Dimensions of product and service quality

DIMENSIONS OF QUALITY

Dimension | Meaning and Example

- Performance → Primary product characteristics, such as the brightness of the picture
- Features →Secondary characteristics, added features, such as remote control
- Conformance →Meeting specifications or industry standards, workmanship
- Reliability → Consistency of performance over time, average time of the unit to fail
- Durability →Useful life, includes repair
- Service → Resolution of problems and complaints, ease of repair
- Response → Human – to – human interface, such as the courtesy of the dealer
- Aesthetics → Sensory characteristics, such as exterior finish
- Reputation → Past performance and other intangibles, such as being ranked first

Quality Dimensions of Products

Performance	Operating characteristics
Features	Important special characteristics
Flexibility	Meeting operating specifications over time
Durability	Amount of use before performance deteriorates
Conformance	Match with pre-established standards
Serviceability	Ease and speed of repair or normal service
Aesthetics	How a product looks and feels
Perceived quality	Subjective assessment of characteristics (product image)

Service quality

- Customer service is the set of activities an organization uses to win and retain customer" s satisfaction.

- It can be provided before, during, or after the sale of the product or exist on its own.

Elements of customer service

Organization

1. Identify each market segment.

2. Write down the requirements.

3. Communicate the requirements.

4. Organize processes.

5. Organize physical spaces.

Customer care

- Meet the customer's expectations.
- Get the customer's point of view.
- Deliver what is promised.
- Make the customer feel valued.
- Respond to all complaints.
- Over – respond to the customer.
- Provide a clean and comfortable customer reception area.

communication

- Optimize the trade – off between time and personal attention.
- Minimize the number of contact points.
- Provide pleasant, knowledgeable and enthusiastic employees.
- Write document in customer friendly language.

Front line people

- Hire people who like people.

- Challenge them to develop better methods.

- Give them the authority to solve problems.

- Serve them as internal customers.

- Be sure they are adequately trained.

- Recognize and reward performance.

-

Leadership

- Lead by example.
- Listen to the front-line people.
- Strive for continuous process improvement.

Introduction to TQM

✓ Enhancement to the traditional way of doing business.

✓ Survival in the world class competition.

✓ Total – Made up of whole

✓ Quality – degree of excellence

✓ Management – Act

GURUS OF TQM

- ✓ SHEWHART - Control chart theory PDCA Cycle

- ✓ DEMING - Statistical Process Control

- ✓ JURAN - Concepts of SHEWHART Return on Investment (ROI)

- ✓ FEIGANBAUM - Total Quality Control Management involvement

                  Employee involvement Company wide quality control

- ✓ ISHIKAWA - Cause and Effect Diagram Quality Circle concept.

- ✓ CROSBY - "Quality is Free" Conformance to requirements.

- ✓ TAGUCHI - Loss Function concept.

NEW AND OLD CULTURES

QUALITY ELEMENT	PREVIOUS STATE	TQM
Definition	Product Oriented	Customer Oriented
Priorities	Second to service	First among equals of and cost
Decisions	Short Term	Long Term
Emphasis	Detection	Prevention
Errors	Operations	System
Responsibility	Quality control	Everyone
Problem Solving	Managers	Teams
Procurement	Price	Life cycle costs, Partnership
Manager's Role	Plan, assign, control and enforce	Delegate, coach, facilitate and mentor

Definitions of TQM

- Both philosophy and set of guiding principles that represent the foundation of continuously improving organization.

