

## TOTAL QUALITY CONTROL

**Ravichandran N.**

Lucas-TVS Ltd, Padi, Chennai 600 050

Email : ravi.nr@lucastvs.co.in

The concept of total quality relates to quality of performance in every aspect of the business – not just in manufacturing. TQC also embraces the finance, administrative and marketing functions and insists on performance measures meeting standards.

### Total quality relies on;

- Focus on customer needs
- Universal participation
- Considering everything as a process which contributes to quality
- Continual process improvement.

The result is better performance at a lower cost and consequently quality that wins business. **The cost of quality is in the form of:**

- Prevention
- Detection
- Failure in factory
- Other “no value added activities”
- Opportunity cost of field failures

### The Key to TQ is found in;

1. Organizational change
2. Techniques used
3. Quality assurance systems employed
4. Organizational culture
5. Structure of the organization
6. Systems

### 1. Organizational Change

This requires a move from fragmented and over specialized jobs. To integrated and broader jobs with extensive use of teamwork. It also requires a fundamental change in the company’s organizational structure.

### 2. Techniques

Statistical process control (SPC), cause and effect analysis, FMEA, Taguchi, QFD, etc.

### 3. Quality Assurance systems

Effective quality assurance systems and procedures to satisfy market qualifying criteria.

### 4. Organizational culture

An atmosphere which promotes, visible commitment from top management, Mission statements, Understanding customer needs/ Perceptions, Security of employment, Selection of development of people, Minimize status and two way communications.

### 5. Structure of organization

It is in the form of simple cellular design, minimum number of levels, small management structure, Integrated functions/departments, customer / supplier relationships and Structured job functions around material flows in manufacturing and information flow elsewhere a focus on development and operations functions.

### 6. Systems

A visibility of the existence of , clear measures of performance and customer / business oriented, motivation and recognition, staff involved planning and achieve targets, identification of waste and cut out non value added activity, competitor comparison, continuous improvement mechanism and departmental purpose analysis.



### **Supporting principles:**

1. Responsibility rests with line management
2. Small batch sizes
3. Operators check their machines
4. Less than full capacity scheduling

The principles need to be carried through the business to the suppliers with the objectives as:

- Reduce supplier bases
- Establish strong relationships
- Monitor performance- Key measures
- Set Improvement targets
- Help suppliers to apply total quality control
- Targets are ambitious but achievable
- Changes are visible
- Aims are congruent – business / customer oriented
- Targets are moving towards goals
- Targets are meaningful and measurable
- Standards are not fixed.

The result is that manufacturing performance should be measured by the following;

- Achievement of schedules by type
- Stock turn ratio
- Lead time
- Quality losses
- Cost
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### **Product design and development using Total quality Principles:**

The key issues here are that;

- Everyone must know what the customer wants
- Use preventive measure, FMEA, Taguchi technique
- Define project management responsibilities and project control procedures
- Design for manufacture
- Parallel development

Modern day integration provides mixed discipline dept. with cross function project management and flexible team structures.

### ***Measuring Performance***

To create an environment which encourages change there must be a form of feedback and communications of successful change. Performance of business, dept / module and section / cell should all be measure.

### **Training**

Movement towards the objectives of a total quality organization will produce a variety of training needs. Once these have been established the following steps are required;

- Establish and maintain vigorous training programmes
- Use all types of training where appropriate
  - Taught courses
  - Open learning
  - Workshops
  - On the job training
- Train managers and team leaders to train their teams
- Train all employees in:
  - Elementary statistical techniques
  - Problem solving techniques

Use these to focus on priorities and resolve problems.