

# IE407 Total Quality Management

## Lecture 04

Instructor: Dr. Ali Ahmad

## Reminder: SA grade

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- ▶ 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



# Consequences of TQM Efforts

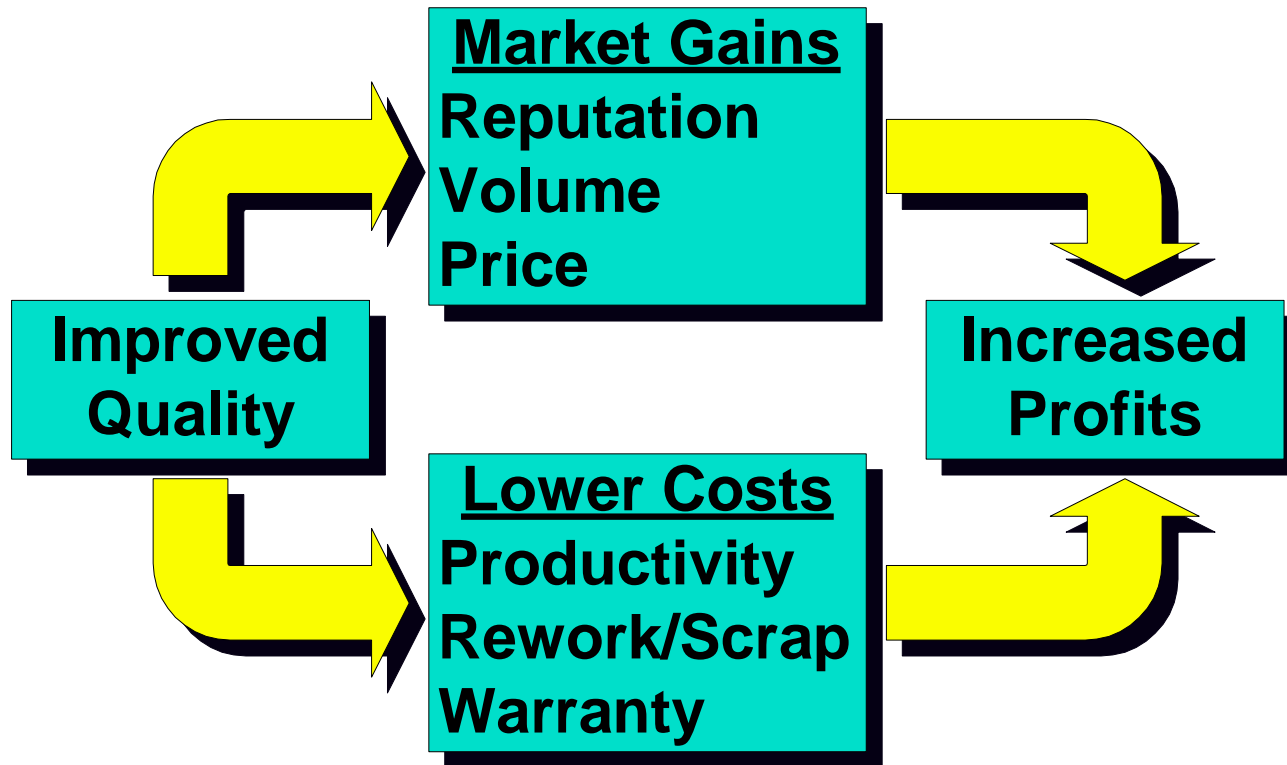
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- ❖ TQM efforts lead to good quality product / service which, in turn, increases productivity and lowers cost
- ❖ Higher quality and lower price improves the competitive position in the marketplace
- ❖ This makes achievement of profit and growth objectives easier with TQM efforts than without
- ❖ With job security, the workforce will find their work a source of satisfaction



# Quality Improvements Make Business Sense

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Source: Heizer & Render. Principles of Operations Management

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# TQM Requires a Cultural Change

**New and Old Cultures** (Table 1-1, p. 3)

<b>Quality Element</b>	<b>Previous State</b>	<b>TQM</b>
<b>Definition</b>	<b>Product-oriented</b>	<b>Customer-oriented</b>
<b>Priorities</b>	<b>Second to service and cost</b>	<b>First among equals of service and cost</b>
<b>Decisions</b>	<b>Short-term</b>	<b>Long-term</b>
<b>Emphasis</b>	<b>Detection</b>	<b>Prevention</b>
<b>Errors</b>	<b>Operations</b>	<b>System</b>
<b>Responsibility</b>	<b>Quality Control</b>	<b>Everyone</b>
<b>Problem Solving</b>	<b>Managers</b>	<b>Teams</b>
<b>Procurement</b>	<b>Price</b>	<b>Life-cycle costs, partnership</b>
<b>Manager's Role</b>	<b>Plan, assign, control, and enforce</b>	<b>Delegate, coach, facilitate, and mentor</b>



