

TOTAL QUALITY MANAGEMENT

**Quality means 100% not
99%**

Q = Quest for excellence

U = Understanding customer needs

**A = Action to achieve customer's
satisfaction**

L = Leadership desire

**I = Involving all stakeholders in
achieving objectives**

**T = Team spirit to work for a
common goal and**

Y = Yardstick to measure progress

Definition of Quality - BROTH

“Quality is the degree of excellence at an acceptable price and control of variability at an acceptable cost “

MEANING

Quality is a measure of how closely a good or service conforms to specified standards.

THREE LEVELS OF QUALITY

- ❖ THE ORGANISATIONAL LEVEL
- ❖ THE PROCESS LEVEL
- ❖ THE PERFORMER /JOB LEVEL/TASK DESIGN

IMPORTANCE OF QUALITY

COST OF QUALITY

The total cost incurred by (i).
investing in the prevention of non-
conformance to requirements (ii).
Appraisal of a product or service
for conformance (iii) failure to meet
requirements.

TYPES OF QUALITY

- ❖ QUALITY OF DESIGN
- ❖ QUALITY OF CONFORMANCE
- ❖ QUALITY OF PERFORMANCE
- ❖ INDIFFERENT QUALITY
- ❖ EXPECTED QUALITY
- ❖ ONE-DIMENSIONAL QUALITY
- ❖ EXCITING QUALITY

FIVE PARADIGMS OF QUALITY

- ❖ THE CUSTOMER -CRAFT PARADIGM
- ❖ THE MASS-PRODUCTION PARADIGM
- ❖ THE STATISTICAL QUALITY CONTROL PARADIGM
- ❖ THE TQM PARADIGM
- ❖ THE TECHNO-CRAFT PARADIGM

EIGHT FACES OF QUALITY/DIMENSIONS/MEASUREMENTS OF QUALITY

- ❖ **PERFORMANCE**
- ❖ **FEATURES**
- ❖ **RELIABILITY**
- ❖ **CONFORMANCE**
- ❖ **DURABILITY**
- ❖ **SERVICEABILITY**
- ❖ **AESTHETICS**
- ❖ **SAFETY**

DIMENSIONS OF SERVICE QUALITY

- ❖ **RELIABILITY**
- ❖ **ASSURANCE**
- ❖ **TANGIBLES**
- ❖ **EMPATHY**
- ❖ **RESPONSIVENESS**

DETERMINANTS OF QUALITY

- ❖ QUALITY OF DESIGN
- ❖ QUALITY CAPABILITY OF PRODUCTION PROCESSES
- ❖ QUALITY OF CONFORMANCE
- ❖ ORGANISATION QUALITY CULTURE

TYPES OF QUALITY COST

1. Cost of conformance
 - 1.1 Cost of prevention
 - 1.2 Cost of appraisal
2. Cost of non-conformance
 - 2.1. Failure cost
 - 2.2 Exceeding requirement costs
3. Basic operational costs
4. Prevention, Appraisal and Failure (PAF) costs

TOTAL QUALITY

Total quality is defined as the mobilisation of the whole organisation to achieve quality continuously, economically and in entirety.

THREE PROCESSES

- ❖ **QUALITY PROCESS**
- ❖ **MANAGEMENT PROCESS**
- ❖ **PEOPLE PROCESS**

QUALITY MANAGEMENT

It is a method for ensuring that all the activities necessary for the design, development and implementation of a product or service are effective and efficient with respect to the system and its performance.

COMPONENTS OF QUALITY MANAGEMENT

- ❖ QUALITY CONTROL
- ❖ QUALITY ASSURANCE
- ❖ QUALITY IMPROVEMENT

QUALITY CONTROL

The ongoing effort to maintain the integrity of a process to maintain the reliability of achieving an outcome.

QUALITY IMPROVEMENT

Can be distinguished from quality control in that quality improvement refers to purposeful change of a process to improve the reliability of achieving an outcome.

QUALITY ASSURANCE

The planned or systematic action necessary to provide enough confidence that a product or service will satisfy the given requirements of quality

TOTAL QUALITY MANAGEMENT

DEFINITION - BRITISH STANDARD(BS)7850

“Management philosophy and company practices that aim to harness the human and material resources of an organisation in the most effective way to achieve the objectives of the organisation.”

TOTAL QUALITY MANAGEMENT

A management approach that tries to achieve and sustain long term organisational success by encouraging employee feedback and participation, satisfying customer needs and expectations, respecting societal values and beliefs and obeying governmental statutes and regulations.

