Quality and the Changes in the “Business Culture”

Changes in the business culture have affected quality management philosophies.

The definitions of the “customer” has changed

Gryna - “anyone who is affected by the product or process”

Universal Process for Managing Quality

<table>
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<tr>
<th>Discipline</th>
<th>Example of contribution</th>
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<tr>
<td>Finance</td>
<td>Measuring the cost of poor quality</td>
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<tr>
<td>Industrial engineering</td>
<td>Design of integrated systems, measurement, problem solving, work analysis</td>
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<tr>
<td>Information technology</td>
<td>Measurement, analysis, and reporting on quality</td>
</tr>
<tr>
<td>Marketing research</td>
<td>Competitive standing on quality, understanding customer desires</td>
</tr>
<tr>
<td>Operations management</td>
<td>Management of integrated systems</td>
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<tr>
<td>Operations research</td>
<td>Analyzing product design alternatives for optimization</td>
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<td>Organizational behavior</td>
<td>Understanding quality culture, making teams effective</td>
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<td>Organizational effects</td>
<td>Identifying the needs of both internal and external customers</td>
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<tr>
<td>Systems engineering</td>
<td>Quality as a means of achieving a unique competitive advantage</td>
</tr>
<tr>
<td>Value engineering</td>
<td>Analysis of essential functions needed by customer</td>
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</table>
Global competition has changed the way companies must operate.

Logistics have become important part of quality equation:
- Delivery schedules are as important as production schedules.
- Requires adjustment by both labor and management.

Need to not only meet, but exceed, customer expectations.

Customer expectations have increased.
- Quality can “trump” price.
- Both for “end consumers” and “customer companies” in the supply chain.

“Participative” management
- “Quality circles” originated in Japan.
- Requires different level of training (both formal and job-related).

Just-in-time (JIT) production depends on quality products and quality logistics.

Relationship between inventory and quality:
- Focus on inventory = focus on quality.
Quality and the Changes in the “Business Culture”

Focus on the customer’s expectations

Changed by Japanese automobiles
Electronics industry
Change from warrantee service orientation to “no need for warrantee service”

View
“internal customers” differently
[supply chain orientation]

“Globalization” has changed the quality management landscape

Competition
Large labor rate differentials
Logistics (i.e., transportation issues)

Relationship of quality, productivity, costs and value in a lean production system

Traditional view - trade-off
Modern view - dependency
- Lean manufacturing
- waist reduction and quality

Relationship of quality, productivity, costs and value in a lean system

Basic concept of “lean manufacturing”
Reduce “waste”
Poor quality is the ultimate waste (time, material, profits)

Current Trends in Quality

International standards for quality (ISO)
ISO 9000 is a series of standards certifications
9000:2000
9001:2000
etc.
that address different parts of the quality system
Current Trends in Quality

International standards for quality (ISO)

Provides an “international reference” for quality management systems

Current Trends in Quality

International standards for quality (ISO)

ISO 14000 is a series of quality certifications 14000, 14020, 1462, etc.
That address environmental management systems

Current Trends in Quality

Quality Awards

Malcolm Baldrige National Quality Award

Congress established the award to raise awareness about quality management and to recognize U.S. companies that have successful quality management systems

Current Trends in Quality

Quality Awards

Deming Prize

created by the Union of Japanese Scientists and Engineers (JUSE) in 1950
To recognizes Japanese individuals and companies

Current Trends in Quality

Quality Awards

Ishikawa Medal

Established by the American Society for Quality (ASQ, previously ASQC)
Specifically addresses the “human aspect of quality”
Quality Awards

Ishikawa Medal

The Ishikawa Medal is awarded to an individual or a team whose work has had a major positive impact on the human aspects of quality.

Production Programs Related to Quality

Quality function deployment (QFD)

Product design process
Quality Function Deployment (QFD)
House of Quality

Quality Function Deployment (QFD)
House of Quality

Quality Function Deployment (QFD)
House of Quality

Quality Function Deployment (QFD)
House of Quality

Production Programs Related to Quality

Six-sigma programs
Individual certification programs
Focuses on process capability, variation, and “design for six-sigma”
[Discussed in detail later in the course]

Production Programs Related to Quality

Lean production
Focus on “reducing waist”
Quality issues are a primary source of “waist”
[Discussed in detail later in the course]

Production Programs Related to Quality

Necessities for Operators

Know what is “right”
Have ways (tools and knowledge) to determine if it is “right”
Be able (have both responsibility and authority) to change things to make it “right”