CHAPTER

2

Information Systems in Organizations

Strategic Information Systems

- Strategy
  - A plan designed to help an organization gain a competitive advantage
- Strategic Information Systems
  - Information systems that help accomplish a strategy

Achieving a Competitive Advantage

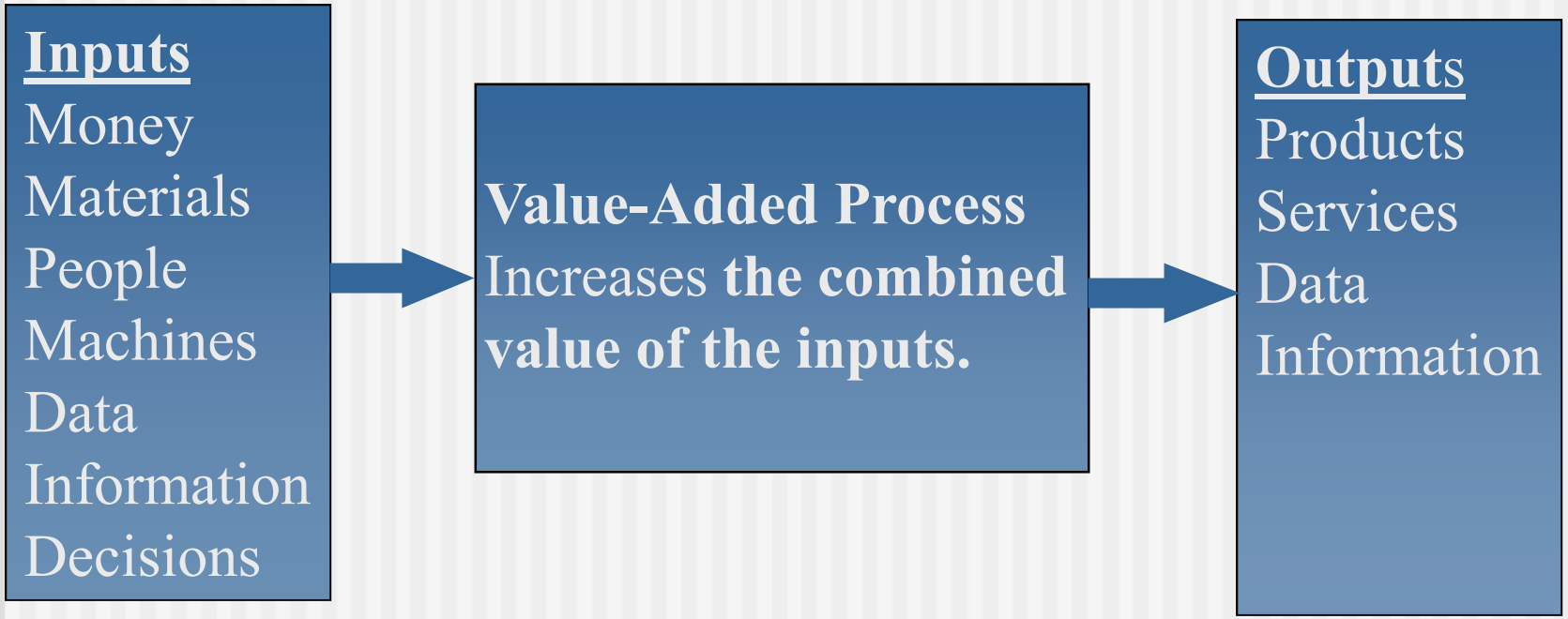
- The essence of strategy is innovation, so competitive advantage often occurs when an organization tries a strategy that no one has tried before.
  - e.g. Dell was the first PC manufacturer to use the Web to take customer orders.