EVOLUTION / FOUR STAGES OF TQM

- ❖ INSPECTION
- ❖ QUALITY CONTROL
- ❖ QUALITY ASSURANCE
- ❖ TQM

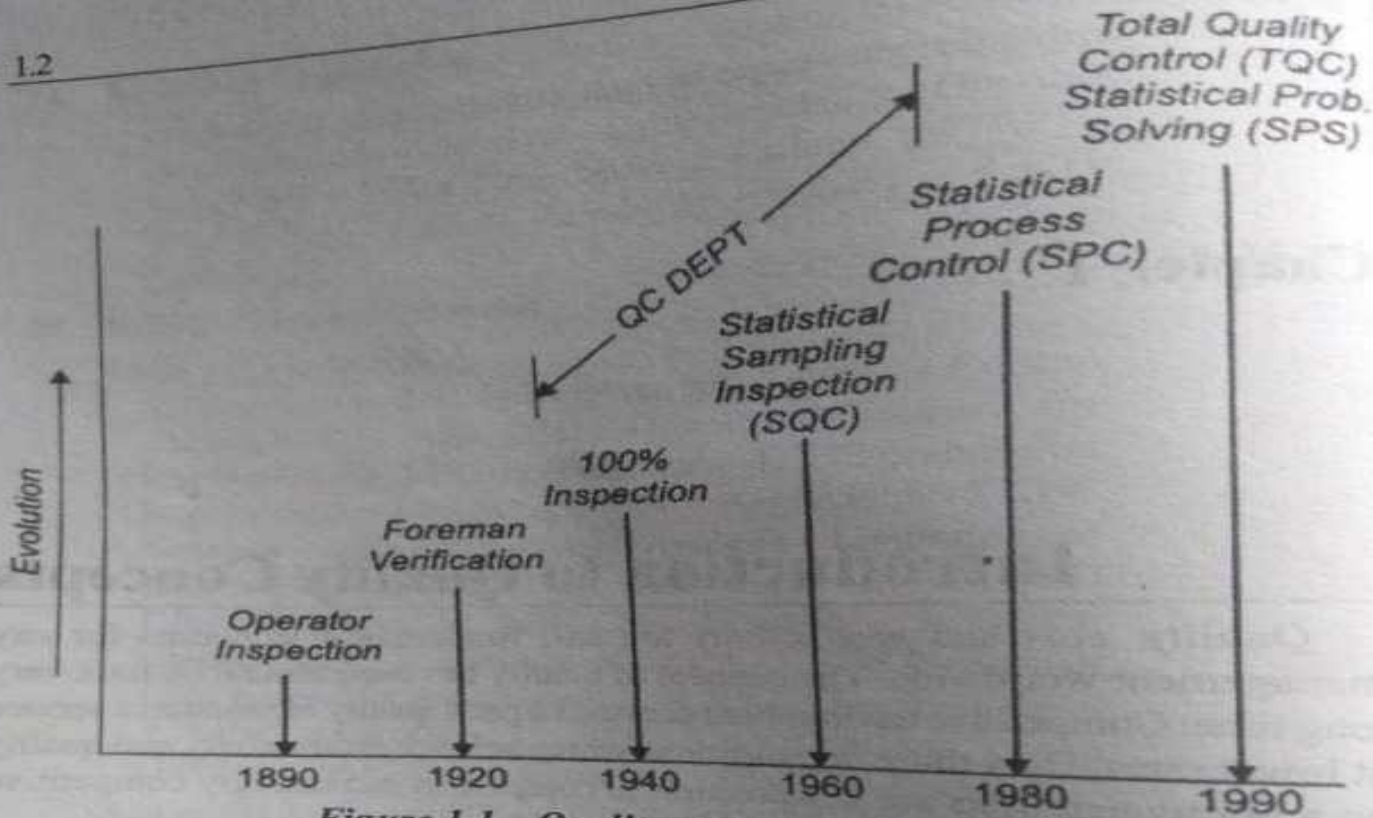
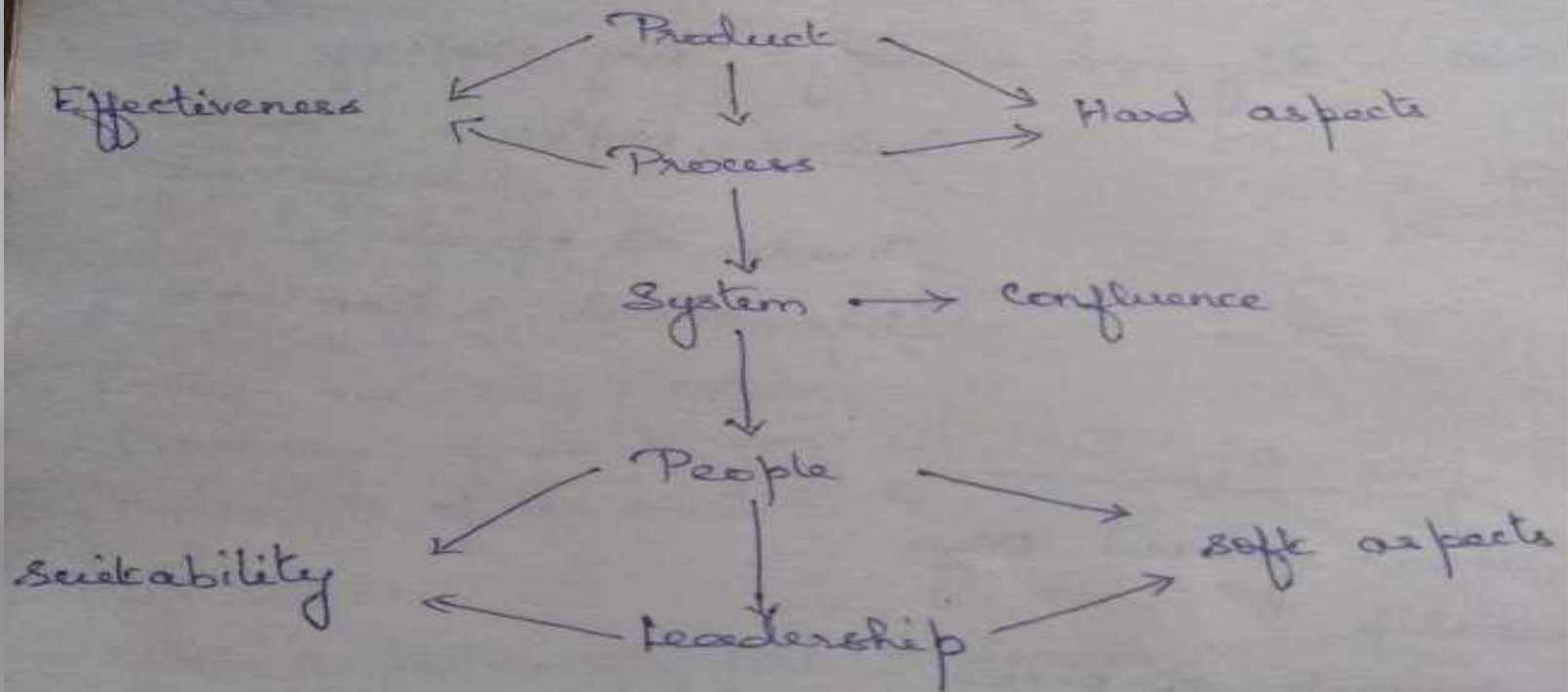


