UNIT 04

TOTAL QUALITY MANAGEMENT
AND
BUSINESS PROCESS REENGINEERING

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CONTENTS

• Prospective of quality of product and services
• Dimensions of quality
• Total Quality Management
• Seven tools of quality management
• Overview of business-process reengineering (BPR)
• Central tenets of BPR
• Characteristics of BPR
• Principles of BPR
WHAT IS QUALITY?

❖ What is quality?

“The totality of features and characteristics of a product or service that bears on its ability to meet a stated or implied need” [ISO, 1994]

“The ability of a product or service to reliably do what it’s supposed to do and to satisfy customer expectations.”

❖ Why is quality important?

✦ Continuous cost reduction and quality improvement
QUALITY DIMENSIONS

- Quality of Product
- Performance
- Feature
- Flexibility
- Durability
- Conformance
- Service-ability
- Aesthetics
- Perceived quality
QUALITY DIMENSIONS

Product quality dimensions:
1. Performance – operating characteristics
2. Feature – important special characteristics
3. Flexibility – meeting operating specifications over some period of time
4. Durability – amount of use before performance deteriorates
5. Conformance – match with pre-established standards
6. Serviceability – ease and speed of repair or normal service
7. Aesthetics – how a product looks and feels
8. Perceived quality – subjective assessment of characteristics (product image)
QUALITY DIMENSIONS

- Timeliness
- Accuracy
- Courtesy
- Completeness
- Convenience
- Consistency
QUALITY DIMENSIONS

Service quality dimensions:

1. **Timeliness** – performed in the promised period of time
2. **Courteousy** – performed cheerfully
3. **Consistency** – giving all customers similar experiences each time
4. **Convenience** – accessibility to customers
5. **Completeness** – fully serviced, as required
6. **Accuracy** – performed correctly each time
QUALITY GOALS

❖ ISO 9000
   ✧ A set of international standards on quality management and quality assurance, critical to international business

❖ Six Sigma
   ✧ One Sigma: 2/3 whatever measured meet quality standard
   ✧ Two Sigma: 95% whatever measured meet quality standard
   ✧ Six Sigma: 3.4 defects per million units or procedures
TOTAL QUALITY MANAGEMENT
THE EVOLUTION OF TQM

<table>
<thead>
<tr>
<th>TIME</th>
<th>Early 1900s</th>
<th>1940s</th>
<th>1960s</th>
<th>1980s and Beyond</th>
</tr>
</thead>
<tbody>
<tr>
<td>FOCUS</td>
<td>Inspection</td>
<td>Statistical sampling</td>
<td>Organizational quality focus</td>
<td>Customer driven quality</td>
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Old Concept of Quality: Inspect for quality after production.

New Concept of Quality: Build quality into the process. Identify and correct causes of quality problems.

Quality Gurus
# The Evolution of TQM

<table>
<thead>
<tr>
<th>Quality Guru</th>
<th>Main Contribution</th>
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<tbody>
<tr>
<td>Walter A. Shewhart</td>
<td>- Contributed to understanding of process variability.</td>
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<tr>
<td></td>
<td>- Developed concept of statistical control charts.</td>
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<tr>
<td>W. Edwards Deming</td>
<td>- Stressed management’s responsibility for quality.</td>
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<td></td>
<td>- Developed “14 Points” to guide companies in quality improvement.</td>
</tr>
<tr>
<td>Joseph M. Juran</td>
<td>- Defined quality as “fitness for use.”</td>
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<tr>
<td></td>
<td>- Developed concept of cost of quality.</td>
</tr>
<tr>
<td>Armand V. Feigenbaum</td>
<td>- Introduced concept of total quality control.</td>
</tr>
<tr>
<td>Philip B. Crosby</td>
<td>- Coined phrase “quality is free.”</td>
</tr>
<tr>
<td></td>
<td>- Introduced concept of zero defects.</td>
</tr>
<tr>
<td>Kaoru Ishikawa</td>
<td>- Developed cause-and-effect diagrams.</td>
</tr>
<tr>
<td></td>
<td>- Identified concept of “internal customer.”</td>
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<tr>
<td>Genichi Taguchi</td>
<td>- Focused on product design quality.</td>
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<td></td>
<td>- Developed Taguchi loss function.</td>
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</tbody>
</table>
TQM is a philosophy of management that is driven by customer needs and expectation and that focuses on continual improvement in work process.