# TQM: More on the Web

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- ❖ You can read more about TQM on the following URLs
- ❖ <http://asq.org/learn-about-quality/total-quality-management/overview/overview.html>
- ❖ <http://webarchive.nationalarchives.gov.uk/20050302052419/http://www.dti.gov.uk/quality/pdfs/sections/TQM.pdf>
- ❖ <https://webarchive.nationalarchives.gov.uk/ukgwa/20050302172152/http://www2.dti.gov.uk/quality/>





# TQM Framework





# TQM Framework

## TOOLS AND TECHNIQUES

Benchmarking  
Information Technology  
Quality Management System  
Environmental Management System  
Quality Function Deployment  
Quality by Design  
Failure Mode & Effect Analysis  
Products & Service Liability  
Total Productive Maintenance  
Management Tools  
Statistical Process Control  
Experimental Design  
Taguchi's Quality Engineering

## GURUS

Shewhart  
Deming  
Juran  
Figenbaum  
Ishikawa  
Crosby  
Taguchi

## PRINCIPLES AND PRACTICES

### People and Relationships:

Leadership  
Customer Satisfaction  
Employee Involvement  
Supplier Partnership

### Approach:

Continuous Process Improvement

### Measure:

Performance Measures

## Product or Service Realization

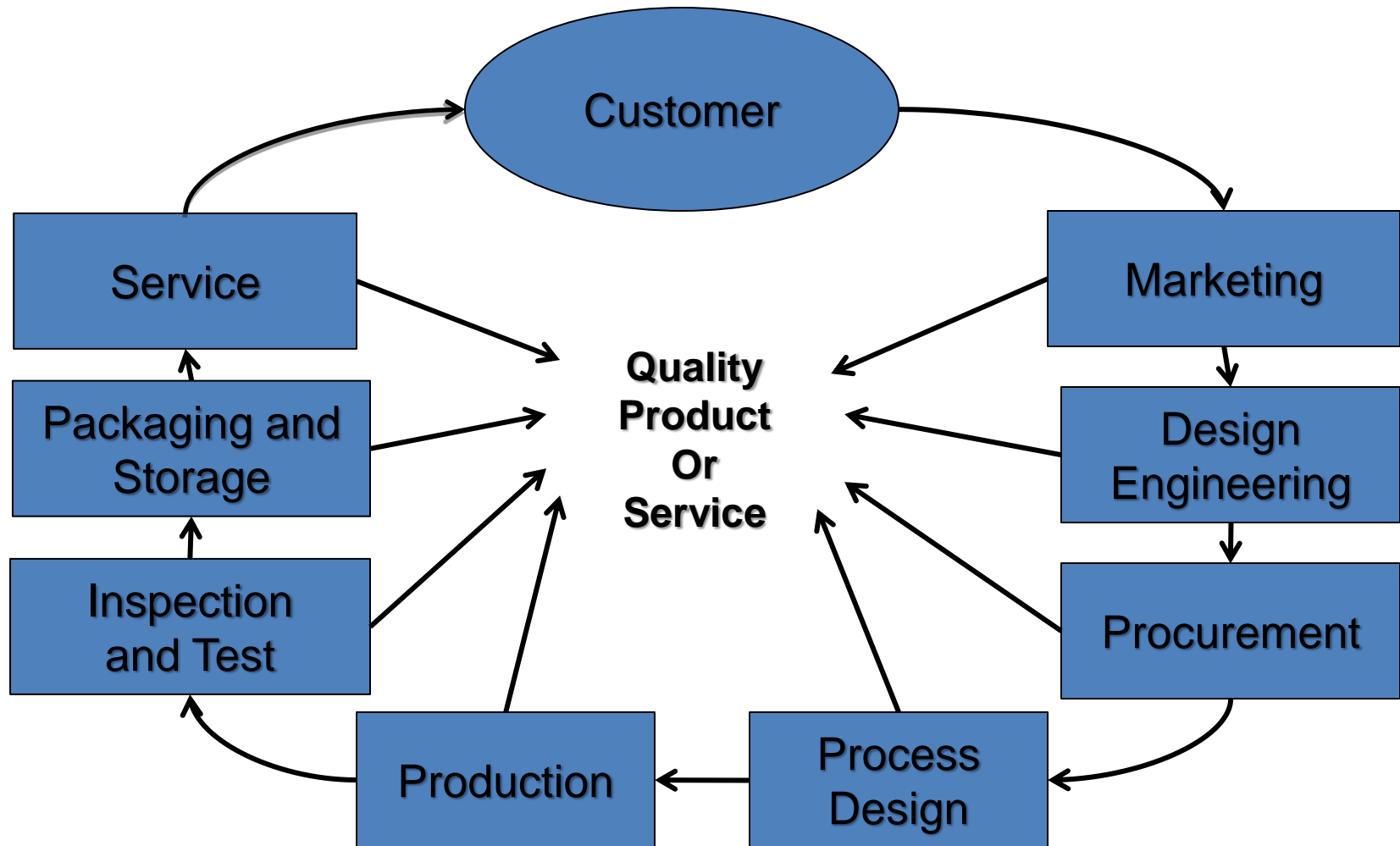
Customer



The following 4 slides are from  
Besterfield: Quality Improvement

# Responsibility for Quality

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# Responsibility for Quality - 2

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## ▶ Marketing

- ▶ Help to evaluate the level of product quality that a customer wants, needs, expects

## ▶ Design Engineering

- ▶ Translate the customer's requirements into operating characteristics, exact specifications, and appropriate tolerances

## ▶ Procurement

- ▶ Responsible for procuring quality materials and components

## ▶ Process Design

- ▶ Develops processes and procedures that will produce a quality product/service
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# Responsibility for Quality - 3

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- ▶ Production
  - ▶ Produce quality products and services
- ▶ Inspection and Test
  - ▶ Appraise the quality of purchased and manufactured items and to report the results
- ▶ Packaging and Storage
  - ▶ Preserve and protect the quality of the product
- ▶ Service
  - ▶ Fully realizing the intended function of the product during its expected life



# Chief Executive Officer (CEO)

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- ▶ The highest-ranking executive officer within a company or corporation
