

A ssignment - 1

04

a. 1. What do you mean by Quality? What is need for quality?

Ans.

① Total quality management is an enhancement to traditional way of doing business. It is proven technique to guarantee survival in world-class competition. i.e TQM is the art of managing whole to achieve excellence.

② When the expression "Quality" is used, we usually think in terms of excellent product or service that fulfills or exceeds our expectations. These expectations are based on intended use & selling price.

③ Dictionary has many definitions of quality as essential characteristic, superior, etc.

- Quality is customer satisfaction
- Quality is fitness for use.

④ Various definition of Quality by experts of gurus

- 1) ISO 9000: Quality is degree to which a set of inherent characteristics fulfills requirements.
- 2) Philip B. Crosby: Quality is Conformance to requirements.
- 3) Joseph M. Juran: Quality is Fitness for use.
- 4) W. Edwards Deming: It is a degree of uniformity & dependability at low cost & suited to market.
- 5) Walter A. Shewhart: It is result of system of statistical control applied to production process.

⑤ The dimensions of quality are

- 1) Performance
- 2) Conformance
- 3) Durability
- 4) Response
- 5) Features
- 6) Reliability
- 7) Service
- 8) Aesthetics

⑥ Quality can be quantified as;

$$Q = P / E$$

Q = Quality

P = Performance

E = Expectations

Hence;

Quality is measure of how well an item or service performs its intended function without defects, deficiencies or variation.

Need for Quality

- 1) Competition: Market demands high quality, products cost & lower cost. Internal cost of maintaining reputation should be less.
- 2) Changing customer: It's all about customer satisfaction, dis-satisfaction & customers loyalty.
- 3) Product Complexity: As system have become more complex, the reliability requirements for supplies of component have become more stringent.
- 4) Higher levels of customer satisfaction: Higher customers expectations are getting spawned by increasing competition. In addition to that, cost reductions, compliance with standards & regulation, business growth & profitability, employee satisfaction & productivity, reliability & durability.
- These are the need / reason for quality becoming cardinal priority for most organisation.

Q. 2. What is meant by TQM? Explain in detail with Framework.

Ans

① A comprehensive, organization-wide effort to improve quality of products & services, applicable to all organizations called Total Quality Management.

② TQM is the art of managing whole to achieve excellence. TQM is for most part common sense. By analyzing three words,

Total : made up of whole

Quality : Degree of excellence

Management : Art, Art or manner of handling

③ TQM is defined as both a philosophy and set of guiding principles that represents foundation of continuously improving organizations.

④ It is application of quantitative methods of human resources to improve all processes within an organization and exceed customer needs now & in future.

⑤ TQM integrates fundamental management technique, existing improvement efforts & technical tools under a disciplined approach.

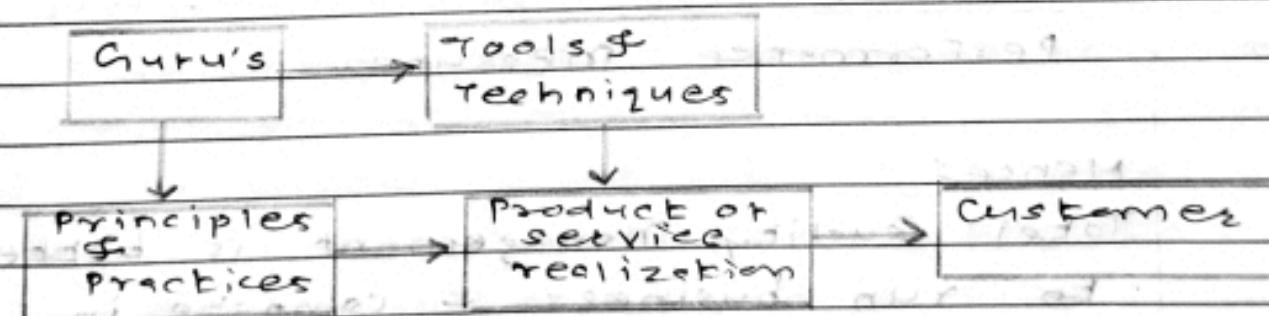
TQM requires six basic concepts.

[Approach]

- 1) A committed & involved management to provide long-term top-to-bottom organizational support.
- 2) An unwavering focus on customers both internally & externally.
- 3) Continuous improvement of business & production process.
- 4) Effective involvement and utilization of entire work force.
- 5) Treating suppliers as partners.
- 6) Establish performance measures for processes.

TQM Framework

The Total Quality Management Framework consists of key principles, methodologies & tools that organization use to implement quality management.



- 1] Gurus: ① Shewhart ② Deming
③ Juran ④ Feigenbaum
⑤ Ishikawa ⑥ Crosby
⑦ Taguchi
- 2] Tools & Techniques: ① Benchmarking
② Information technology
③ Quality management system
④ Environmental mgmt. systems
⑤ Quality Function deployment
⑥ Quality by design
⑦ Failure mode & effect analysis
⑧ Product & service liability
⑨ Management tools & design
⑩ Statistical process control
- 3] Principles & Practices:

① People and Relationship

- Leadership

- Customer satisfaction

- Employee involvement

- Supplier partnership

② Approach

Continuous process improvement

③ measure

Performance measure.

Hence:

Total Quality Management is better way to run business & compete in domestic & world market.

Q.3. Explain contribution of Deming, Juran, Crosby in detailed.

