



# SNS COLLEGE OF TECHNOLOGY

(An Autonomous Institution)

Re-accredited by NAAC with A+ grade, Accredited by NBA(CSE, IT, ECE, EEE & Mechanical)  
Approved by AICTE, New Delhi, Recognized by UGC, Affiliated to Anna University, Chennai



## Department of MCA

### Topic: TQM

**COURSE**

**19CAE712**  

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**STQA**

**UNIT - V**

**SOFTWARE TESTING  
AND QUALITY METRICS**

**CLASS**

**III Semester /  
II MCA**

# Total Quality Management (TQM)

- **Total** - made up of the whole
- **Quality** - degree of excellence a product or service provides
- **Management** - act, art or manner of planning, controlling, directing,....

**Therefore, TQM is the art of managing the whole to achieve excellence.**

# What does TQM mean?

- Total Quality Management means that the organization's culture is defined by and supports the constant attainment of customer satisfaction through an integrated system of tools, techniques, and training.
- This involves the continuous improvement of organizational processes, resulting in high quality products and services.

## **Basic Beliefs of TQM**

1. The customer makes the ultimate determination of quality.
2. Top management must provide leadership and support for all quality initiatives.
3. Preventing variability is the key to producing high quality.
4. Quality goals are a moving target, thereby requiring a commitment toward continuous improvement.
5. Improving quality requires the establishment of effective metrics. We must speak with data and facts not just opinions.

# Modern History of Quality Management

- Frederick W. Taylor wrote Principles of Scientific Management in 1911.
- Walter A. Shewhart used statistics in quality control and inspection, and showed that productivity improves when variation is reduced (1924); wrote Economic Control of Manufactured Product in 1931.
- W. Edwards Deming and Joseph M. Juran, students of Shewhart, went to Japan in 1950; began transformation from “shoddy” to “world class” goods.
- In 1960, Dr. K. Ishikawa formalized “quality circles” - the use of small groups to eliminate variation and improve processes.
- In the late '70's and early '80's:
  - Deming returned from Japan to write Out of the Crisis, and began his famous 4-day seminars in the United States
  - Phil Crosby wrote Quality is Free
  - NBC ran “If Japan can do it, why can't we?”
  - Motorola began 6 Sigma

# Deming's 14 Points\*

1. Create constancy of purpose for improvement
2. Adopt a new philosophy
3. Cease dependence on mass inspection
4. Do not award business on price alone
5. Work continually on the system of production and service
6. Institute modern methods of training
7. Institute modern methods of supervision of workers
8. Drive out fear
9. Break down barriers between departments
10. Eliminate slogans, exhortations, and targets for the work force
11. Eliminate numerical quotas
12. Remove barriers preventing pride of workmanship
13. Institute a vigorous program of education and retraining
14. Take action to accomplish the transformation

# The Deming Cycle or PDCA Cycle

**PLAN**

Plan a change to the process. Predict the effect this change will have and plan how the effects will be measured

**DO**

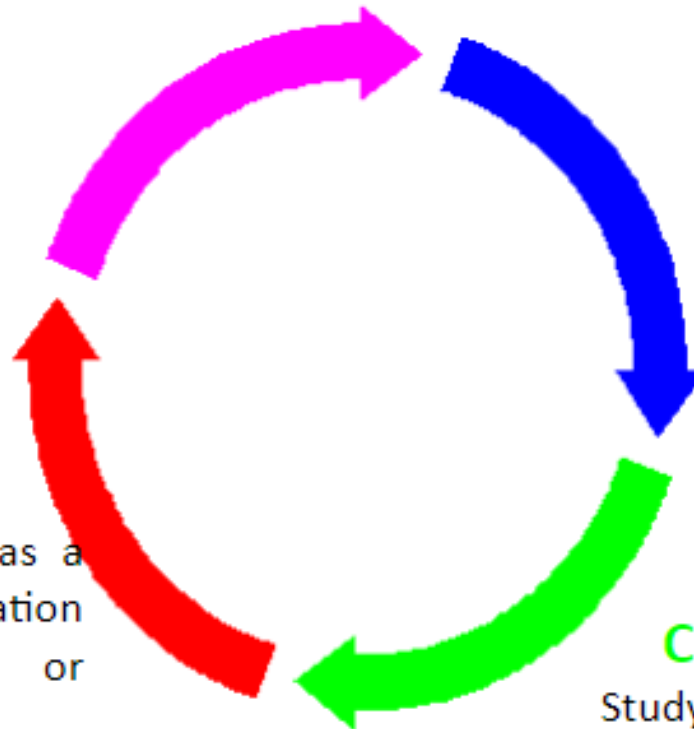
Implement the change on a small scale and measure the effects

**CHECK**

Study the results to learn what effect the change had, if any.

**ACT**

Adopt the change as a permanent modification to the process, or abandon it.