The objective of TQM:

“...to create an organisation committed to continuous improvement”
**WHAT IS TQM?**

<table>
<thead>
<tr>
<th>Concept</th>
<th>Main Idea</th>
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</thead>
<tbody>
<tr>
<td>Customer focus</td>
<td>Goal is to identify and meet customer needs.</td>
</tr>
<tr>
<td>Continuous improvement</td>
<td>A philosophy of never-ending improvement.</td>
</tr>
<tr>
<td>Employee empowerment</td>
<td>Employees are expected to seek out, identify, and correct quality problems.</td>
</tr>
<tr>
<td>Use of quality tools</td>
<td>Ongoing employee training in the use of quality tools.</td>
</tr>
<tr>
<td>Product design</td>
<td>Products need to be designed to meet customer expectations.</td>
</tr>
<tr>
<td>Process management</td>
<td>Quality should be built into the process; sources of quality problems should be identified and corrected.</td>
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<tr>
<td>Managing supplier quality</td>
<td>Quality concepts must extend to a company’s suppliers.</td>
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</table>
SEVEN TOOLS OF QUALITY

1. Cause-and-Effect Diagram
   - Suppliers, Workers, Machines
   - Environment, Process, Material
   - Quality Problems

2. Flowchart
   - Step-by-step process diagram

3. Checklist
   - Defect Type | No. of Defects | Total
   - Broken zipper | /\ /\ /\ | 3
   - Ripped material | /\ /\ /\ /\ /\ | 7
   - Missing buttons | /\ /\ /\ /\ | 3
   - Faded color | /\ /\ | 2

4. Control Chart
   - UCL
   - LCL

5. Scatter Diagram
   - X-axis: X
   - Y-axis: Y
   - Data points

6. Pareto Chart
   - Defects A through E with percentage
   - Frequency distribution

7. Histogram
   - Frequency distribution
   - Categories A through E
Vision, Mission, Values, Plans

Management Commitment

Employment Commitment

Innovation

Continually Improve Processes

Deliver Greater Perceived Value

Delighted Customers

Increased Market Share

Revenue Growth

Delighted Shareholders

Improved margins

Improved Asset Utilisation

Improved Competitive Position

Reduced Waste

Greater Productivity

Lower Costs
WHAT IS BUSINESS PROCESS REENGINEERING?

- A **process** is a specific ordering of work activities across time and space, with a beginning, an end, and clearly identified inputs and outputs: a structure for action.

- A **business process** is defined as a set of activities that, taken together, produce a result of value to a customer, or add value to something else.

  Davenport (1993)
DETAILED GENERIC VALUE CHAIN OF THE BANKING INDUSTRY

Marketing
- Advertising
- Branding
- Sales Support

Sales
- Acquisition
- Offering
- Multichannel Management

Products
- Funding
  - Deposits
  - Securitization
  - Credits
- Investment
  - Credits
  - Securities
  - Fin. Products
  - Corp. Invest.
  - Other assets
- Services
  - Acct. Mgmt.
  - Asset Mgmt.
  - Issuance/IPO
  - M & A
  - Advis. Serv.
  - Other Serv.

Transactions
- Payments
- Trading
- Clearing & Settlement
- Custody

Risk Management

Technology Development

Human Resources

Firm Infrastructure
EXAMPLE OF BUSINESS PROCESS

- Need analysis
- Draft contract and document for tender
- Supplier selection
- Contract draw up
- Goods and services supply
- Probable case and liberation with supplier
- Payment
WHAT IS BUSINESS PROCESS REENGINEERING?

- ... the analysis and design of workflows and processes within and between organisations.

- Business activities should be viewed as more than a collection of individual or even functional tasks; ...they should be broken down into processes that can be designed for maximum effectiveness, in both manufacturing and service environment.

  Davenport (1993),
WHAT IS BUSINESS PROCESS REENGINEERING?

- BPR is the fundamental thinking and radical redesign of business processes to achieve dramatic improvement in critical, contemporary measures of performance such as cost, quality, service and speed.