## SIX BASIC CONCEPTS OF TOTAL QUALITY MANAGEMENT

1. Management Commitment

2. Customer Focus

3. Involvement and utilization of entire work force

4. Continuous Improvement

5. Treating Suppliers as Partners

6. Establish Performance Measures for the processes

BENEFITS OF TQM

- Improved quality
- Employee participation
- Team work
- Working relationships
- Customer satisfaction
- Employee satisfaction
- Productivity
- Communication
- Profitability
- Market share

TQM framework

- Implementing framework requires through planning and systematic effort.
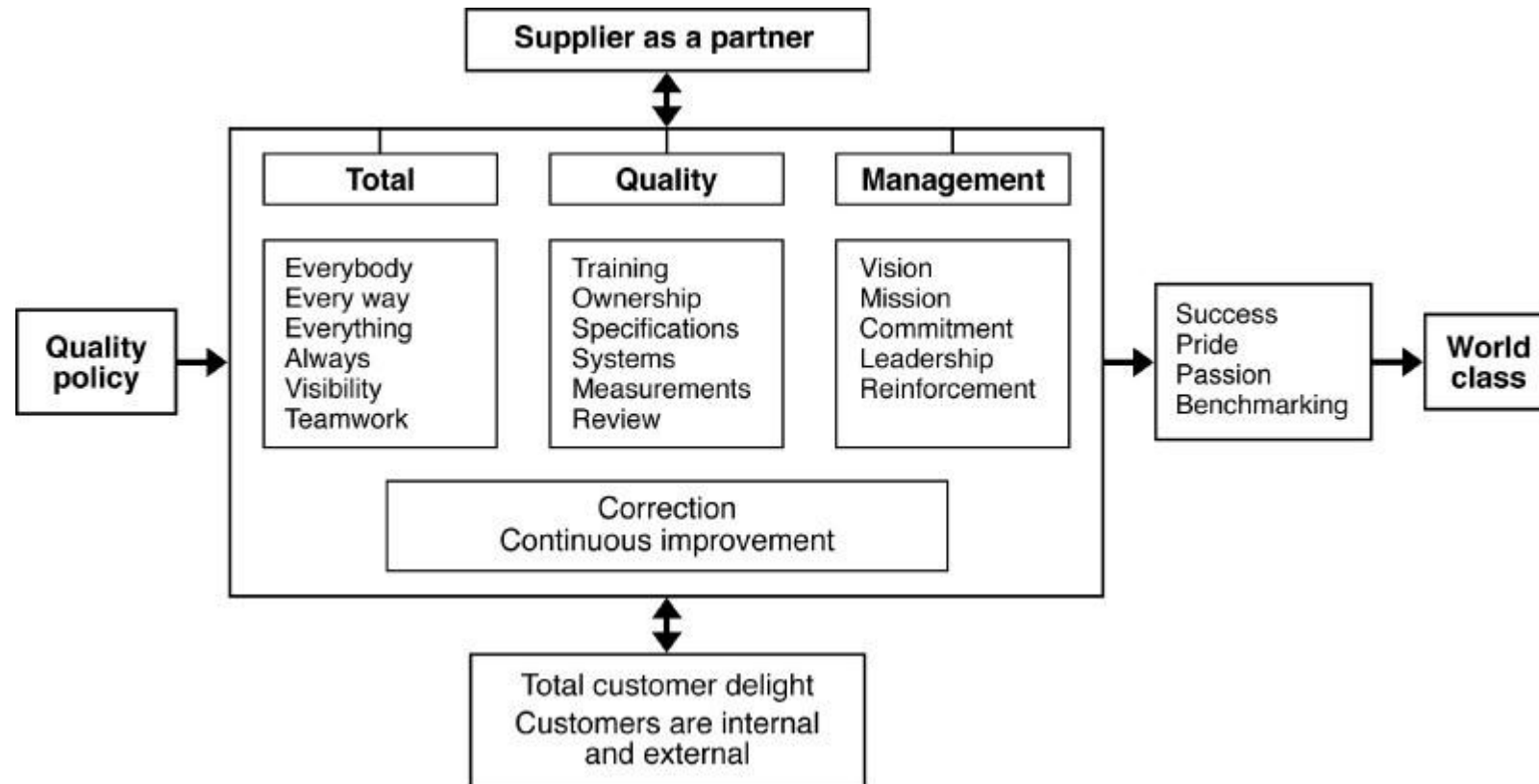
TQM IMPLEMENTATION :