Figure 1.1 – Quality control evolution

DEFINITIONS OF QUALITY

A number of definitions of quality

Five pillars of TQM | 59 | poor



PRINCIPLES OF TQM

1. CUSTOMER FOCUSED ORGANISATION
2. LEADERSHIP
3. INVOLVEMENT OF PEOPLE
4. PROCESS APPROACH
5. SYSTEMS APPROACH TO MANAGEMENT
6. CONTINUOUS IMPROVEMENT
7. FACTUAL APPROACH TO DECISION MAKING
8. MUTUALLY BENEFICIAL SUPPLIER RELATIONSHIP

AIMS/OBJECTIVES OF TQM

1. Meeting the customer's requirement/
customer satisfaction
2. Continuous improvement
3. Developing the relationship of openness and
trust
4. Performance superiority
 - 4.1 Speed
 - 4.2 Cost
 - 4.3 Quality

AIMS/OBJECTIVES OF TQM

4.4 Dependability

4.5 Flexibility

5. Avoidance of wastes

6. Early mistake recognition

7. Avoidance of wastes

8. Reduction of lead times

IMPORTANCE OF TQM

- 1. Ensures superior quality products and services**
- 2. Essential for customer satisfaction which eventually leads to customer loyalty.**
- 3. Helps an organisation to design and create a product which the customer actually wants and desires**
- 4. Ensures increased revenues and higher productivity for the organisation**

IMPORTANCE OF TQM

5. Helps organisation to reduce waste and inventory
6. Inculcates a strong feeling of team work.
7. Ensures close co-ordination between employees of an organisation.
8. Reduced risks
9. Keep up with the competition.

