



IE407 Total Quality Management

Lecture 03



Instructor: Dr. Ali Ahmad

Reminder: SA grade

- ▶ SA grade will be determined by the attendance system
- ▶ More than 8 absents will automatically lead to SA grade
- ▶ Please be careful about your attendance in lectures





Besterfield Chapter 1: Introduction





Question:
How would you define quality?

Many Definitions of Quality

- ▶ Quality has been defined in many ways
- ▶ The following webpage gives a good introduction to the definitions of quality
 - ▶ <http://www.onquality.info/quality/2013/01/defining-quality.html/>
- ▶ Definitions of quality by quality gurus can be found on the following URL:
 - ▶ <http://www.onquality.info/quality/2010/04/what-is-quality-part-12.html/>
- ▶ **Note:** I have checked the above links and they are working. However, some links within these page did not work.



Defining Quality

- ▶ ISO 9000:2015 defines quality as:
the degree to which a set of inherent characteristics fulfills requirements
- ▶ More commonly, we think about quality in terms of:
An excellent product or service that fulfills or exceeds our expectations. These expectations are based on the intended use and the selling price



Defining Quality (2)

- ▶ Quality can be quantified as follows:

$$Q = P / E$$

where

Q is quality,

P is performance, and

E is expectation

- ▶ If Q is greater than 1.0 then the customer has a good feeling about product and service
- ▶ This is, however, subjective and based on perceptions of customer and manufacturer



Defining Quality – Read More

- ▶ The following URLs provide many other definitions of quality (if you are interested!)
 - ▶ <http://www.onquality.info/quality/2010/04/what-is-quality-part-12.html>
 - ▶ <http://www.onquality.info/quality/2011/10/what-is-quality-part-22.html/>
 - ▶ <https://asq.org/quality-resources/quality-glossary/q>



Dimensions of Quality

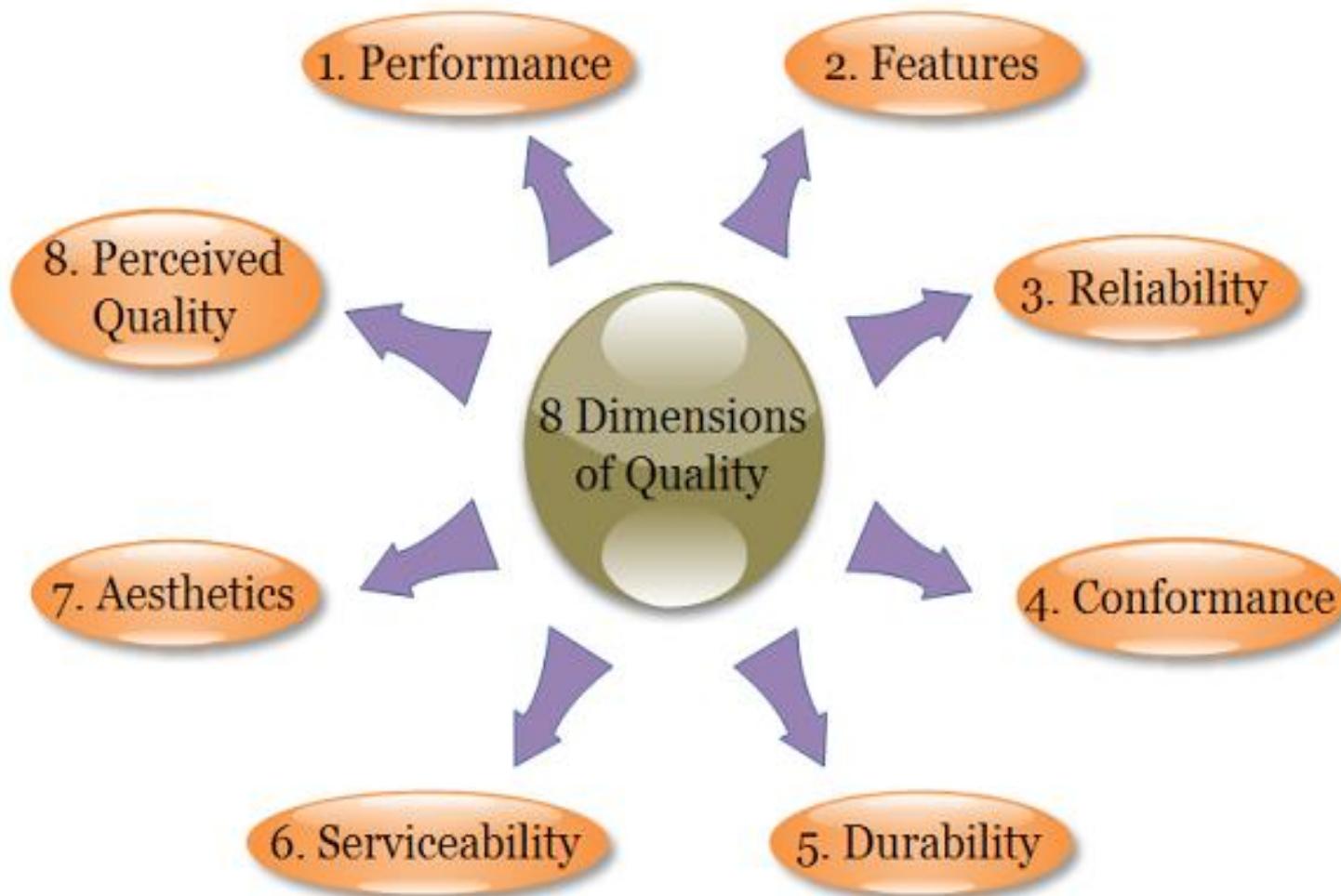
(Table 1-3 p. 7)

