

# **The total quality approach to quality management**

Lecture 1

# What is Quality?

- Few consumers could define *quality* if asked, *all know* it when they see it. This makes the critical point that quality is in the eye of the beholder. With the total quality approach, customers ultimately define quality.
- People deal with the issue of quality continually in their daily lives. We concern ourselves with quality when we are grocery shopping, eating in a restaurant, and making a major purchase, such as an automobile, a home, a television, or a personal computer.

# What is Quality?

- To understand quality as a consumer-driven concept is to consider the example of eating at a restaurant.
- How will you judge the quality of the restaurant?  
Most people apply such criteria as the following:

<b>Service</b>	<b>Environment</b>
<b>Response time</b>	<b>Price</b>
<b>Food preparation</b>	<b>Selection</b>

# What is Quality?

- This example gets at one aspect of quality —the *results*. aspect. Does the product or service meet or exceed customer expectations?
- This is a critical aspect of quality, but it is not the only one. *Total quality is a much broader concept that encompasses not just the results aspect but also the quality of people and the quality of processes.*

# What is Quality?

- Quality has been defined in a number of different ways by a number of different people and organizations. Consider the following definitions

- Fred Smith, CEO of Federal Express, defines quality as “performance to the standard expected by the customer.”<sup>1</sup>
- The General Services Administration (GSA) defines quality as “meeting the customer’s needs the first time and every time.”<sup>2</sup>

- Boeing defines quality as “providing our customers with products and services that consistently meet their needs and expectations.”<sup>3</sup>
- The U.S. Department of Defense (DOD) defines quality as “doing the right thing right the first time, always striving for improvement, and always satisfying the customer.”<sup>4</sup>

# What is Quality?

- With these common elements extracted, the following definition of *quality* can be set forth:

*Quality* is a dynamic state associated with products, services, people, processes, and environments that meets or exceeds expectations and helps produce superior value.

# The total quality approach defined

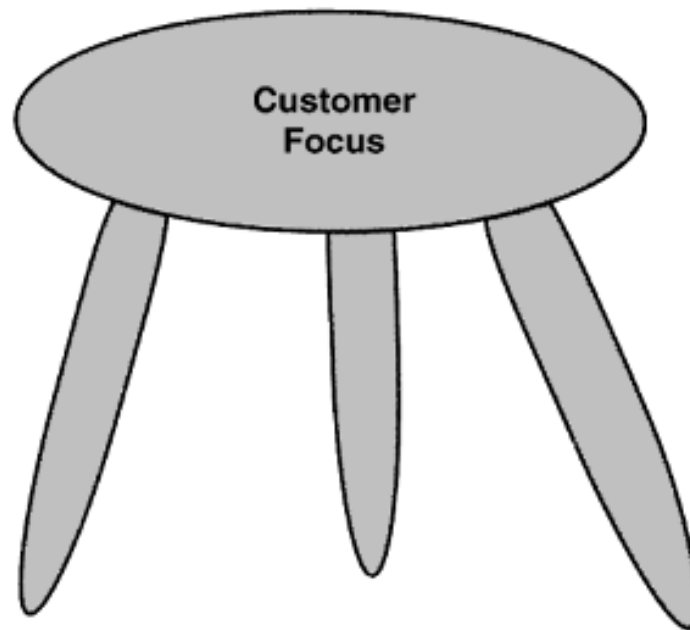
## **What It Is**

Total quality is an approach to doing business that attempts to maximize the competitiveness of an organization through the continual improvement of the quality of its products, services, people, processes, and environments.

## **How It Is Achieved**

The total quality approach has the following characteristics:

- Strategically based
- Customer focus (internal and external)
- Obsession with quality
- Scientific approach to decision making and problem solving
- Long-term commitment
- Teamwork
- Continual improvement of people, processes, products, services, and environments
- Education and training
- Freedom through control
- Unity of purpose
- Employee involvement and empowerment
- Peak performance as a top priority



### Measures

- Statistical process control
- Benchmarking
- Quality tools

### People

- Quality is built in
- Quality is expected, not inspected
- Employees are empowered

### Processes

- Continual improvement
- "Good enough" is never good enough

**FIGURE 1** Three-Legged Stool of Total Quality



# Two views of quality

Traditional view of quality	Total quality perspective
Performance in defective parts per hundred produced	Performance in defective parts per million produced
After-the-fact inspections of products	Continual improvement of products, processes, and people in order to prevent problems before they occur
Employees as passive workers who followed orders given by supervisors and managers.	Employees are empowered to think and make recommendations for continual improvement
One improvement per employee per year	10 or more improvements per employee per year
Focus on short-term profits	Focus on long-term profits and continual improvement

# The Deming Cycle

- The Deming Cycle was developed to link the production of a product with consumer needs and focus the resources of all departments (research, design, production, marketing) in a cooperative effort to meet those needs. The Deming Cycle proceeds as follows:
  1. Conduct consumer research and use it in planning the product (plan).
  2. Produce the product (do).
  3. Check the product to make sure it was produced in accordance with the plan (check).
  4. Market the product (act).
  5. Analyze how the product is received in the marketplace in terms of quality, cost, and other criteria (analyze).

# The Juran Trilogy

- The Juran Trilogy summarizes the three primary managerial functions. Juran's views on these functions are explained in the following sections.
  - *Quality Planning (target customers – needs- product – system - operation)*
  - *Quality Control (Assess, Compare and Act performance with goals)*
  - *Quality Improvement (Develop infrastructure – identify areas – project team – diagnose problems)*

# Quality Certifications

- In a competitive work environment, one of the ways that quality professionals can distinguish themselves, enhance their credibility, and improve their career potential is to become certified in an appropriate quality discipline.
- American Society for Quality (ASQ) offers certifications in a variety of disciplines, including ([www.asq.org/certification](http://www.asq.org/certification))

Manager of Quality  
Quality Engineer  
Reliability Engineer  
Software Quality Engineer  
Quality Auditor  
**Six Sigma Black Belt**  
**Six Sigma Green Belt**

Quality Technician  
Quality Improvement Associate  
Quality Inspector  
Quality Process Analyst  
**Hazard Analysis and Critical Point Auditor**  
Biomedical Auditor  
Pharmaceutical GMP Professional.