8 KEY ELEMENTS OF TQM

1. Ethics

Integrity

Trust

2. Leadership

Teamwork

Training

3. Communication

4. Recognition

STRATEGIC TOOLS AND TECHNIQUES OF TQM

- 1. Tools for quality planning**
- 2. Tools for continuous
improvement**
- 3. Statistical tools**

CONCEPTS OF TQM

1. **Quality at source**
2. **Quality is free or quality cost less**
3. **Do it right the first time - DIRFT**
4. **Acceptable quality levels**
5. **Cost of quality**
6. **Competitive benchmarking**

CONCEPTS OF TQM

7. Involvement of all concerned
8. Synergy in team work
9. Ownership and elements of Strategic management.
10. Recognition and rewards
11. Managers as role models.

BARRIERS/OBSTACLES TO TQM IMPLEMENTATION

- 1. Improper planning**
- 2. Lack of management commitment**
- 3. Inability to change the organisational culture**
- 4. Lack of employee involvement**
- 5. Lack of continuous training and education**
- 6. Lack of team work**

BARRIERS/OBSTACLES TO TQM IMPLEMENTATION

- 7. Incompatible organisational structure & isolated individuals and departments**
- 8. Lack of customer oriented approach**
- 9. Lack of attention paid to customer feedback and complaints**
- 10. Inadequate control over suppliers, vendors, subcontractors**
- 11. Ineffective measurement techniques and lack of access to data and results**
- 12. Review of quality procedures**

TQM GURUS

1. **W.EDWARDS DEMING**
2. **JOSEPH M. JURAN**
3. **ARMAND V. FEIGENBAUM**
4. **PHILIP B. CROSBY**
5. **VILFREDO PARETO**
6. **KAURU ISHIKAWA**
7. **GENICHI TAGUCHI**

UNIT II

QUALITY CONTROL

QUALITY CONTROL

1. **Important components of Quality Management**
2. **Quality control is the ongoing effort to maintain the integrity of a process to maintain the reliability of achieving an outcome.**
3. **It involves a never ending process of continuous improvement with the objective of achieving perfection.**

QUALITY CONTROL MEASUREMENTS

Two categories

1. Attribute
2. Variable

Attribute is a performance characteristics that is either present or absent in the product or service consideration. Eg, surface finish of furniture.

Variable measurements are concerned with the degree of conformance to specifications. Eg, Temperature in degree centigrade

LEADERSHIP

Leadership is a process of creating a vision for the future and developing a strategy for moving towards that vision.

ESSENTIALS/CONCEPTS OF LEADERSHIP

- 1. Security and independence**
- 2. Sensitive to external rewards & punishment**
- 3. Simple and straight**
- 4. Few facts**
- 5. Trust their gut reaction**
- 6. Should not be inconsistent with his actions**

PRIMARY TASKS

1. **Set direction**
2. **Set guiding values, principles and policies**
3. **Motivate and inspire**
4. **Continuous improvement efforts**
5. **Monitoring, measuring and review of outcomes**

TRANSFORMATIONAL Vs TRANSACTIONAL LEADERS

CHARACTERISTICS

DIFFERENT ROLES OF LEADERS

1. **Challenging and changing the process**
2. **Inspiring a shared vision**
3. **Enabling and empowering others to act**
4. **Leading by example**
5. **Faith in team work philosophy**

CHARACTERISTICS

1. **Visible, committed & knowledgeable**
2. **A missionary zeal**
3. **Aggressive targets**
4. **Strong drivers**
5. **Communication of values**
6. **Organisation**

7. Customer contact

7.1 Operational acumen

7.2 Thing big

7.3 Inter-personal skills

7.4 Decisiveness

7.5 Picking up the torch

7.6 Walk the talk

7.7 Perspective

7.8 Charisma

7.9 Accountability

7.10 Emotional competence

SEVEN HABITS

1. **Be proactive**
2. **Begin with the end in mind**
3. **Put first things first**
4. **Think win-win**
5. **Seek first to understand, then to be understood**
6. **Synergy**
7. **Sharpen the saw**

6 Es OF LEADERSHIP

1. Exposing
2. Enlisting
3. Empowering
4. Exemplifying
5. Encouraging
6. Envisioning

MANAGERIAL ROLES

1. **Senior Management**
2. **Middle management**
3. **The workforce**

CORE VALUES

1. **Customer driven excellence**
2. **Organisational & personal learning**
3. **Visionary leadership**

SECONDARY VALUES

1. Valuing employees & partners
2. Agility
3. Focus on the future
4. Public responsibility & citizenship
5. Focus on results & creating value
6. Systems perspective

STRATEGIC QUALITY PLANNING

STRATEGIC PLANNING - MEANING

The entire set of processes and behaviour that an organisation uses to identify, prioritise, focus and schedule action in order to remain viable in the future.