- Begins with Management Commitment
- Leadership is essential during every phase of the implementation process and particularly at the start
- Senior Management should develop an implementation plan
- Timing of the implementation process is very important
- Managers and First Line Supervisors is essential
- Early discussions with the Union is a must
- Communicate TQM to the entire organization
- Training on quality awareness and problem solving
- Customer, Employee and Supplier surveys must be conducted to benchmark
- The council establishes the project teams and work groups and monitors their progress
- Formation of Quality Council
- Active involvement of Middle Managers and First Line Supervisors is essential
- Early discussions with the Union is a must
- Communicate TQM to the entire organization
- Training on quality awareness and problem solving
- Customer, Employee and Supplier surveys must be conducted to benchmark
- The council establishes the project teams and work groups and monitors their progress

DEMING'S 14 PRINCIPLES

1. Create and publish the Aims and Purposes of the Organization
2. Learn the New Philosophy
3. Understand the Purpose of Inspection
4. Stop Awarding Business based on Price Alone
5. Improve Constantly and forever the System
6. Institute Training
7. Teach and Institute Leadership
8. Drive out fear, Create Trust, and Creat a Climate for Innovation
9. Optimize the Efforts of Teams, Groups and Staff Areas
10. Eliminate Exhortations for the Work Forces
11. (a) Eliminate Numerical Quotas for the Work Force
11. (b) Eliminate Management by Objective
12. Remove Barriers that Rob People of Pride of Workmanship
13. Encourage Education and Self-himprovement for Everyone
14. Take Action to Accomplish the Transformation

Deming Cycle

7 Deadly Diseases

1. Lack of constancy of purpose

2. Emphasis on short-term profits

3. Evaluation by performance, merit rating, or annual review of performance

4. Mobility of management

5. Running a company on visible figures alone

6. Excessive medical costs

7. Excessive costs of warranty, fueled by lawyers who work for contingency fees

Juran Trilogy

J.M. Juran's Trilogy

◉ Developed the idea of trilogy
- Quality Planning
- Quality Improvement
- Quality Control

◉ Trilogy shows how an organization can improve every aspect by better understanding of the relationship between processes that plan, control and improve quality as well as business results

◉ In 1951, the first edition of Juran's quality control handbook was published

Quality Planning

- Establish quality goals

- Identify who the customers are

- Determine the needs of the customers

- Develop product features that respond to customer's needs

- Develop processes able to produce the product features

- Establish process controls; transfer the plans to the operating forces

Quality Control

- Evaluate actual performance

- Compare actual performance with quality goals

- Act on the difference

Quality Improvement

- Prove the need Establish the infrastructure

- Identify the improvement projects

- Establish project teams

- Provide the teams with resources, training, and motivation to:

- Diagnose the causes Stimulate remedies

- Establish controls to hold the gains

Crosby's 14 points

- 1. Management commitment.
- 2. Quality improvement team.
- 3. Quality measurement.
- 4. Cost of Quality.
- 5. Quality awareness.
- 6. Corrective action.
- 7. Zero defects planning.
- 8. Supervisor training.
- 9. Zero defects day.
- 10. Goal setting.
- 11. Error cause removal
- 12. Recognition.
- 13. Quality Counsels.
- 14. Do it all over again.

Barriers to TQM

The barriers grouped below are preventing the implementation of TQM in five categories:

1. Strategic barriers
2. Structural barriers
3. Human resources barriers
4. Contextual barriers
5. Procedural barriers

STRATEGIC BARRIERS

Strategic issues are significant barriers for implementation of TQM and have the greatest negative impact on its success. These barriers are mainly related to the management and leadership of the organization. They are as follows.

- inappropriate TQM program
- barriers to the adoption of TQM
- unrealistic expectations
- deficient leadership
- poor management
- the lack of top management support
- poor involvement of managers
- the strength of the middle management
- inadequate planning
- the lack of consistency of objectives

- lack of long term vision

- the lack of a vision and a clear direction

- conflicting objectives and priorities

- the lack of priority of improving the quality

- the previous failures in terms of initiatives of change

- the lack of Government support

- political uncertainty

STRUCTURAL BARRIERS

Structural barriers are related to the structure, systems and physical resources necessary to implement the TQM. These barriers are as follows.

