

Chapter 7 : Quality Control

Concept of quality control and assurance

<https://www.youtube.com/watch?v=KW3tboYsjUs> (Video in Hindi)

Quality assurance and quality control are two aspects of quality management. While some quality assurance and quality control activities are interrelated, the two are defined differently. Typically, QA activities and responsibilities cover virtually all of the quality system in one fashion or another, while QC is a subset of the QA activities. Also, elements in the quality system might not be specifically covered by QA/QC activities and responsibilities but may involve QA and QC.



Quality Assurance

Quality assurance can be defined as "part of *quality management* focused on providing confidence that *quality requirements* will be fulfilled." The confidence provided by quality assurance is twofold—internally to management and externally to customers, government agencies, regulators, certifiers, and third parties. An alternate definition is "all the planned and systematic activities implemented within the quality system that can be demonstrated to provide confidence that a product or service will fulfill requirements for quality."

Quality Control

Quality control can be defined as "part of *quality management* focused on fulfilling *quality requirements*." While quality assurance relates to how a process is performed or how a product is made, quality control is more the inspection aspect of quality management. An alternate definition is "the operational techniques and activities used to fulfill requirements for quality."

Elements of Quality Control

Some of the important elements are given below

Commitment to quality:

If an organisation is serious about quality, the lead has to be taken by the top management with full commitment.

Customer satisfaction:

It is designed in such a manner so as to meet the expectations of customers. In the present era, customer is the king. It must be recognised that customers are the most important persons for any business. The very existence of an organisation depends on them.

Measurement of Quality:

Quality is a measurable entity and we must know what current quality levels are i.e. Where we are or where we stand in respect of the quality and what quality levels we are aspiring for or where we are going

Corrective action for root cause:

It aims at preventing repetition of problems by identifying the root causes for their occurrence and developing means and corrective actions to solve the problems of the root level. Failure analysis and problem solving skills are very useful techniques in this regard.

Training:

Proper training programmes have to be undertaken to train the employees for the use of it's concepts and techniques. Employees have to be provided regular training for continuous improvement.

(viii) Recognition of high quality:

It aims at developing long term relationships with a few high quality suppliers rather than those suppliers who supply the inferior goods at the low cost.

Statistical Quality Control

<https://www.youtube.com/watch?v=fYEjELLSPJo> (Video in Hindi)

Control Charts for variable and attributes (X,R,P,C chart)

<https://www.youtube.com/watch?v=FgEs-ZY9-tI> (Video in Hindi)

Acceptance Sampling and O.C. curve

<https://www.youtube.com/watch?v=1tzcNMqJjpo> (Video in Hindi)

Total Quality Management

<https://www.youtube.com/watch?v=pDK2m1iNdmg> (Video in Hindi)

Definition of TQM

Total Quality Management is defined as a customer-oriented process and aims for continuous improvement of business operations. It ensures that all allied works (particularly work of employees) are toward the common goals of improving product quality or service quality, as well as enhancing the production process or process of rendering of services. However, the emphasis is put on fact-based decision making, with the use of performance metrics to monitor progress.

Key principles of Total Quality Management (TQM)

Commitment from the management:

- Plan (drive, direct)
- Do (deploy, support, and participate)
- Check (review)
- Act (recognize, communicate, revise)

Employee Empowerment

- Training
- Excellence team
- Measurement and recognition
- Suggestion scheme

Continuous Improvement

- Systematic measurement
- Excellence teams
- Cross-functional process management
- Attain, maintain, improve standards

Customer Focus

- Partnership with Suppliers
- Service relationship with internal customers
- Customer-driven standards
- Never compromise quality

Benefits of TQM

The benefits arising from the implementation of a Total Quality Management in an organization are:

- This will increase the awareness of quality culture within the organization.
- A special emphasis on teamwork will be achieved.
- TQM will lead to a commitment towards continuous improvement.