ISO accredited companies, the entire industrial sector of the country is getting into the quality act.

1.4 EMPLOYEE INVOLVEMENT

Employee Involvement is a system for invoking constructive ideas, inculcating a feeling of contribution, self-realization, dedication and creating a sense of being an integral part of the organizational process. An old maximum states that “the best person to put in charge of a problem is the one most directly affected by its outcome”. In other words, employees who are expected to implement organizational decisions should be involved in choosing the course of action.

As such, it is obvious that the systems that are developed with employee involvement are most likely to succeed. It is generally recognized that “doing a job does not mean doing it with interest”. Management thinkers like Elton Mayo, V.H. Vroom, Rensis Likert and Abraham Maslow are of the opinion that positive motivational factors, engendered by methods like employee involvement, may develop a more creative, interested and more productive workforce. Employee involvement is one aspect of
organizational motivation.

Employee involvement is a participative process that uses the entire capacity of an employee and is designed to encourage increased commitment to the organization’s success. The underlying logic is that by involving workers in those decisions that affect them and by increasing their autonomy and control over their work-lives, they will become more motivated, more committed to the organization, more productive, and more satisfied with their jobs.

Employee involvement can take diverse forms and includes a variety of schemes, such as verbal/non-verbal communication, departmental meetings, suggestion schemes, quality circles, representative participation schemes, recognition and reward system, etc.

1.5 **Employee Involvement and Implementation of ISO-9000 Quality Management System**

At the heart of the TQM system is the concept of intrinsic motivation. Empowerment, i.e. involvement in decision-making, is commonly viewed as being essential for assuring sustained results. It is becoming a maxim of good management that human factors are the most important dimension in the improvement of quality and productivity. People really do make quality happen.

Most quality-conscious organizations are quick to point out that the best way to achieve organizational success is by involving and empowering employees at all levels. Employee involvement is a revolution that will turn top-down companies into democratic workplaces.

If quality is the objective, employee involvement will greatly facilitate the result because of two reasons - motivation and productivity.

1.6 **Kolhapur City and Adjoining Industrial Areas - The Study Area**

Kolhapur City has a rich cultural heritage. In recent years, it has swiftly changed from a vibrant garrison-transit town of yester dynasties to a Seat of Royalty (1731 A.D.), to a fast urbanizing centre from mid-19th century onwards. The yester-centuries’ Princely State of Kolhapur today is the headquarters of a District of the same name in the State of Maharashtra. Geographically, Kolhapur City is situate at 16°62’ North latitude and 74°54’ East longitude at a mean sea level of 1872 ft. on the eastern slopes of the Sahyadrian Mountain Ranges in the Western Maharashtra. The town’s municipality was originally established in 1854 and was converted into a Municipal Corporation in 1972. The City’s sprawl covers an area of 66.82 sq.km. and it is a home for 5 lakh-plus population.

The foundation of the modern industry in Kolhapur was laid with the setting up of ‘Shahu Chhatrapati Spinning and Weaving Mills’ on 27.9.1906 as a joint-stock concern. The Mill was set up partly to utilize the cotton being grown in about 30,000 acres in the State at that time. The Mill was originally only a spinning mill and the weaving department was added in 1928. After several changes in its holding over the years, the Mill has now been liquidated due to lack of modernization and upgradation.
At present, Kolhapur has three specially designed and developed industrial zones; Shivaji Udyamnagar (set up in 1947 and extended into Y.P.Powarnagar and now planning further expansion to Mudshingi village nearby); Shiroli MIDC Industrial Estate (1971), and Gokul-Shirgaon MIDC Industrial Estate (1982 and now planning to expand on additional 2200 hectares between Kolhapur and Kagal on the south). In addition, Kolhapur Municipal Corporation set up its Panjarpol Industrial Estate of 300 small-size plots on reclaimed land in 1983, mainly for servicing industries. Besides these major industrial areas, clusters of foundries, machine-shops, assembly shops have long since come up in the areas of Vikramnagar, Uchagaon; while Jawaharnagar area has been earmarked for leather industry.