- organizational structure inappropriate
- lack of organizational flexibility
- lack of physical resources
- lack of information systems
- lack of financial support, the cost of implementation
- lack of time

HUMAN RESOURCES BARRIERS

Human resources barriers are those obstacles are related to human factors, such as lack of employee engagement and resistance to change in TQM. These barriers are as follows.

- the lack of interest of employees
- the lack of commitment and involvement of employees
- employee resistance to change
- a deficient human resources management
- poor delegation at all hierarchical levels

- few employees work tasks and increasingly higher

- lack of training and education of employees

- lack of motivation and satisfaction of employees

- the lack of recognition and rewarding for success

CONTEXTUAL BARRIERS

Contextual barriers are those difficulties that arise when there are developed a context and a culture appropriate to achieve the highest potential of the deploying of the TQM. These barriers are as follows.

- inadequate organizational culture
- difficulties in changing organizational culture
- lack of guidance teams
- poor communication and ineffective
- poor coordination
- the lack of confidence of employees in the management
- cultural issues resolution
- lack of innovation
- political behavior
- the diversity of the workforce
- barriers mentality

PROCEDURAL BARRIERS

Procedural barriers mainly are generated by the complexity of the processes, the lack of focus on the client, the lack of partnership with suppliers, the bureaucracy and the lack of a system of evaluation and self-assessment. These barriers are as follows.

- lack of focus
- the lack of an adequate process management
- lack of concentration on the client
- the lack of involvement of suppliers

- bureaucracy
- lack of evaluation and self-evaluation
- the change agent or counsel incompetence in implementing quality
- ineffective corrective action
- efforts to improve quality are time consuming

It can be seen that strategic barriers are the most common types of barriers that hinder the successful implementation of TQM system. Also, the human resources barriers have a very large impact on the success of TQM implementation.

Quality statements

- **Vision statement – a short declaration of what the organization hopes to be tomorrow.**

- **Mission statement – a statement of purpose –who we are, who are our customers, what we do , and how we do it.**

- **Quality policy – is a guide for everyone in the organization ,how they should provide products and services to the customers.**

CUSTOMER FOCUS – DEFINITION

Customer focus can be defined as the degree to which a firm continuously satisfies customer needs and expectations.

How to develop a customer focus

- Evaluate what goods or service you provide to a customer base.
- Use customer feedback tools to get information about our customer.
- Train our employees to offer customer focus.
- Consider providing customer incentives.
- Work your business copy.

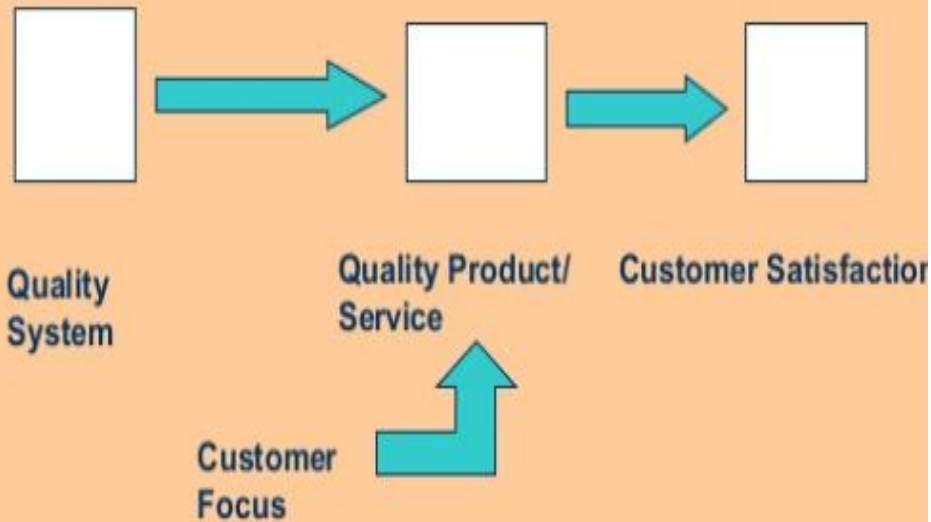# CUSTOMER ORIENTATION,CUSTOMER COMPLAINTS AND CUSTOMER ORIENTATION

Customer Satisfaction

Quality System → Quality Product/ Service → Customer Satisfaction

Customer Focus

Customer Satisfaction

\# The Customer is the King.