Hammer and Champy (1993)
EXAMPLE OF BPR

Traditional Process of Goods and Services Procurement:

- Needs analysis
- Draft of contract and documents for tender
- Supplier selection
- Contract draw up
- Goods and services supply
- Probable case and liberation with supplier
- Payment

New Process of Goods and Services Procurement:

- Needs analysis
- On Line Order
- Goods and services supply
- Payment
THREE REASONS FOR UNDERTAKING BPR

- Cost reduction

- Renewed competitiveness
  - To achieve parity or “best in class”

- Competitive dominance
TQM VERSUS REENGINEERING

TQM

- Continuous, incremental change
- Fixing and Improving
- Mostly “as is”
- Works from bottom up in organisation

REEENGINEERING

- Radical change
- Re-designing – starting again
- Mostly “what can be”
- Initiated by top management
CENTRAL TENETS OF BPR

- Radical change and assumption challenge;
- Process and goal orientation;
- Organisational restructuring;
- The exploitation of enabling technologies, particularly information technology.
A COMPANY’S JOURNEY TO PROCESS-ORIENTED IMPROVEMENT

TIME

Tactical (JIT, TQM)

Strategic (BPR)
TYPES OF BRP

- **Type 1: Cost improvement**
  - Dramatic cost reductions in non-core processes (cost-reduction-focus)

- **Type 2: To achieve parity or “best in class”**
  - Reengineer core processes to attain competitive parity (competitive focus)

- **Type 3: To effect a BreakPoint**
  - Rewriting the rules and create the new definition of best in class
CHARACTERISTICS OF REENGINEERED PROCESSES

- Several jobs are **combined** into one
- Workers make decision
- The steps in the process are performed in a natural order
- Processes have multiple versions
- Work is performed where it makes the most sense
- Checks and controls are reduced
- Reconciliation is minimised
- Single point of contact
BUSINESS PROCESSES REENGINEERING

1. Develop Vision and Objectives
2. Understand Existing Processes
3. Identify Process for Re-design
4. Identify Change Levers
5. Implement the New Process
6. Make New Process Operational
7. Evaluate the New Process
8. Ongoing Continuous Improvement

Source: Vakola et al. (1998)
PRINCIPLES OF BPR

1. Organize around outcomes, not tasks.

2. Identify all the processes in an organization and prioritize them in order of redesign urgency.

3. Integrate information processing work into the real work that produces the information.

4. Treat geographically dispersed resources as though they were centralized.

5. Link parallel activities in the workflow instead of just integrating their results.

6. Put the decision point where the work is performed, and build control into the process.

7. Capture information once and at the source.

RADICAL
Not Incremental
THE EFFECTIVENESS OF BPR

The effectiveness of BPR depends on a few factors:

- The relevance or obsolescence of current business processes
- The ability and experience of those performing BPR
- The type of technological innovations available today
OUTSOURCING
REASONS FOR OUTSOURCING

- primarily outsource to reduce costs
IMPEDIMENTS TO OUTSOURCING

- Reluctance to lose control and flexibility
- A given function is too critical to outsource
- Anticipated negative reaction by customers
- Employee resistance
MANAGING THE RELATIONSHIP

Effective management of vendors is based on these 10 principles:

1. **Maintain strategic responsibility** — Operational issues must be handled at various levels, but do not delegate the alignment of your firm’s interests with its vendor/supplier. Making sure that the relationship works is a job for a top executive.

2. **Create multiple organizational links** — Promote them at every level of the company.

3. **Hold regular meetings** — Get together periodically to iron out any issues.

4. **Employ technology** — Use the Internet, e-mail and such tools in management.

5. **Define escalation processes** — Everyone should know the processes to be followed when issues need to be elevated to higher levels.

6. **Use a scorecard** — Define and apply metrics that will gauge success.

7. **Apply carrots and sticks** — Motivate employees with fair incentives and penalties.

8. **Reward your vendor’s employees** — Without becoming a co-employer, find ways to motivate and recognize the employees of your outsourcing partner.

9. **Define the change process** — How will both firms address the need for change?

10. **Honor the relationship** — Carefully manage, respect and nurture the outsourcing relationship. It is a strategic asset for your company.