<i>Dimension</i>	<i>Meaning</i>
Performance	Primary product characteristics
Features	Secondary characteristics, added features
Conformance	Meeting specifications or industry standards, workmanship
Reliability	Consistency of performance over time
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



► 8 Dimensions of Quality (D. Garvin 1986)

Jimena M. Calfa



Dimensions of Quality - 2

- ▶ The nine dimensions of quality are somewhat independent
 - ▶ A product may rank high on some and low on others
 - ▶ It is rare for a product to excel in all nine dimensions
 - ▶ A product can be rated as a quality product if it measures high on some of the dimensions
- ▶ Marketing has the responsibility of identifying the relative importance of each dimension of quality



Dimensions of Quality – Read More

- ▶ Dr. Garvin on definition and dimensions of quality:
 - ▶ <http://www.onquality.info/category/quality-101/>
 - ▶ <http://www.onquality.info/general-concepts/2010/04/product-quality-by-dr-garvin-1984.html/>





Question:
What is Total Quality Management?

TQM: Definition

- ❖ TQM is defined as both a philosophy and a set of principles that represent the foundation of a continuously improving organization
- ❖ By application of quantitative methods and human resources TQM aims to:
 - Improve all the processes within an organization
 - Exceed consumer needs now and in the future
- ❖ The Golden Rule:

Do unto others as you would have them do unto you



TQM: Six Basic Concepts

I. A committed and involved management to provide long-term top-to-bottom organizational support by:

- Establishment of a Quality Council to:
 - Develop clear vision
 - Set long-term goals
 - Direct the program
- Including quality goals in business plan
- Establishing an annual quality improvement plan



TQM: Six Basic Concepts (2)

2. An unwavering focus on the customer, both internally and externally
 - We must listen to “the voice of the customer”
3. Effective involvement and utilization of the entire work force
 - Quality is everyone's responsibility
 - All persons must be trained in TQM, statistical process control and other skills so as to effectively participate on project teams
 - They must come to work not only to do their jobs but also to think about how to improve their jobs



TQM: Six Basic Concepts (3)

4. **Continuous improvement** of the business and production processes. This can be done:
 - By initiating quality improvement projects, such as:
 - ▶ On-time delivery, order entry efficiency, billing error rate, customer satisfaction, cycle time, scrap reduction, and supplier management
 - By using problem solving techniques, such as:
 - ▶ Statistical process control, benchmarking, quality function deployment, ISO 9000, and designed experiments
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TQM: Six Basic Concepts (4)

5. Treating suppliers as partners

- Because both gain or both lose from success or failure of the product or service
- Quality and life-cycle costs should be considered rather than price
- Suppliers should be few in numbers so that partnering can take place



TQM: Six Basic Concepts (5)

6. Establish performance measures for the processes

- Uptime, percent nonconforming, absenteeism, and customer satisfaction
- These measures should be posted for everyone to see



References

- ▶ Besterfield, Dale H. and others. 2019. *Total Quality Management*, 5th edition. Pearson India