\# Quality is what customer wants.

\#TQM's purpose is meeting customer expectations.

\# Customer satisfaction must be the primary goal of any organization. Therefore Every employee should understand the importance of customer.

Customer Care

- Keep promises to customers
- Return customer calls promptly
- Allot staff to handle customer problems
- Treat customers with courtesy,respect and professionalism always
- Evaluate customer satisfaction regularly
- Search for customer-related improvements continuously
- Deliver Products/Service promptly and efficiently
- Give every customer complete and personal attention.

Customer Care

- Maintain a neat and clean appearance of self and work-place, at all times
- Review and implement customer feedback and suggestions into current procedures when needed
- Training and education to enhance job performance and commitment to customer care
- Treat every customer as we would treat ourselves.   (Pg. 90, Besterfield)

Customer complaints

USING CUSTOMER COMPLAINTS :

Actions an organization can take to handle complaints are as follows

☐Investigate customers experiences by actively getting feed back, both positive and negative, and then acting on it promptly

☐Develop procedures for complaint resolution that include empowering front – line personnel.

☐Analyze complaints, but understand that complaints do not always fit into neat categories.

☐Work to identify process and material variations and then eliminate the root cause. "More inspection" is not corrective action.

☐When a survey response is received, a senior manager should contact the customer and strive to resolve the concern.

☐Establish customer satisfaction measures and constantly monitor them.

☐Communicate complaint information, as well as the results of all investigations and solutions, to all people in the organization.

☐Provide a monthly complaint report to the quality council for their evaluation and, if needed, the assignment of process improvement teams.

☐Identify customers" expectations beforehand rather than afterward through complaint analysis.

Customer Retention

- Customer satisfaction should lead to customer loyalty and customer retention.

- This is the acid test and bottom line- when the customer repeatedly comes back to you for repeat orders and to purchase new products mfgrd. by you. (In spite of stiff competition and multiple Suppliers/Sources!)

- Firm orders received or cash payments registered , market share, customer referrals and customer retention are an indication of your customer success and penetration .

QUALITY COSTS

- Quality costs are defined as those costs associated with the non-achievement of product/service quality as defined by the requirements established by. the organization and its contracts with customers and society.

- Quality cost is a cost for poor product of service

ELEMENTS OF QUALIT YCOST

- Cost of prevention
- Cost of appraisal
- Cost of internal failures
- Cost of external failures.

PREVENTION COST

- Marketing / Customer / User.
- Product / Service / Design Development.
- Purchasing
- Operations (Manufacturing or Service)
- Quality Administration.

APPRAISAL COST

- Purchasing Appraisal Costs.
- Operations Appraisal Costs
- External Appraisal Costs
- Review of Test and Inspection Data
- Miscellaneous Quality Evaluations

INTERNAL FAILURE COST

- Product or Service Design Failure Costs (Internal)

- Purchasing Failure Costs

- Operations (Product or Service) Failure Costs

EXTERNAL FAILURE COST

- Complaint Investigations of Customer or User Service
- Returned Goods
- Retrofit and Recall Costs
- Warranty Claims
- Liability Costs
- Penalties
- Customer or User Goodwill
- Lost Sales

ANALYSIS TECHNIQUES OF QUALITY COST

- The purpose of quality cost analysis is to determine the cost of maintaining a certain level of quality.

- Such activity is necessary to provide feedback to management on the performance of quality assurance and to assist management in identifying opportunities.