  - ▶ Has responsibility for overall management of its day-to-day affairs under the supervision of the board of directors
- ▶ He / She has the ultimate responsibility for quality
- ▶ Should spend 35% of his/her time on quality





## Besterfield Chapter 2: Leadership





# Leadership: Definition



# Leadership Defined

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❖ James MacGregor Burns says:

- ❖ A leader is one who instills purposes, not one who controls by brute force
- ❖ A leader strengthens and inspires the followers to accomplish shared goals
- ❖ Leaders:
  - ❖ Shape the organization's values
  - ❖ Promote the organization's values
  - ❖ Protect the organization's values
  - ❖ Exemplify the organization's values
- ❖ Leaders and followers raise one another to higher levels of motivation and morality





## Leadership for Quality: Behavioural Characteristics

# 12 Characteristics of Quality Leaders

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- ❖ They give priority attention to external and internal customers and their needs
- ❖ They empower, rather than control subordinates
- ❖ They emphasize improvement, rather than maintenance
- ❖ They emphasize prevention, rather than correction
- ❖ They encourage collaboration, rather than competition
- ❖ They train and coach, rather than direct and supervise



## 12 Characteristics of Quality Leaders - 2

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- ❖ They learn from problems
- ❖ They continually try to improve communications
- ❖ They continually demonstrate their commitment to quality
- ❖ They choose suppliers on the basis of quality, not price
- ❖ They establish organizational systems to support the quality efforts
- ❖ They encourage and recognize team effort



# Understanding Human Nature

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- ❖ Leadership requires an intuitive understanding of human nature:
  - ❖ People, paradoxically, need security and independence at the same time
  - ❖ People are sensitive to external rewards and punishments and yet are also strongly self motivated
  - ❖ People like to hear a kind word of praise
  - ❖ People can process only a few facts at a time
  - ❖ People trust their gut reaction more than statistical data
  - ❖ People distrust a leader's rhetoric if the words are inconsistent with the leader's actions



# References

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- ▶ Besterfield, Dale H. and others. 2019. *Total Quality Management*, 5th edition. Pearson India
- ▶ Besterfield, Dale H. *Quality Improvement*, 9<sup>th</sup> edition, Pearson