STEPS

1. **Customer needs**
2. **Customer positioning**
3. **Predict the future**
4. **Gap analysis**
5. **Closing the gaps**
6. **Alignment**
7. **Implementation**
8. **review**

**ANNUAL QUALITY
IMPROVEMENT
PROGRAMMES**

QUALITY COUNCIL

OBJECTIVES

DUTIES OF QUALITY
COUNCIL

ELEMENTS OF ACTIVITIES OF QUALITY COUNCIL

1. **Leadership**
2. **Strategic planning**
3. **Implementation**
4. **Review**

FACTORS THAT CONTRIBUTE TO COUNCIL'S EFFECTIVENESS

- 1. Reliance on data & facts**
- 2. Specifying the business results that are to be achieved.**
- 3. Providing the resources and the time to teams to initiate improvement**
- 4. Monitoring performance and regularly measuring the indices of performance.**
- 5. Providing ample opportunities for recognition of teams**

CUSTOMER FOCUS

CUSTOMER DELIGHT

Delight --- extra facilities

NEED TO DELIGHT

1. More demanding
2. Greater economic liberalisation
3. Increasing competition
4. Costs are rising
5. Lower margins
6. Markets are splintered
7. Greater choice of customers

EXPECTATIONS & DELIGHT

- 1. In case of automobile repair**
- 2. In case of hotels**
- 3. In case of insurance**
- 4. In case of services and products**

GENERATING DELIGHT

1. **Provide benefits**
2. **Under promise – over deliver**
3. **Innovate constantly**

CUSTOMER DELIGHT CHAIN

- 1. Customer satisfaction indices**
- 2. Measure customer satisfaction**
- 3. Understand latent needs**
- 4. Implement quality management**
- 5. Provide better service than competition**
- 6. Customer delight**

FOCUS ON THE CUSTOMER

- 1. Customer is the king**
- 2. Who are customers**
- 3. Understanding the customers**
 - 3.1 External customer**
 - 3.2 Internal customer**

CLASSES OF CUSTOMER NEEDS

1. **Dissatisfiers**
2. **Satisfiers**
3. **Delighters/excitors**

CUSTOMER PYRAMID

1. **High volume customers**
2. **Medium volume customers**
3. **Low volume customers**
4. **Starters**
5. **Hot prospects**
6. **Warm prospects**
7. **Cold prospects**
8. **Leads prospects**
9. **Suspects prospects**
10. **The rest of the world.**