- Most common techniques for analyzing quality cost are

✓Trend analysis

✓Pareto analysis

INDEX NUMBERS

- Index Numbers are often used in a variety of applications to measure prices, costs (or)other numerical quantities and to aid managers in understanding how conditions in one period compare with those in other periods.

- A simple type of index is called a RELATIVE INDEX.

QUARTER	COST IN RS.
1	2000
2	2200
3	2100
4	1900

Cost Index in quarter t = (Cost in quarter t / Base period cost) x 100

QUARTER	COST RELATIVE INDEX
1	(2000/2000) x 100 = 100
2	(2200/2000) x 100 = 110
3	(2100/2000) x 100 = 105
4	(1900/2000) x 100 = 95

TREND ANALYSIS

- Good visual aids are important communication tools.

- Graphs are particularly useful in presenting comparative results to management. Trend Analysis is one where Time-to-Time comparisons can be made which illustrates the changes in cost over time.
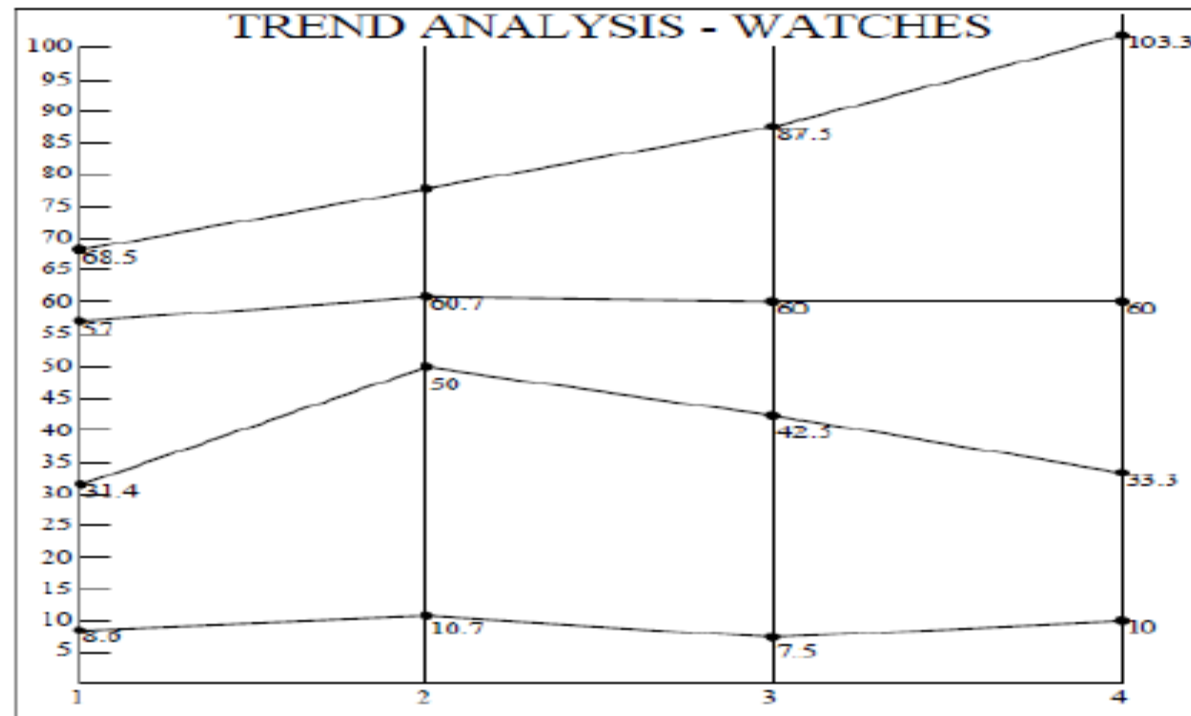
PARETO ANALYSIS

- Joseph Juran observed that most of the quality problems are generally created by only a few causes.

- For example, 80% of all internal failures are due to one (or) two manufacturing problems.

- Identifying these "vital few" and ignoring the "trivial many" will make the corrective action give a high return for a low money input.

PARETO DIAGRAM