

Quality Engineering and Management

Lecture III

Quality in a Supply Chain

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Quality in a Supply Chain

Definitions of Quality

Definitions of Quality

Tradition and Modern Definitions of Quality

Performance (operations)

Features (extras)

Reliability (no failures)

Conformance (meet specifications)

Durability (length of usefulness)

Serviceability (speed/ease of repair)

Aesthetics (pleasing to the senses)

Perceived Quality (reputation)

Definitions of Quality

Service Quality

Reliability

Responsiveness

Completeness

Consistency

Access/Convenience

Communication/Understanding the Customer

Timeliness

Competence

Courtesy

Security

Definitions of Quality

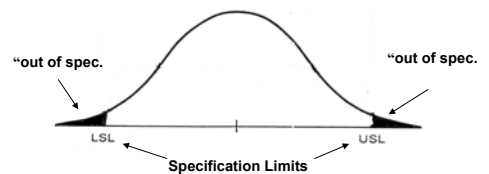
Traditional Definition

“Conformance to Requirements”

Meeting product specifications

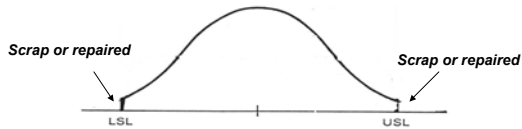
Definitions of Quality

Conformance to Requirements



Definitions of Quality

Conformance to Requirements ["inspecting quality in"]



Definitions of Quality

The 99.9% Problem –

- 1 hour of unsafe drinking water each month
- 2 plane crashes per day at Chicago O'Hare airport
- 12 switched newborn babies per day
- 500 incorrect surgical operations per week
- 2000 lost pieces of mail in per hour in the U.S.

Definitions of Quality

"The best time to fix your roof is when the sun is out ."

"But then it is not leaking !!"

Definitions of Quality

"Fitness for Use"

Juran's definition in the Quality Handbook

"process through which we measure actual quality performance, compare it with standard and act on the difference"

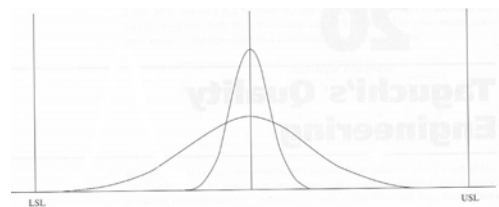
Definitions of Quality

Taguchi's focus

**on
process and product variation
as well as
meeting specifications**

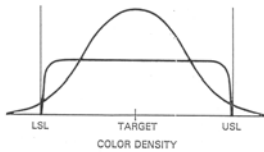
Definitions of Quality

Taguchi's focus



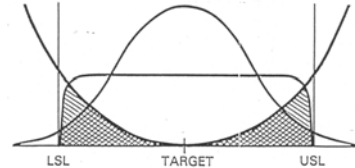
Definitions of Quality

Example



Definitions of Quality

Taguchi's "Loss Function"



Definition of Quality "Customer Satisfaction"

Transition of Terminology

Quality Control
Statistical Quality Control
Quality Assurance
Total Quality Management

Customer Satisfaction

Categories of "Products"

Goods
Services
Information (software)

Customer Satisfaction

Customers
(Stakeholders)

Internal Customers

External Customers

Customer Satisfaction

Internal Customer Satisfaction

competition vs. cooperation

[influence of performance evaluation systems]

Customer Satisfaction

External Customer Satisfaction

***Customer companies
and
Final users***

Customer Satisfaction

External Customer Satisfaction

***Supply Chain
transforming "external" to "internal"***

Customer Satisfaction

Vendor Relations

Partnering

Sharing of information

Customer Satisfaction

Opportunities and Constraints in a Global Market

Labor costs

***Cultural differences in both and
customers***

Logistics issues