1.7 ISO-CERTIFIED ENGINEERING INDUSTRIES IN THE STUDY AREA: THE STUDY UNIVERSE

The total number of ISO 9000:2000-certified industries in the study area is 102; out of which 41 are machine-shops, 12 are metal foundries, 5 industrial fabricators, and 44 are non-engineering (plastics, corrugated boxes, cement products, etc.) industries. Accordingly, out of 58 engineering industries, a sample of 10 (approx. 20%) industries, comprising 6 machine-shops, 1 machine-shop-cum-foundry, 1 industrial fabricator and 2 foundries were taken up. The main criterion behind the selection of the sample industries was that these had implemented all the four categories of Employment Involvement Schemes, namely, (i) Downward Communication Schemes, (ii) Upward Problem-solving Communication Schemes, (iii) Representative Participation Schemes, and (iv) Financial Participation Schemes.

1.8 OBJECTIVES OF THE STUDY

In view of the introductory remarks, foregoing discussion about the topic of investigation and the study universe, the following have been set out as the objectives of the study:

1. To study the Employee Involvement Schemes being implemented in the ISO 9000 certified engineering industries in the study area;

2. To critically evaluate the role of the Employee Involvement Schemes in the implementation of the ISO 9000 Quality System.

3. To offer meaningful suggestions, as may be appropriate.

1.9 HYPOTHESES OF THE STUDY

1. Employee Involvement (EI) Schemes play “Excellent” role in the overall implementation of ISO 9000 Quality System.

2. If considered separately, Employee Involvement Schemes play-
   I. “Good” role in the implementation of clause No. 4 of ISO 9000 (Quality Management System)
   II. “Good” role in the implementation of clause No. 5 of ISO 9000
(Management Responsibility)

III. “Excellent” role in the implementation of clause No.6 of ISO 9000 (Resource management)

IV. “Excellent” role in the implementation of clause No.7 of ISO 9000 (Product Realization)

V. “Excellent” role in the implementation of clause No.8 of ISO 9000 (Measurement Analysis and Improvement)

3. Among the various EI schemes used in the implementation of ISO 9000 -
   I. Downward Communication schemes (Verbal/Non verbal communication & Departmental meetings play “Excellent” role;
   II. Upward Problem solving schemes (Suggestion schemes & Quality Circle) play “Good” role;
   III. Representative Participation schemes (Works Council, Joint Management Council, etc.) play “Fair” role;
   IV. Financial Participation Schemes (Bonus, incentives, etc.) play “Poor” role.

4. Among the various respondents of the study organizations -
   I. Production Managers are of the opinion that EI schemes play “Excellent” role;
   II. Production Workers are of the opinion that EI schemes play “Excellent” role;
   III. Administrative Managers are of the opinion that EI schemes play “Good” role;
   IV. Administrative Staff are of the opinion that EI schemes play “Good” role.

1.10 Methodology adopted for the Study

Both primary and secondary data were collected for accomplishing the above objectives. For collecting the primary data, Survey Method was used. Survey data was collected by administering a structured interview schedule to four sets of respondents - Production Managers, Production Workers, Administrative Managers and Administrative Workers (staff). The selection of sample respondents was done by using Purposive Quota Convenience Sampling Technique. Also, the Non-Participatory Observation Method was adopted for recording the researcher’s impressions about the status of various Employee Involvement Schemes being implemented in the study area.

1.11 Sample Design

In the Purposive Quota Convenience Sampling Technique adopted for the present study, ‘Purposive’ meant those respondents that belonged to a particular employee level; ‘Quota’ meant the predetermined sample size of 250 respondents, comprising of 40 Production
Managers, 40 Administrative Managers, 150 Production Workers and 20 Administrative Workers (staff); and ‘Convenience’ meant only those respondents that were willing to participate in the survey were administered the pretested structured interview schedule. The actual respondents were selected by visiting the 10 pre-identified ISO 9000:2000-certified engineering industries in the study area.