Ans:

The three pioneers of Total Quality Management W. Edwards Deming, Joseph M. Juran and Philip B. Crosby significantly shaped modern quality management principles.

i) W. Edwards Deming (1900-1993):

Deming is considered as Father of Total Quality mgmt. and is best known for his work in post-war Japan, where he helped rebuild Japanese manufacturing industry.

- Key Contribution

1. Deming 14 points for management

Deming proposed 14 principles that organisations should follow to improve quality & productivity.

2. Deming cycle

Deming developed PDCA cycle i.e. Plan, Do, Check, Act which is continuous improvement model used in quality.

3. System of Profound knowledge

Deming introduced 4 key elements

① Appreciation for system

② Knowledge of Variation

③ Theory of knowledge

④ Psychology

- Impact of Deming work

- ① Transformed Japanese industries into world leaders in quality.
- ② Inspired the ISO 9001 quality mgmt.
- ③ His statistical quality control techniques became foundation for six sigma methodology.

2] Joseph M. Juran [1904 - 2008]

Juran focused on Quality planning, control & improvement. He emphasised that quality is directly related to customer satisfaction & that leadership plays a vital role in maintaining quality.

- Key Contributions

1. Juran's Quality Trilogy

Quality planning - quality control & quality improvement

2. Focuses on fitness for use as performance, reliability & durability

3. Pareto Principle

80% of defects come from 20% cause

- Impact of Juran's work

- ① Helped western companies adopt quality
- ② His approach influenced the six sigma methodology.
- ③ His customer focused approach became core element of TQM.

3] Philip B. Crosby [1926-2001]

Crosby known as zero-defects and the idea that quality is free i.e. not investing in quality reduce overall costs rather increasing them.

- Key Contributions

1. Quality is Free
Cost of preventing damage is less than cost of fixing them.

2. zero defect concept
introduced philosophy that quality should be achieved with zero defects.

3. Crosby's 14 steps to quality improvement

4. Crosby's 4 Absolutes
i) Quality means conformance to requirements

- ii) Quality achieved through prevention not inspections.

- iii) Quality standard is zero defects

- iv) Cost of quality is price of non-conformance.

- Impact of Crosby's work

- ① introduced zero-defect in industry
- ② His prevention based approach is widely used in lean & six sigma.
- ③ His work influenced ISO 9000 standards.

Q. 4 What are the barriers of TQM?

Ans.

Total Quality Management (TQM) is an effective approach to improving quality & customer satisfaction, many organizations faces barriers that hinders its successful implementation.

These barriers can arise due to Organizational, Managerial & Cultural barriers.

1) Lack of Top management

- Issue: If senior management does not support TQM initiatives, employees may not take them seriously.
Impact: Without leadership commitment, quality programs fail to get necessary resources & focus.

2) Poor communication

- Issue: If communication b/w management and employees is weak, TQM goals and strategies may not be understood.
Impact: Mis-understanding can lead to confusion & lack of coordination.

3) Inadequate Training & Education

Issue: Employee need knowledge of quality tools like six sigma, 5's, kaizen, but training is often neglected.

Impact: Employee can't contribute effectively to quality improvement.

4) Short-Term Focus & Lack of Vision

Issue: Many organizations focus on immediate profits rather than long-term quality improvement.

Impact: Without long-term vision, companies abandon TQM initiatives.

5) Poor Customer Focus

Issue: Organizations sometimes fails to gather & analyze customer feedback properly.

Impact: Products / services may not meet customers' expectations, leading to dissatisfaction.

In addition to that,

ineffective performance measurement, supplier-related issue

ineffective leadership

bureaucratic organizational structure

are the barriers of TQM.

Q. 5. What is meant by Customer?

Enlist techniques for customer satisfaction

satisfaction, customer retention

also describe Cost for quality concept.

Ans.

Customer:

- ① A customer is an individual or organization that purchases goods / service from business.
- ② Customers are primary reason business exists, and their satisfaction is essential for long-term success.
- ③ Anyone who impacts by product / process delivered by organization.
- ④ Internal customers : Employee, departments or stakeholders within an organization who depend on each other to complete task.
- ⑤ External customers : Individuals or business who buy products or services from company.

Techniques For Customer Satisfaction

- Customer satisfaction refers to how well company's product or service meet or exceed customer expectations.
- Satisfied customers are more likely to become loyal customers.

1. Understanding customer needs
2. Quality products & services
3. Effective support for customers
4. Timely delivery
5. Employee training
6. Loyalty programs & Rewards
7. Continuous improvement
8. Complaint handling mechanism

Techniques for Customer Retention

It refers to strategies used to keep customers engaged and loyal.

1. Customer feedback implementation
2. Brand trust & credibility
3. Providing excellent after sales service
4. Exclusive membership programs
5. Providing value beyond product
6. Consistent communication
7. Competitive pricing & offers
8. Building strong relationships

Cost of Quality

- The cost of quality refers to total cost incurred by an organization to ensure quality in products & services.

- It includes cost of preventing, detecting & correcting defects

Categories of Cost

1) Prevention Cost

These are proactive costs to avoid defects & ensure high-quality products.

- Quality training programs
- Process improvement
- Preventive maintenance

2) Appraisal Cost

These are related to inspecting & testing to ensure quality.

- Quality control checks
- Equipment calibration
- Raw material inspection

3) Internal Failure Cost

These are cost incurred when defects are found before product is shipped to customers.

- Rework & repair
- Scrap & waste material
- Production delays

4) External Failure Cost

These are most expensive costs, occurring when defective product reaches customers.

- product recalls
- warranty claims
- complaint handling.

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