## Elements for Success

- Management Support
- Mission Statement
- Proper Planning
- Customer and Bottom Line Focus
- Measurement
- Empowerment
- Teamwork/Effective Meetings
- Continuous Process Improvement
- Dedicated Resources



# Total Quality Management and Continuous Improvement

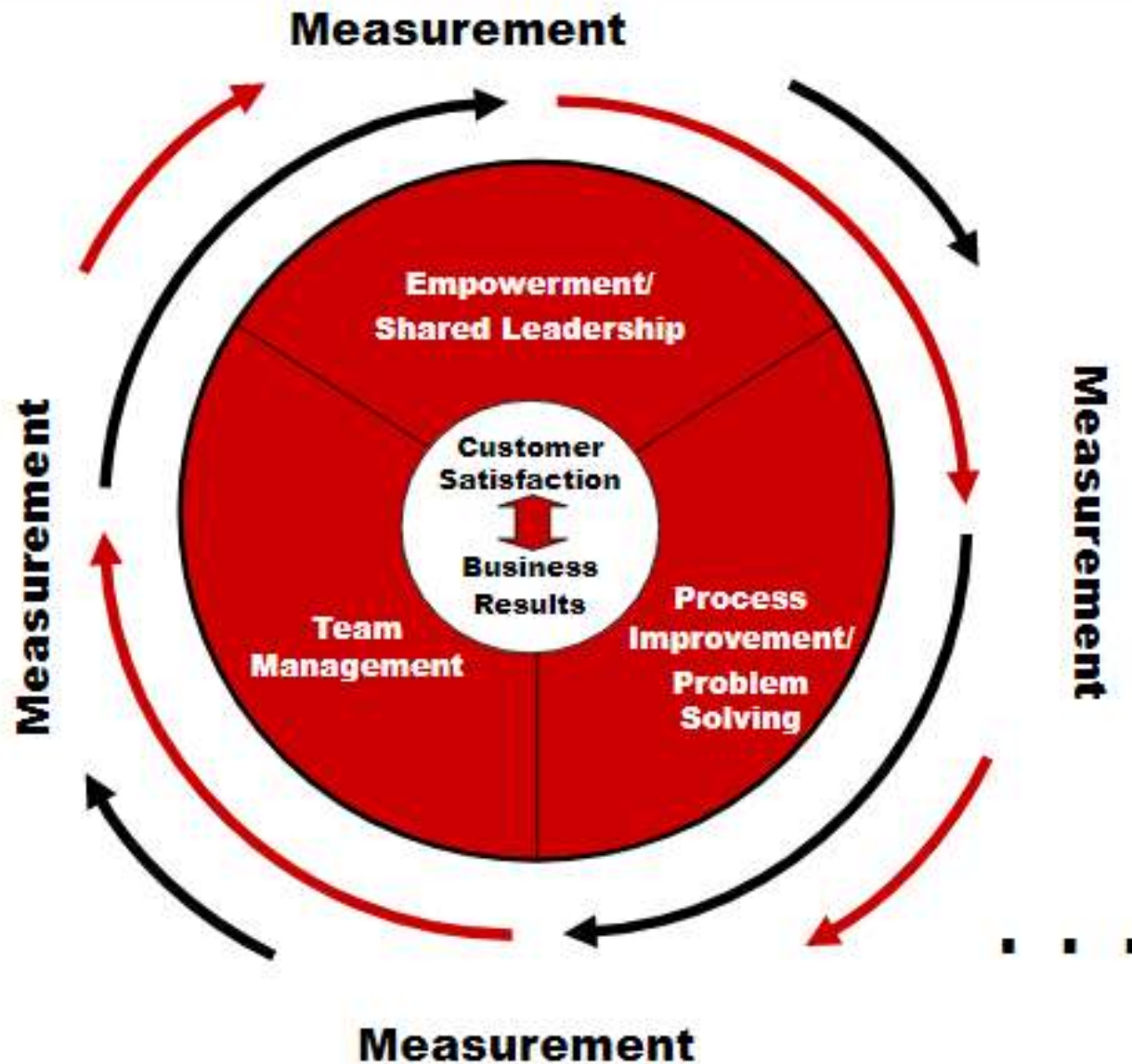
- TQM is the management process used to make continuous improvements to all functions.
- TQM represents an ongoing, continuous commitment to improvement.
- The foundation of total quality is a management philosophy that supports meeting customer requirements through continuous improvement.

# Continuous Improvement versus Traditional Approach

## Traditional Approach

- Market-share focus
- Individuals
- Focus on ‘who’ and ‘why’
- Short-term focus
- Status quo focus
- Product focus
- Innovation
- Fire fighting

# The Continuous Improvement Process



# Value-based Approach

- Manufacturing Dimensions

- Performance
- Features
- Reliability
- Conformance
- Durability
- Serviceability
- Aesthetics
- Perceived quality

- **Service Dimensions**

- Reliability
- Responsiveness
- Assurance
- Empathy
- Tangibles

Thank You