

# Preface

*“A firm will, coupled with undivided attention is all that is required. Everything that you seek for shall then be found to be quite close to you, rather with you; nay, in fact you are yourself that which you seek.”*

—Shri Ram Chandraji Maharaj

## ABOUT TQM

Success is the hallmark of practicing Total Quality Management (TQM) “with a firm will coupled with undivided attention”. TQM provides lasting solutions to the organizations plagued with problems of defects, high costs on account of rework and waste, and delayed delivery of products and services and the like. The Software Capability Maturity Model (SW-CMM) of Software Engineering Institute, USA has provided an elegant strategy for practicing TQM in software organizations across the globe. The software organizations which attained Level 5 of the Model, performed better with regard to schedules, cost and quality as compared to the organizations at lower levels of maturity. Companies, such as GE and Motorola, which implemented Six Sigma programs, a special TQM initiative of the 1990s, have reported huge profits, by attaining a level of 3.4 defects per million opportunities (DPMO). The unprecedented growth of Toyota Motors is the result of practicing TQM for years. In short, all successful organizations adopt TQM in one form or the other. TQM has helped people, organizations and nations to alter their destiny and attain superiority, prosperity and international prominence. The biggest proof is the success of the Japanese after the perilous World War II.

TQM demands organizations in every sector to focus on customer satisfaction, by involving every employee in their process improvement projects. This results in customer satisfaction and benefits to all stakeholders. The well-known Malcolm Baldrige National Quality Award (MBNQA), India’s prestigious Rajiv Gandhi National Quality Award, European Quality Award and Deming Prize are all awarded to those who have demonstrated successful implementation of TQM. TQM not only begets awards, but also results in superior economic performance. The latest metrics for organizations proposed by Kaplan and Norton of Harvard University, USA, namely **Balanced Scorecard**, stipulates that for sustained growth the organizations should measure not only the economic performance, but all of the following: Customer Satisfaction, Employee Learning and Growth, Internal Business Processes and Financial success. TQM is the only strategy that will result in better performance in respect of all the above four measures. Thus, TQM undoubtedly is a concept and strategy that leads to economic performance, improved employee morale, customer satisfaction, increased market share and above all a deserving pride amongst their employees.

Lean Manufacturing, Kaizen, Total Productive Maintenance (TPM) and Six Sigma represent only some aspects of TQM. TQM is a holistic and an umbrella concept for definite success and prosperity of organizations. This book covers the Japanese techniques for success such as Kaizen, Just-In-Time (JIT), Kanban, Cellular Manufacturing, TPM, Quality Function Deployment (QFD), seven QC Tools and the new seven Tools for Management.

## **ORGANIZATION OF THE BOOK**

This book is a comprehensive guide to TQM, starting from the first principle. It is divided into five sections. Section I provides the background information on TQM evolution, teachings of quality gurus and quality costs, the traditional measure of quality. Success of an organization depends entirely on a capable leader. Therefore, a complete chapter is dedicated to leadership. This section also provides a top-down methodology for TQM implementation.

Section II consists of some of the key principles and strategies for TQM implementation, such as customer satisfaction and employee involvement. TQM is a process approach and therefore, vital key concepts pertaining to process approach, Kaizen and 5S are discussed in this section. Performance measures including Balanced Scorecard are also discussed.

One of the essential requirements of TQM and Six Sigma is the usage of appropriate statistical tools for process improvement. Section III gives comprehensive exposure to Statistical Process Control (SPC), seven QC Tools, Control Charts, Six Sigma and the seven new Management Tools.

The new approach is to shift the quality focus to the design stage itself and build quality processes, systems and products. Section IV focusses on the TQM Tools for improving quality of design, such as Benchmarking, Quality Function Deployment, Taguchi's Design of Experiments, TPM, and Failure Mode, Effects and Criticality Analysis (FMECA) and FMEA RPN techniques.

Section V is devoted to the improvement of systems in the organization covering quality awards as well as overview of ISO 9000, QS 9000 and ISO 14000 systems.

## **THE IDEA OF WRITING THIS BOOK**

It took more than seven years for me to complete this book. I was quite fascinated with TQM in the early nineties and declared 1993 as a TQM Year for ETDC, Chennai, the organization headed by me. In 1997 after witnessing the initial success of running my organization on TQM principles, I thought of sharing my experiences with a larger group of people. At that point, I completed the first draft of the book. However, I did not get it published then.

## **THE BENEFICIARIES**

The old manuscripts got a new life when Anna University, Chennai prescribed TQM as the core subject for their B.E. students in their final year. This meant that over 70 000 students in a single university will be learning this wonderful concept starting from December 2004. This gave me the motivation to rewrite my old manuscript. Rewriting meant deleting a few earlier chapters, and adding many new chapters. In short, the text was totally revised to suit the syllabus of Anna University, Chennai. I was excited when the reviewers of the manuscript gave an overwhelmingly positive opinion about the content.

TQM comprises many concepts and strategies, all experimented and proved to benefit the user. However, learning must be step-by-step. The material given in this book will serve a two-semester course as given below:

- (i) TQM Principles
- (ii) TQM Tools

This book gives a strong foundation for successful management of organizations based on TQM to the future leaders, the students in particular. As the head of an organization, for over a decade, I have

experimented with TQM concepts and have found it to be an eminently useful management technique for a winning organization. Therefore, I have no hesitation in recommending this management concept to every organization.

The readers are requested to send their valuable feedback to [subburaj\\_spr@yahoo.com](mailto:subburaj_spr@yahoo.com). Suggestions for improvement of the text are also welcome.

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