The Value Chain

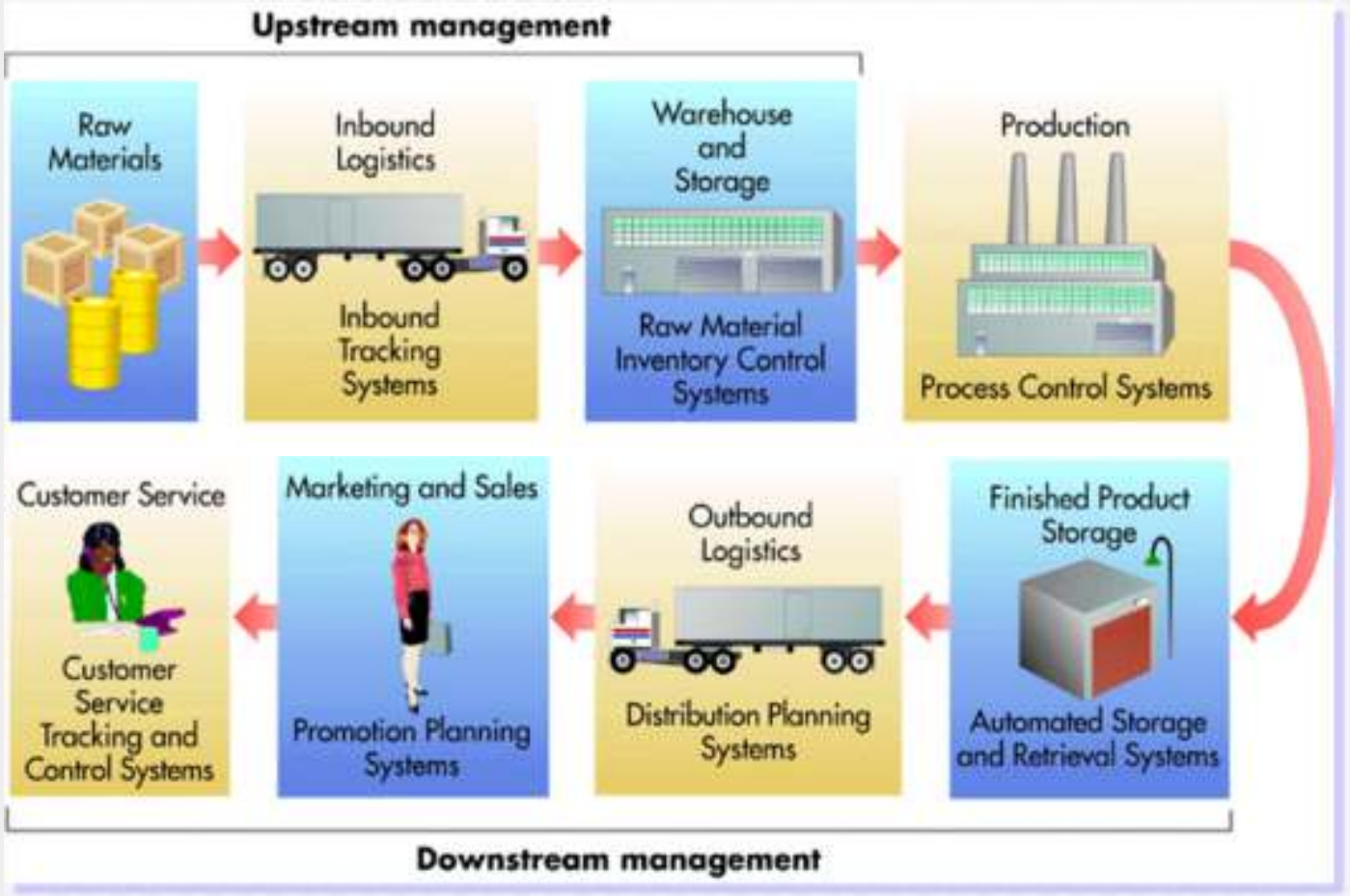
Michael Porter

- A series or “chain” of basic activities that add value to a firm’s products or services
- Critical leverage points where information technology can enhance a firm’s competitive position