1.12 DATA COLLECTION

1.12.1 Primary Sources

The primary data was mainly collected from the respondents belonging to different levels and categories, i.e. Production Managers, Administrative Managers, Production Workers and Administrative Workers through pretested structured survey schedules.

Also, personal interviews were held with the Management Representatives and observation method was used for collecting additional/background information. This has helped to gain first-hand insights into the implementation of ISO quality standard and Employee Involvement practices being adopted.

The primary data was collected from the following industrial units located in Kolhapur City and the adjoining industrial estates:

Table 1.1
Names and Locations of Industrial Units

<table>
<thead>
<tr>
<th>Name of the Industrial Unit</th>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Ramachandra Engineering Works,</td>
<td>Machine- Shop</td>
</tr>
<tr>
<td>Shivaji Udaymnagar</td>
<td></td>
</tr>
<tr>
<td>2. Menon Bearings Ltd.,</td>
<td>Machine- Shop</td>
</tr>
<tr>
<td>MIDC, Gokul Shirgaon</td>
<td></td>
</tr>
<tr>
<td>3. S.Yashwant &amp; Company, MIDC, Gokul Shirgaon</td>
<td>Machine- Shop</td>
</tr>
<tr>
<td>4. Sameer Castings Pvt. Ltd., MIDC, Gokul Shirgaon</td>
<td>Foundry</td>
</tr>
<tr>
<td>5. Shriram Foundry Ltd., MIDC, Shiroli</td>
<td>Foundry</td>
</tr>
<tr>
<td>6. Trio Enterprises, MIDC, Shiroli</td>
<td>Machine- Shop</td>
</tr>
<tr>
<td>7. Awani Engineering Works, MIDC, Shiroli</td>
<td>Machine- Shop</td>
</tr>
<tr>
<td>8. Mateen Fabricators, MIDC, Shiroli</td>
<td>Industrial Fabricators</td>
</tr>
<tr>
<td>9. Accuratech Industries, MIDC, Shiroli</td>
<td>Machine- Shop</td>
</tr>
</tbody>
</table>

1.12.2 Secondary Sources
The secondary data required for the completion of the research work was collected mainly from the published sources in the academic libraries and archives of the selected engineering industries. Also, verbatim secondary data was collected to obtain the background material from the knowledgeable persons such as quality management consultants and academicians.

1.13 Data Analysis and Interpretation

The primary data collected from the respondents was processed on a computer under expert supervision. Computer was used for graphical presentation as well as for word processing. The statistical findings derived from this exercise, juxtaposed against theoretical background, have been interpreted through intellectual exercise for the purpose of drawing conclusions.

1.14 Scope of the Study

The present work is an exploratory investigation into the implementation of the ISO 9000 Quality System and the Employee Involvement Practices in the engineering industries in the study area. Its geographical scope is confined to Kolhapur City and the two nearby industrial estates at Shiroli and Gokul Shirgaon. The topical scope covers the evaluation of select Employee Involvement Schemes and their role in the implementation of ISO 9000:2000 Quality System in the select engineering industries in the study area. The analytical scope is limited to the fulfillment of the objectives set out for the study and the testing of the stated hypotheses. The functional scope is confined to offering a set of suggestions for improving the implementation of the ISO 9000 Quality System, which can be of help to the existing ISO certified industries as well as to the industries planning to opt for ISO-9000:2000 Quality System in future.

1.15 Limitations of the Study

The study is conducted in a mixed rural-urban setting where perceptions differ greatly from those obtaining either in highly industrialized or in purely rural settings. The findings of the study, therefore, may have to be read against this background.

1.16 Chapter Scheme of the Thesis

The Thesis has been divided into Six Chapters as under:

- Chapter 1: Introduction and Research Design
- Chapter 2: A Review of Relevant Literature
- Chapter 3: Conceptual and Theoretical Framework
- Chapter 4: Profile of Kolhapur City - the Study Area
- Chapter 5: Data Analysis and Interpretation
- Chapter 6: Conclusions and Suggestions

The interview schedule used for collecting the primary data from the respondents forms the Annexure and a select Bibliography concludes the Thesis.