Chapter 1

Operations as a Competitive Weapon

What is a Process?

- **Processes: definition, examples**
  - Ad agency
  - As aggregate process
  - Detailed processes, each with inputs and outputs
  - Manufacturing — physical, chemical
  - Airline — locational
  - School — educational
  - Store — exchange
  - Theater — attitudinal
  - Distribution center — break shipping quantities
  - Hospital — physiological
  - Congress — deliberative

Process View of an Ad Agency

What is a Process?

- **Nested processes: process within a process**
  - Interconnectivity within a business
  - Nature of each process’s inputs and outputs

- **Customer-Supplier Relationships**
  - External customers
  - Internal customers
  - External suppliers
  - Internal suppliers

Nested Processes

Support processes

Internal Value-Chain Linkages Showing Work and Information Flows
Support Processes

Table 1.1 Examples of Support Processes

<table>
<thead>
<tr>
<th>Category</th>
<th>Description</th>
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</thead>
<tbody>
<tr>
<td>Capital Acquisition</td>
<td>The provision of financial resources for the organization to do its work and to execute its strategy</td>
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<tr>
<td>Budgeting</td>
<td>The process of deciding how funds will be allocated over a period of time</td>
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<tr>
<td>Human Resource Support and</td>
<td>The preparation of the people for their current jobs and future skill needs</td>
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<tr>
<td>Development</td>
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<tr>
<td>Regulatory Compliance</td>
<td>The process that ensures the company is meeting all laws and legal obligations</td>
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<tr>
<td>Information Systems</td>
<td>The movement and processing of data and information to expedite business operations and decisions</td>
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<tr>
<td>Enterprise and Functional</td>
<td>The systems and activities that provide strategic direction and ensure effective execution of the work of the business</td>
</tr>
<tr>
<td>Management</td>
<td></td>
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</tbody>
</table>

Types of OM Decisions

- **Strategic choices**
- New Processes
- Quality
- Value Chains
- Operating Decisions
  - Process Management
  - Project Management
  - Inventory
  - Scheduling

Value Chains

- **Definition**: Interrelated series of processes that produces a good or service
- Interconnectedness of processes to business performance
- Type of processes in the value chain
  - Core process: directly involved in the service or product for the external customer
  - Customer relationship process
  - New service/product development process
  - Order fulfillment process
  - Supplier relationship process
  - Support process: provides key resources, capabilities, or other inputs that allow core processes to function

What is a Process?

- **Service and Manufacturing Processes**
- Nature of output and degree of customer contact
- Differences and similarities
- Ratio of service to manufacturing jobs
- Services related to the underlying products
- Key issues in service and manufacturing processes
  - Process design
  - Quality
  - Productivity
  - Capacity
  - Staffing levels
  - Forecasting
  - Location and layout
  - Inventory of outputs and/or inputs

Operations Management as a Function

- Accounting
- Distribution
- Engineering
- Operations

- Finance
- Human resources
- Marketing

Operations Management

- **Def’n**: The systematic design, direction, and control of processes that transform inputs into services and products for internal as well as external customers.
- Underlies all departments in a business because departments are composed of many processes.
- Operations Management as a Function
  - Responsibilities of each function
  - OM draws from several disciplines
  - Operations management as a set of decisions
  - Basic decision-making steps
  - Strategic and tactical decisions
**Operations Management**

- Strategic decisions: examples
  - Development of new capabilities
  - Maintenance of existing capabilities
  - Design of new processes
  - Development and organization of value chains
  - Key performance measures (e.g., cost, quality)
- Tactical decisions: examples
  - Process improvement and performance measurement
  - Management and planning of projects
  - Generation of production and staffing plans
  - Inventory management
  - Resource scheduling

**Trends/Challenges in OM**

- Rapid technological change
  - Technological change is a source of competitive advantage as well as a challenge.
  - How can technology be used to its greatest advantage?
  - How must processes be redesigned?
  - Robotics and the Internet.
- Global competition
  - Viewing operations in global terms
  - Global competition in its greatest advantage
  - How must processes be redesigned?

**Ethical, and workforce diversity issues**

- Ethical, and workforce diversity and environmental issues
  - Decisions about the design and operations of production systems consider the environment, ethics, and workplace diversity issues
  - Examples: oil spills, use of Styrofoam packaging, tobacco, drinking water, global warming

**Competitive Operations**

- Competing with operations
  - Process view of business
  - Value chains
  - Operations strategy: link operating characteristics of processes to strategies and objectives of the firm.
  - Process design strategy
- Designing and improving processes
  - Systematic approach to process analysis
  - Process performance and quality
    - TQM
    - Six-Sigma
    - Process capacity
    - Process layout
    - Planning and managing projects

**Operations Roadmap**

- Designing value chains
  - Supply chain design
  - Location
  - Lean systems
- Operating value chains
  - Information technology and value chains
  - Aggregate planning
  - Inventory management
  - Resource planning
  - Scheduling
- Outcomes
  - The services or products the firm produces
  - The rewards the firm receives from the marketplace
  - Feedback from external customers
  - Performance measures
  - Financial measures
  - Customer perceptions
OM Across the Organization

• Operations management as an inter-functional imperative
  – Cross-functional coordination
    • Interdependent functions require coordination
    • Strongest connection with marketing
    • Accounting provides operations performance feedback
    • Finance influences investments
    • Human resources recruit and train personnel
    • Engineering design should match operation’s capabilities
  – Achieving cross-functional coordination
    • Unified strategy, department vision
    • Aligned organizational structure guided by a process view
    • Reward systems consistent with cross-functional goals
    • Decision support information systems
    • Informal social systems
    • Employee selection and promotion

OM Across the Organization

• Operations management as a competitive weapon
  – Operations can be either a competitive weapon or a millstone.
  – Meeting the competitive challenge at selected firms
    • Examples in text include Continental Airlines, GTE Corporation, Merlin Metalworks, and Sharp Corporation