The Value-Added Process



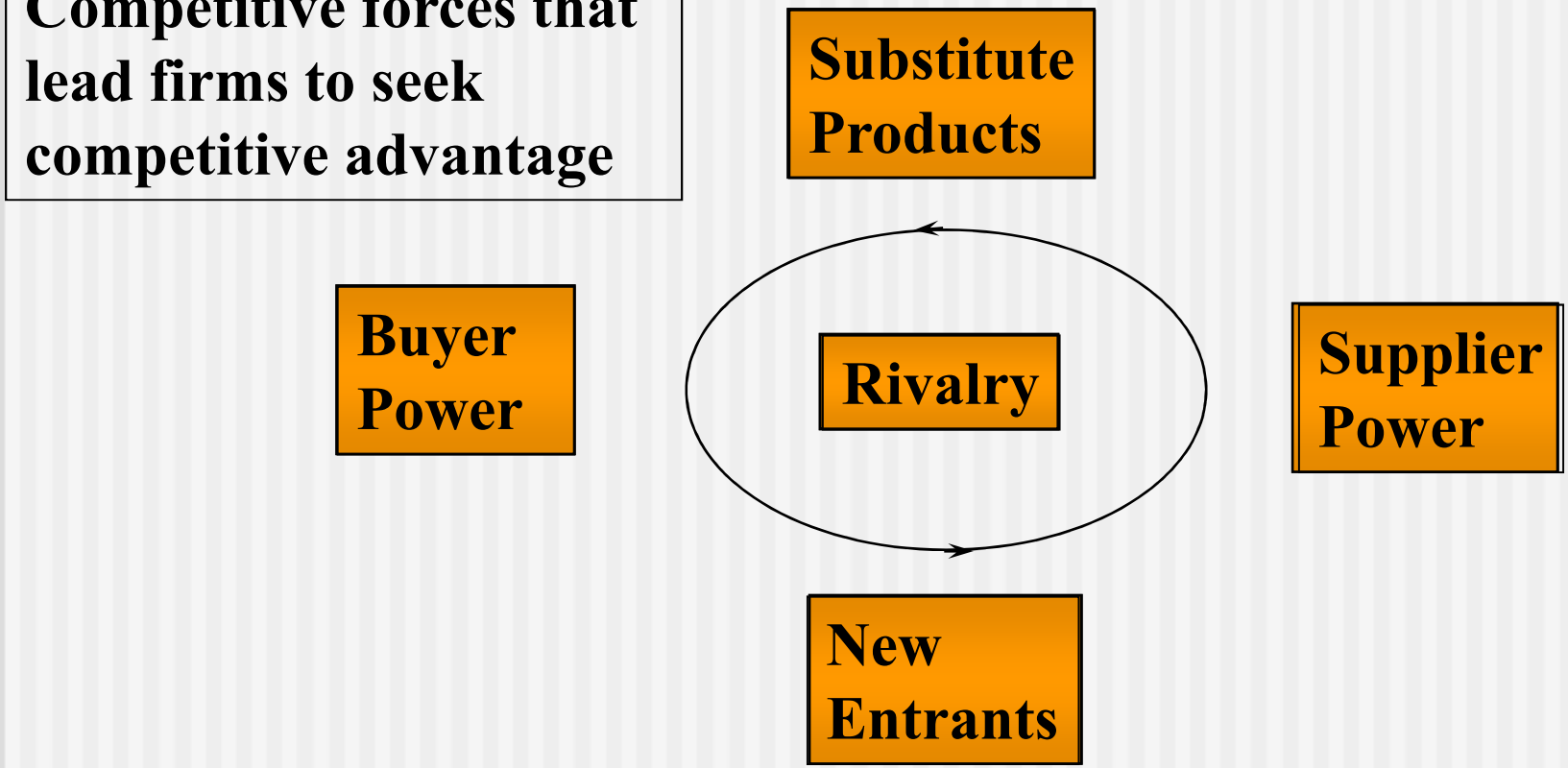
The Value Chain



What value can IT add at each step in the Value Chain?

Five-Force Model

Competitive forces that lead firms to seek competitive advantage



Ways to Achieve a Competitive Advantage

- Reduce costs
  - Automation of a business process
    - Transaction processing
    - Online customer service
    - Factory robotics
- Raise barriers to entry
  - Legal protection of intellectual property
  - High cost of entry

Ways to Achieve a Competitive Advantage

- Establish high switching costs
  - Penalties for terminating contracts
  - Software re-training
- Create new products and services
  - Copyright protection
  - Continuous innovation

Ways to Achieve a Competitive Advantage

- Differentiate products and services
  - Branding
  - First to market
- Enhance products and services
  - Longer warranties, more information
  - Better service

Ways to Achieve a Competitive Advantage

- Establish alliances
  - Bundling products
  - Rewards programs
  - Outsourcing
- Lock in suppliers or customers
  - Purchasing volume
  - Create a standard

