Basic Concepts of Quality
What is Quality?

Attributes are used to describe quality... examples:

- Beauty,
- Goodness,
- Freshness,
- Expensiveness etc

Because different people perceive these attributes differently, the use of attributes to describe quality is imprecise.

Quality, therefore needs to be defined.
What is Quality?

According to the Oxford Dictionary (2003), quality is defined as being

- ‘the degree of excellence of a thing;
- relative nature or kind or character of a thing;
- class or grade of something determined by this;
Quality Defined: ISO 9000:2000

Degree to which a set of inherent characteristic fulfils requirements (3.1.1)

- Characteristic - distinguishing feature, i.e. physical, sensory, temporal or functional etc (3.5.1)
- Requirement - need or expectation that is stated or implied or obligatory, i.e. custom or common practice for you! (3.1.2)
Who defines Quality - the Q Lens

Basic Concepts of Quality
Customer behaviours…

Surveys on the factors we (customers) are influenced by shows that:

- **30%** consider **Quality as a decisive factor** to buy (the good name and reputation of a product)
- **19%** were persuaded by just the good name of manufacturer
- **17%** by the price and only price
- **14%** by the product’s tried and tested features

Pay more for Quality among the **17%** of only Price

- **9%** on average
- ‘It costs 5-20 times more to win a new customer than to keep an existing one’
Formal Definition of Quality

Degree to which a set of inherent characteristics fulfils requirements
(ISO 9000:2005 clause 3.1.1)

- **Characteristic** – distinguishing feature, i.e. physical, sensory, temporal or functional etc (3.5.1)

- **Requirement** – need or expectation that is stated or implied or obligatory, i.e. custom or common practice for you! (3.1.2)
What is Quality Management?

- Quality Management (QM) (3.2.8)
  Coordinated activities to direct and control an organization with regard to quality

- Management system (MS) (3.2.2)
  - System to establish policy and objectives and to achieve those objectives

- Quality Management system (QMS) (3.2.3)
  - Management system to direct and control an organization with regard to quality
Is it about Reputation?

The reputation enjoyed by any organization is it built by:

- quality,
- reliability,
- delivery; or
- price…
Exploring reputation...

- Reputations, good or bad, can quickly become national reputations;
  - Made in Kenya?
  - Made in Japan?

- The management of the competitive weapons, such as quality can be learned like any other skill, and used to eventually turn round poor reputation.
Performance objectives for quality

- **Quality**: Being RIGHT
- **Speed**: Being FAST
- **Dependability**: Being ON TIME
- **Flexibility**: Being ABLE TO CHANGE
- **Cost**: Being PRODUCTIVE

Basic Concepts of Quality
Dimensions of Quality - Product

1. Performance
   ✓ Basic operating characteristics

2. Features
   ✓ “Extra” items added to basic features

3. Reliability
   ✓ Probability product will operate over time

4. Conformance
   ✓ Meeting pre-established standards

5. Durability
   ✓ Life span before replacement

Basic Concepts of Quality
6. Serviceability
   ✓ Ease of getting repairs, speed & competence of repairs

7. Aesthetics
   ✓ Look, feel, sound, smell or taste

8. Safety
   ✓ Freedom from injury or harm

9. Other perceptions
   ✓ Subjective perceptions based on brand name, advertising, etc
1. **Time & Timeliness**
   - Customer waiting time, completed on time

2. **Completeness**
   - Customer gets all they asked for

3. **Courteous**
   - Treatment by employees

4. **Consistency**
   - Same level of service for all customers

5. **Accessibility & Convenience**
   - Ease of obtaining service

6. **Accuracy**
   - Performed right every time

7. **Responsiveness**
   - Reactions to unusual situations

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**Basic Concepts of Quality**
Historical Development of QM

The development of quality management can be defined in four stages:

1. Quality inspection stage (QI) – 1920s;
2. Quality control stage (QC) – 1950s;
3. Quality assurance stage (QA) – 1970s;
4. Total Quality management (TQM) stage.
Specifications are imprecise means of conveying subjective aspects, i.e.
- Not everything is measurable, e.g. courtesy or friendliness

Thus, Conformance to requirements is not necessarily all there is to achieving quality
Quality: Customer Satisfaction

- Customer Satisfaction or is it meeting requirements?
- Only true measure of acceptable quality...
  - Takes account of both subjective and objective interpretations of needs and expectations
  - Correct interpretation of needs and expectations...acceptable quality
Customers’ Changing Perceptions

Needs and Expectations of customers change:

- Technology – Mobile phones
- Challenges.
- Legislation – EMCA, Procurement
- Competitor products

Wants become demands next time!!!
Quality and Value

- Value is not a price tag but measure of perceived benefits
  - Training outcome
- Functionality but overpriced
- Value for Money????? (50 cents less)
- Quality of the complete transaction counts...service quality as well...human relationship – Banks (attempt to reduce costs)
Quality: the performance objective

1. Quality → Being RIGHT
2. Speed → Being FAST
3. Dependability → Being ON TIME
4. Flexibility → Being ABLE TO CHANGE
5. Cost → Being PRODUCTIVE

Basic Concepts of Quality
Quality: Customer/Supplier Chains

Customer/Supplier Chains

- There exists in every department, organization, even household a series of suppliers and customers.
- The typist is a supplier to her supervisor is she meeting his or her requirements? Is error free typing set out as wanted, when wanted? If so then we have a quality typing service.
Customer/Supplier Chains

To achieve customer satisfaction:
- identify
- strengthen
customer–supplier chains within the organization.
The concept of internal and external customer-suppliers forms the core of the total quality approach:

- A deliberate effort has to be made to manage quality...it will not just happen
- Failure to meet requirements in any part of a quality chains have a way of multiplying
Cost of Quality

Cost of good Quality
- Prevention
  - Planning
  - Design
  - Process
  - Training
  - Information
- Appraisal (=control)
  - Inspection
  - Testing
  - Equipment
  - Operator

Cost of poor Quality
- Internal failure
  - Scrap
  - Rework
  - Process failure
  - Downtime
  - Price reduction
- External failure
  - Complaints
  - Returns
  - Warranty Claims
  - Liability
  - Lost sales
A Defect
- Non conformance of a unit of a product with specified requirements
  - Minor- Unnoticeable
  - Major- Cause stoppage of operations, may affect performance
  - Critical- Must be attended to Promptly

Causes of Defects
- lack of Know How
- carelessness
- Improper Designs
- Lack of or insufficient instructions
- Inherent errors in RM, MACHINES
The ISO 9000 Concept...

- Represents an international consensus on good management practices for a systematic and generic application of principles and practices based on quality.

- ISO 9000 is a written standard that defines the basic elements of a QMS that organizations should use to ensure that their products and/or services meet or exceed customer expectations.

- Is a set of standardized requirements for QMS and is applicable to any organization regardless of its size or whether public or private sectors.
ISO 9000 is seen as a vehicle towards TQM
The principal goal of the ISO 9000 Standards is to demonstrate quality assurance
"Quality culture" refers to the degree of awareness, commitment, collective attitude and behaviour of the organization with regard to quality.
Quality for what?

**Question:** How much of the training and education effort should be devoted to **QUALITY**?

**Reply:** What fraction of your work do you want done without **QUALITY**?

Notable quotable:

Myrion Tribus