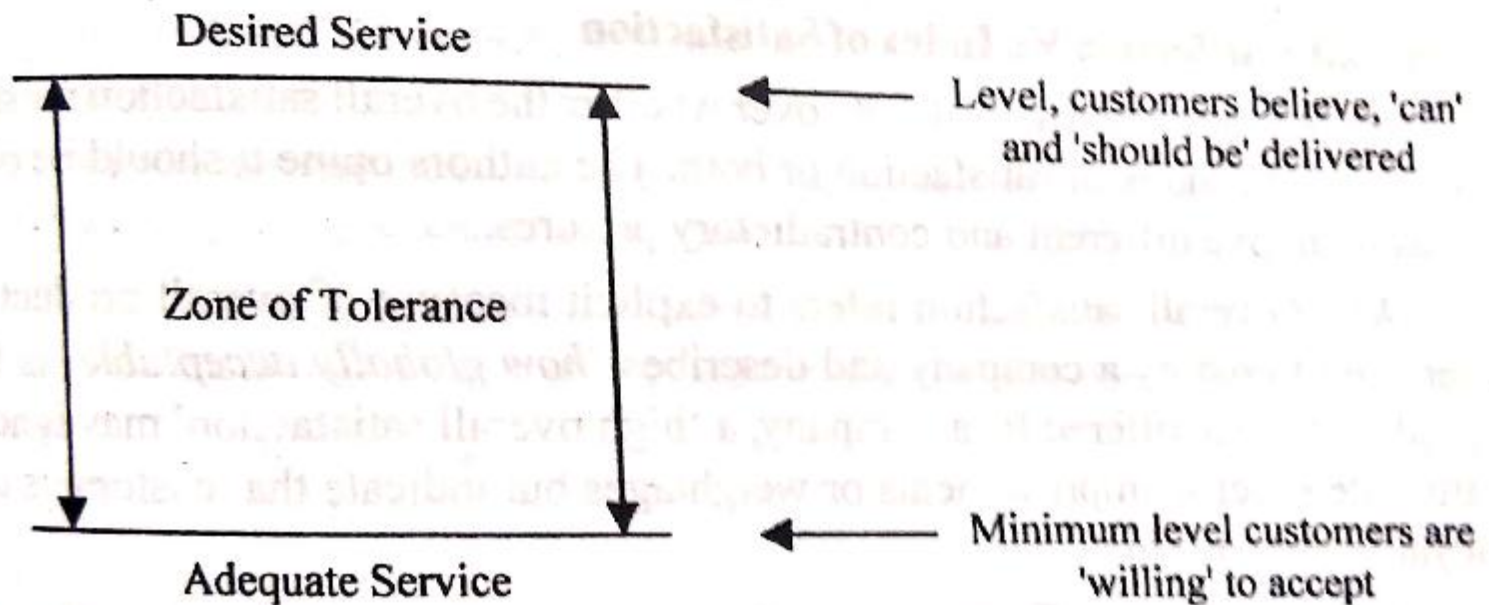


Figure 9.4 – The Zone of tolerance concept

When a customer receives a superior value-delivered product/services.

COST OF LOSING A CUSTOMER

CUSTOMER

NEEDS/REQUIREMENTS AND

EXPECTATIONS

Customer requirements

1. Specification
2. Conformance
3. Reliability
4. cost/value
5. Delivery

CUSTOMER COMPLAINTS – SOURCES

1. Related to product
2. Related to after sales service

GUIDELINES FOR EFFECTIVE PROBLEM RESOLUTION

- 1. Admit mistakes and do not be defensive**
- 2. Act fast**
- 3. Understand the problem**
- 4. Do not argue with the customer**
- 5. Acknowledge the customer's feelings**

GUIDELINES FOR EFFECTIVE PROBLEM RESOLUTION

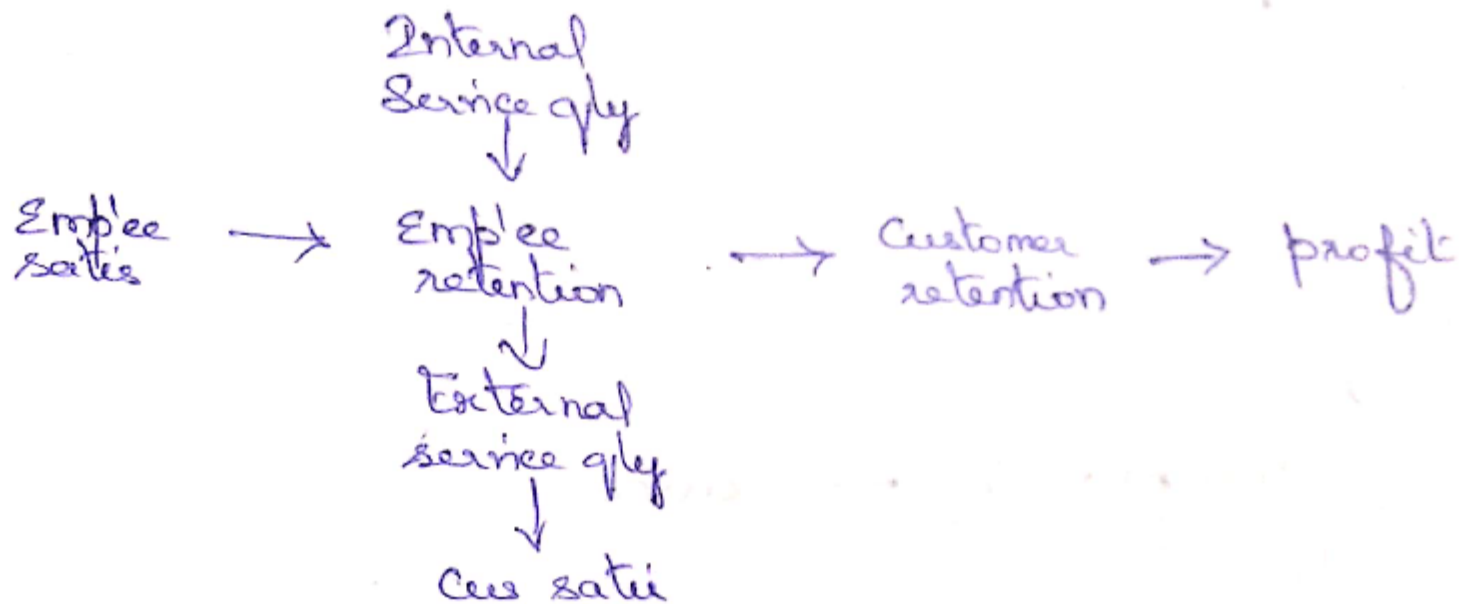
- 6. Clarify the steps needed to solve the problem**
- 7. Keep customers informed of the progress made on the complaint**
- 8. Consider compensation for the inconvenience**
- 9. Give customers the benefit of the doubt**
- 10. Try to regain customer goodwill**

CUSTOMER RETENTION

Represents the activities that produce the necessary customer satisfaction that creates customer loyalty, which actually improves the bottom line.