Ways to Achieve a Competitive Advantage

- Potentially winning business moves

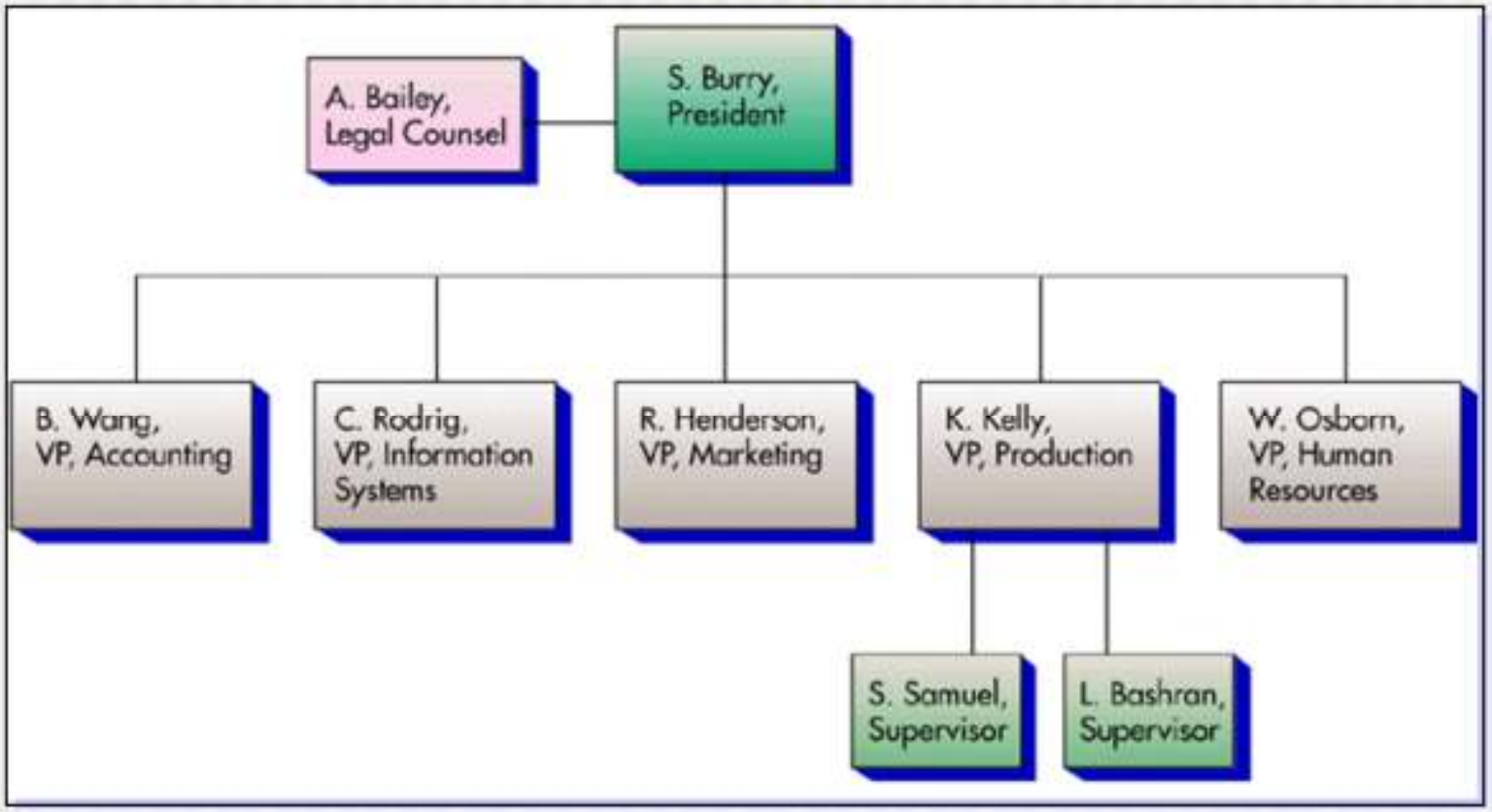
PLUS

- Ideas for harnessing technology to implement those moves

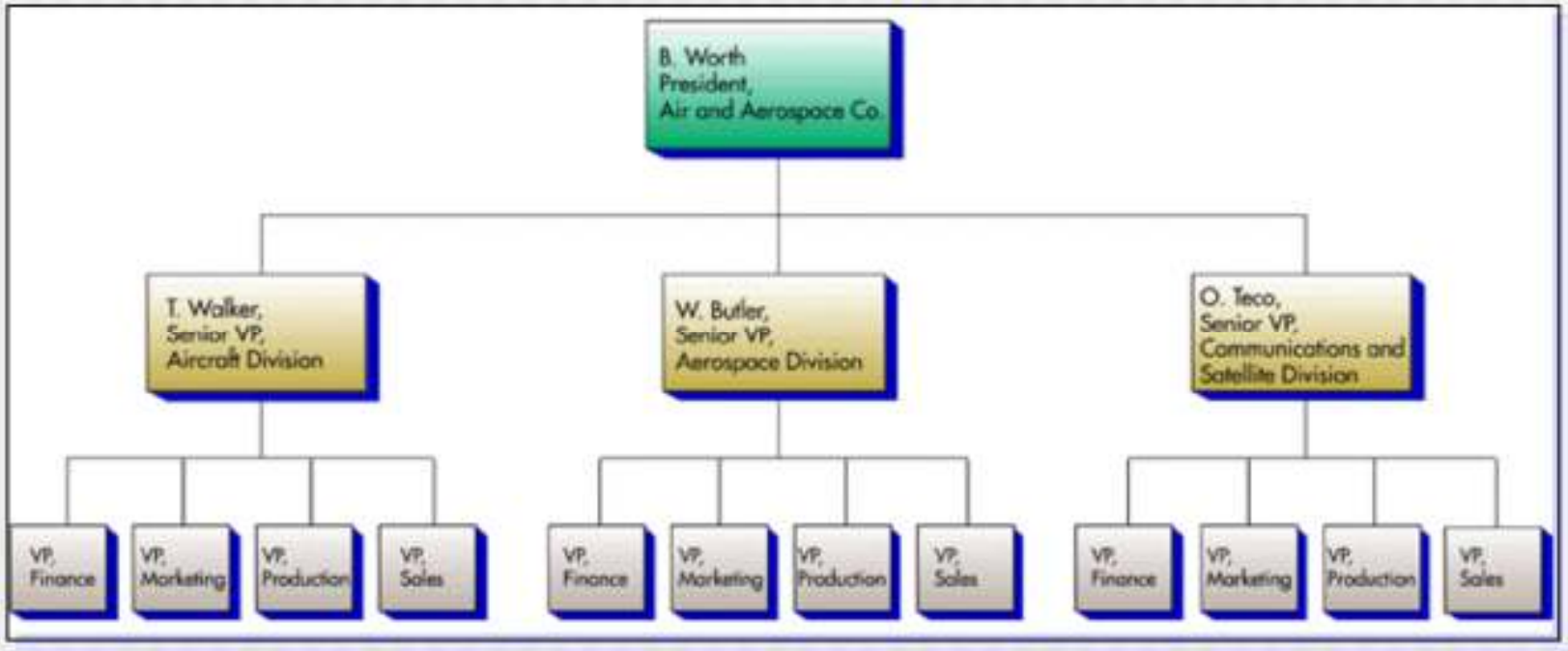
Organizational Structures

- An organization’s structure can have an impact on how information systems are viewed and what kind are used:
  - Hierarchical
  - Project/Product
  - Team
  - Multidimensional