CONTINUOUS IMPROVEMENT

Customer Retention Model.



CUSTOMER RELATIONSHIP BUILDERS

TOTAL EMPLOYEE INVOLVEMENT- HRM APPROACH - 9 BASIC ELEMENTS

- 1. HR planning**
- 2. Organisational development**
- 3. Organisation & job design**
- 4. Personnel research & information system**
- 5. Union - employee relationship**

TOTAL EMPLOYEE INVOLVEMENT- HRM APPROACH - 9 BASIC ELEMENTS

- 6. Compensation and benefits**
- 7. Employee counselling and assistance**
- 8. Training and development**
- 9. Selection and staffing**

- **Performance appraisal**
- **Guidelines**
- **Education and training of employees**

PUBLICITY AND PROMOTION

- 1. Monthly / Quarterly Newsletters**
- 2. Display boards and walls**

BENEFITS OF EMPLOYEE INVOLVEMENT

EMPLOYEES COMPENSATION SYSTEMS

- 1. Individual**
- 2. Teams**

TRADE UNIONS AND EMPLOYEE INVOLVEMENT

**EMPLOYEE
MOTIVATION AND
EMPOWERMENT**

MEANING OF MOTIVATION

THEORIES OF MOTIVATION

EMPOWERMENT - MEANING

Empowerment means investing people with authority, its purpose is to tap the enormous reservoir of potential contribution that lies within every worker.

EMPLOYEE EMPOWERMENT

Employee in work setting involves giving people the means, ability and authority to do something they have not done before.

KINDS OF EMPOWERMENT

- 1. Empowering people**
- 2. To operate with little or no supervision**

FEATURES OF EMPOWERMENT

- 1. Empowerment is not without bounds**
- 2. Empower teams, not individuals**
- 3. Training needed before empowerment**

STEPS INVOLVED IN EMPOWERING

- 1. Agree on what they will produce or carry out**
- 2. Decide as to how to organise the team**
- 3. Decide over the responsibility within the team**
- 4. Decide over the flow of work**
- 5. Audit the process**
- 6. Decide over improvement and restart**

WHEN EMPOWERMENT DOES NOT WORK/

REASONS FOR THE FAILURE

**FUNDAMENTAL REQUIREMENTS
OF MANAGEMENT FOR
SUCCESSFUL EMPOWERMENT**

QUALITY TEAMS AND TEAM BUILDING

MEANING OF TEAM

A GROUP OF PEOPLE WORKING TOGETHER TO ACHIEVE COMMON OBJECTIVES AND GOALS

PHILOSOPHY/ CHARACTERISTICS/FEATURES

- 1. Should have an objective**
- 2. Should create a team spirit**
- 3. No single person – dominate**
- 4. Criticism should be avoided**
- 5. Employees should not be compelled to be part of a team**
- 6. To work for organisation's benefit**
- 7. Management involvement is imperative**
- 8. Team should solve the problem.**

ROLES AND RESPONSIBILITIES

- 1. Team leader**
- 2. Facilitator**
- 3. Team recorder**
- 4. Time keeper**
- 5. Team members**

CHARACTERISTICS OF SUCCESSFUL TEAMS

1. **Sponsor**
2. **Team charter**
3. **Team composition**
4. **Training**
5. **Ground rules**
6. **Accountability**
7. **Clear objectives**

8. Well defined decision procedures

9. Resources

10. Trust

11. Effective problem solving

12. Open communication

13. Appropriate leadership

14. Balanced participation

15. Cohesiveness

QUALITY CIRCLES

DEFINITION – UNION OF JAPANESE SCIENTISTS AND ENGINEERS

“Quality circles is a small group formed to perform voluntarily quality related activities leading towards self development within the work place.”

ELEMENTS AND CHARACTERISTICS

OBJECTIVES

1. **To develop individual skills**
2. **To maintain harmony at workplace**
3. **To create problem solving capability**
4. **To improve self esteem of members**
5. **To reduce errors on job**
6. **To increase productivity**
7. **To improve communication flow**
8. **To enjoy synergic effect**

PRINCIPLES UNDERLYING QUALITY CIRCLES

- 1. Every job is capable of being improved**
- 2. People resist to external change**
- 3. Every employee is capable of attaining excellence**
- 4. Employees prefer to be skilful**
- 5. People prefer groups**
- 6. People have integrity and highly creative**
- 7. To reveal difficulties and suggest improvements**
- 8. Management is not to coerce and control employees**

AREAS COVERED BY QC

PROBLEMS SOLVING TOOLS FOR QC

1. **Brainstorming**
2. **Data collection**
3. **Stratification**
4. **Pareto analysis**
5. **Cause and effect diagram**
6. **Line graph or run chart**
7. **Scatter diagram**
8. **Histogram**
9. **Control charts**

REQUIREMENTS OF EFFECTIVE QC

- 1. Employees should be encouraged**
- 2. Full training**
- 3. Understanding of group dynamics**
- 4. Members should be free to choose problems**
- 5. Enough number of meetings and discussions**
- 6. Commitment from top management**
- 7. co-operation from middle management**
- 8. Recognition of good work**
- 9. Encouragement of creativity**
- 10. Sufficient infrastructure**

Tangible and intangible benefits of QC

PROBLEMS AND HURDLES IN IMPLEMENTATION OF QC

- 1. Negative attitude**
- 2. Lack of ability**
- 3. Lack of management commitment**
- 4. non-implementation of suggestions**

CONTINUOUS PROCESS IMPROVEMENT

PROCESS – MEANING

**Business or product related
activities of an organisation.**

WAYS OF IMPROVEMENT

1. **Reduce resources**
2. **Reduce errors**
3. **Meet or exceed expectations**
4. **Make the process safer**
5. **Make the process more satisfying to the person doing it**

TYPES OF QUALITY PROBLEMS

1. **Compliance problem**
2. **Unstructured problem**
3. **Efficiency problem**
4. **Process design problem**
5. **Product design problem**

QUALITY IMPROVEMENT STRATEGIES

JACK HUFFMAN – 4 Rs OF TOTAL IMPROVEMENT

1. **Repair**
2. **Refinement**
3. **Renovation**
4. **Reinvention**

PDCA CYCLE

DEMING CYCLE/SHEWART CYCLE/CONTROL CYCLE/ PDSA

1. **Plan**
2. **Do**
3. **Check**
4. **Act**

OPDCA – Observe, Plan, Do, Check and Act.

PROBLEM SOLVING IN PROCESS IMPROVEMENT

- 1. Identifying the opportunity**
- 2. Analyse the current process**
- 3. Develop the optimal solution**
- 4. Implement changes**
- 5. Study the results**
- 6. Standardise the solution**
- 7. Plan for the future**

5W2H APPROACH FOR PROCESS IMPROVEMENT

5W

- 1. What**
- 2. Why**
- 3. Where**
- 4. Who**
- 5. When**

2H

- 1. How**
- 2. How much**

5S

1. **SEIRI** – sorting
2. **SEITON** – systematising or put things in order
3. **SEISO** – cleaning
4. **SEIKETSU** – standardise
5. **SHITSUKE** – self disciplining

IMPLEMENTATION

ADVANTAGES

KAIZEN FOR CONTINUOUS IMPROVEMENT

KAI = CHANGE

ZEN = FOR BETTER

KAIZEN = CHANGE FOR BETTER

**Tools = kanban, TQC, JIT, zero defects,
TQC,Robotics.....**

OBJECTIVES

- **Quality improvement**
- **Success – customer satisfaction**
- **Focus on process oriented**
- **Motivating employees to admit mistakes**
- **Suggestion system.**
- **Customer driven strategy for improvement**
- **Collaborative approach**
- **QC is essential.**

SEGMENTATION

- **Management oriented kaizen - JIT**
- **Group oriented Kaizen – small group activities**
- **Individual oriented kaizen – suggestion system**

- i. **Tools**
- ii. **Involvement**
- iii. **Target**
- iv. **Duration**
- v. **Achievement**
- vi. **Support**
- vii. **Implementation cost**
- viii. **Net result**
- ix. **Booster**
- x. **Direction**

PRINCIPLES

- i. **Focus on customers**
- ii. **Make improvements continuously**
- iii. **Acknowledge problem openly**
- iv. **Promote openness**
- v. **Create work teams**
- vi. **Manage projects through cross functions**
- vii. **Nurture the right relationship process**
- viii. **Develop self discipline**
- ix. **Inform every employee**
- x. **Enable every employee**

KEY ELEMENTS

- i. **Quality**
- ii. **Effort**
- iii. **Involvement of all employees**
- iv. **Willingness to change**
- v. **Communication**

5 FOUNDING ELEMENTS

- i. **Team works**
- ii. **Personal discipline**
- iii. **Improved morale**
- iv. **QC**
- v. **Suggestions for improvement**

SOURCE MATERIAL

- 1. Total Quality Management, P.Saravanel & S.Balakumar, Margham Publications, Chennai, 2019.**
- 2. Total Quality Management, Poornima M.Charantimath, Pearsons Education Noida, 2003.**