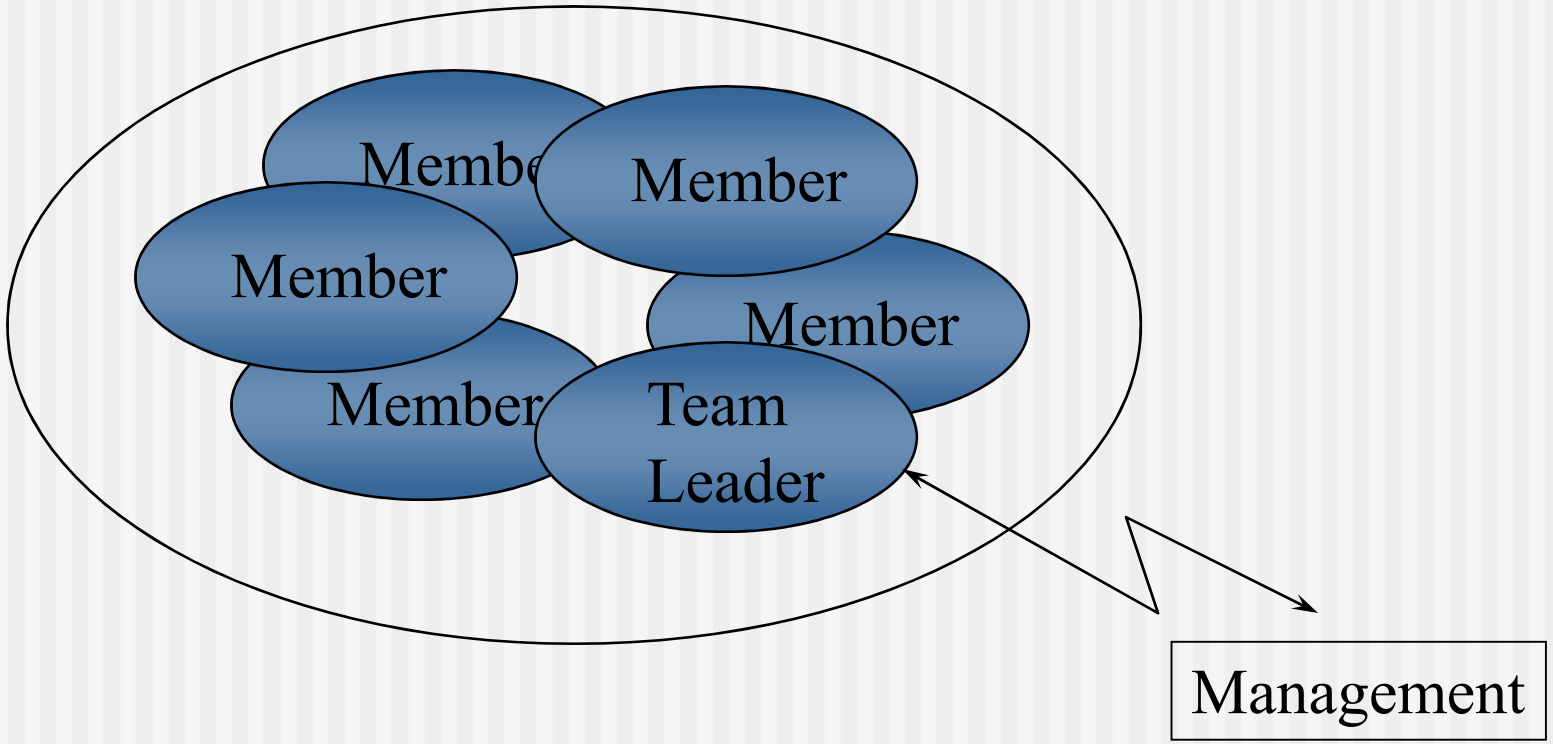
Traditional Organizational Structure



Project Organizational Structure



Team Organizational Structure



Multidimensional (Matrix) Organizational Structure

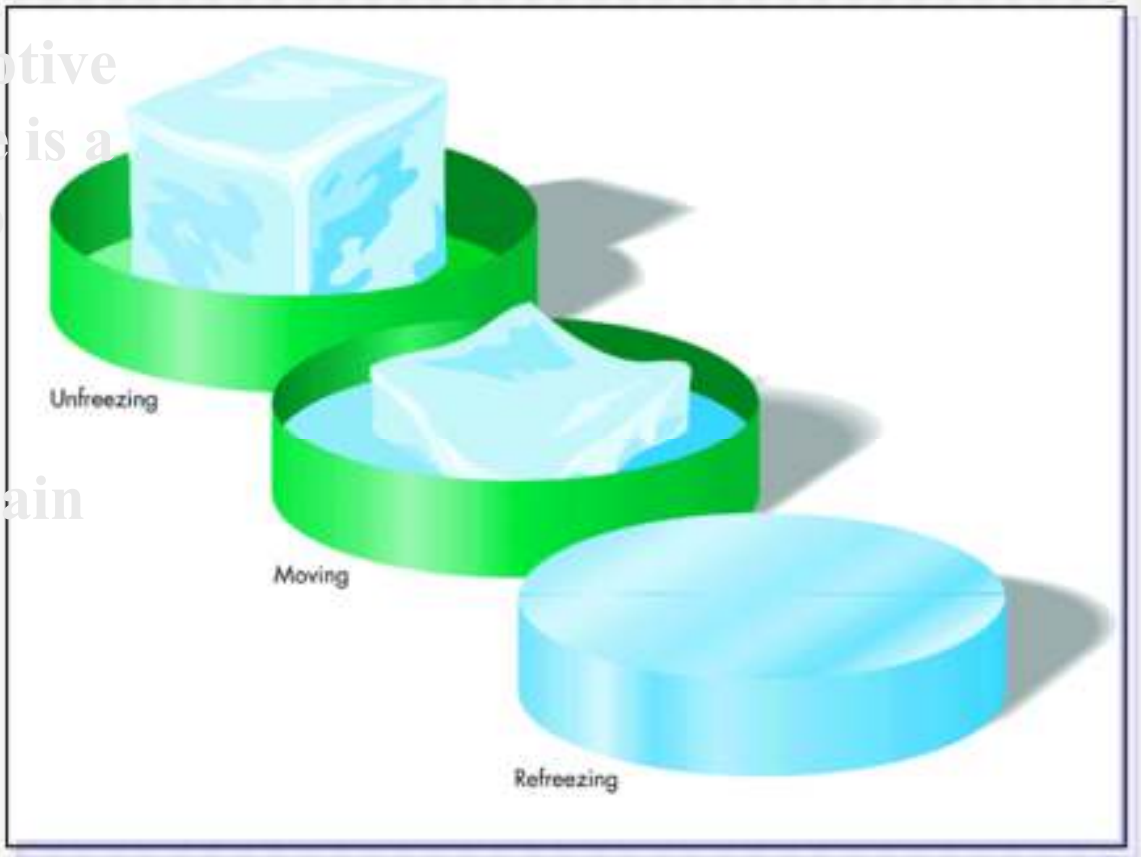
	Vice President, Marketing	Vice President, Production	Vice President, Finance
Publisher, College Division	Marketing Group	Production Group	Finance Group
Publisher, Trade Division	Marketing Group	Production Group	Finance Group
Publisher, High School Division	Marketing Group	Production Group	Finance Group

Organizational Culture & Change

- Organizational Culture
  - Set of shared beliefs and assumptions
- Organizational Change
  - A process that alters the way an organization functions
  - Often associated with new IS

Organizational Change

Lewin & Schein



Reengineering

- The radical redesign of business processes to achieve a significant breakthrough in business results
  - Delivery time
  - Product & service quality
  - Costs, revenue & productivity

Reengineering

- Employee resistance
- Employees must understand benefits
- Old rules must be challenged

  Examples
  - Size of orders
  - Credit approval
  - Decision-making level

Reengineering

- Examples of reengineering initiatives
  - Simplifying work processes
  - Combining several jobs into one
  - Outsourcing ancillary processes
  - Entering new business areas
  - Establishing new management structures
  - Renovating technology systems

Reengineering vs. Continuous Improvement

- Strong action to solve serious problems
- Top-down-driven by senior executives
- Broad in scope; cuts across organizations
- Goal is to achieve a major breakthrough
- Routine actions to make minor improvements
- Worker driven
- Narrow in scope; focus in a given area
- Goal is continuous, gradual improvement

Total Quality Management

- Company-wide effort to add more value
  - Keen awareness of customer
  - Strategic vision for quality
  - Empowerment of employees
  - Rewards for high quality

Outsourcing

- Contracting with outside professional services to meet specific business needs.
  - Focus on core business
  - Save money

Downsizing

- Reducing the number of employees to cut costs

Performance-Based Information Systems

- Productivity
  - A measure of the output achieved divided by the input required.
- Return on Investment
  - Profit or benefit as a percentage of investment
- Earnings Growth
- Market Share
- Customer Awareness & Satisfaction
- Total Cost of Ownership

Identifying Risks

- How well are requirements understood?
- Does the project require pioneering effort?
- Is there a risk of severe business repercussions?

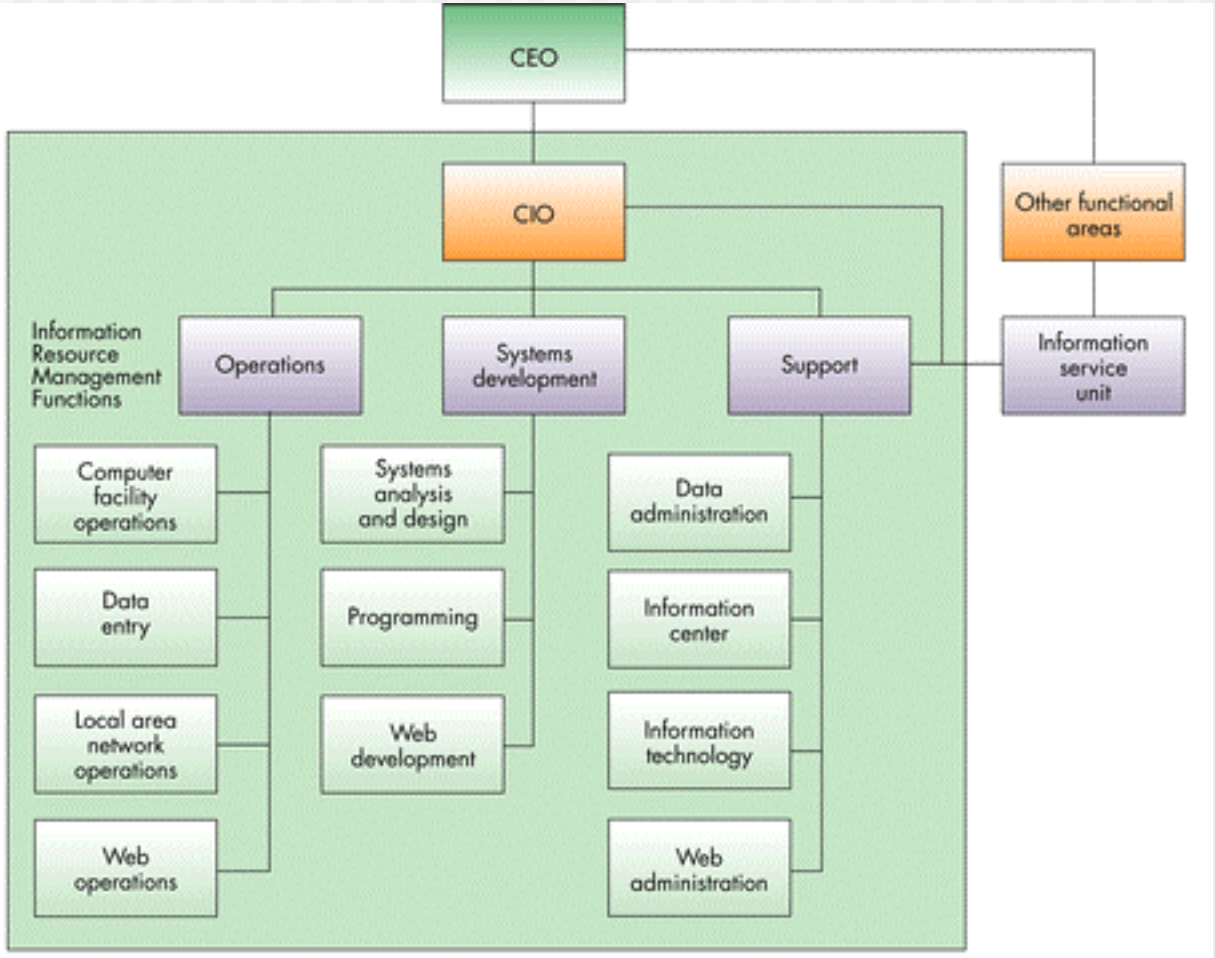
Leading Edge vs. Bleeding Edge

- Bleeding Edge: When failure occurs because an organization tries to be too far out on the technological leading edge
  - Time-Warner's Pathfinder portal
- Leading Edge: Let competitors test the new technology first
  - Microsoft Word, Excel, Access, IE

Justifying IS

- Tangible savings (reduced costs)
- Intangible savings (better decisions)
- Legal requirements (reports)
- Modernization (Y2K, new apps)
- Pilot project (laptops)

Roles and Functions in the IS Department



Homework

- Read articles about Buffet & Gates
- Subscribe to ListProc this week