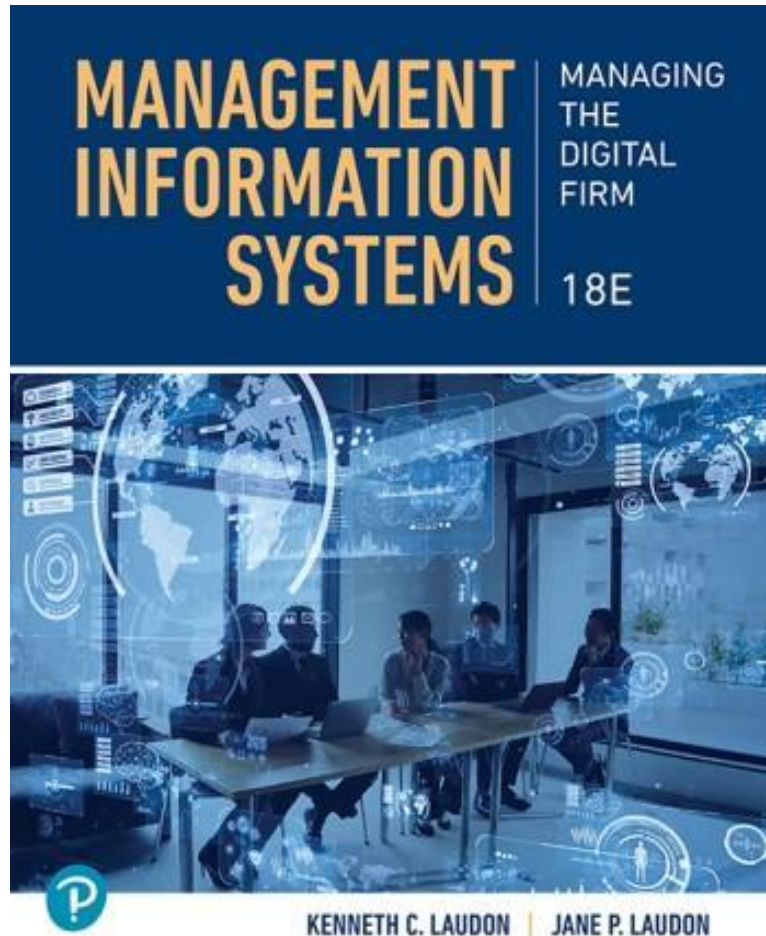


Management Information Systems: Managing the Digital Firm

Eighteenth Edition



Chapter 3

Information Systems, Organizations, and Strategy

Learning Objectives (1 of 2)

3.1 Discuss technical and behavioral views of organizations.

3.2 Discuss features of organizations that affect information systems.

3.3 Describe the impact of information systems on organizations.

3.4 Discuss Porter's competitive forces model.

3.5 Discuss the value chain model.

Learning Objectives (2 of 2)

3.6 Discuss synergies, core competencies, and network economics.

3.7 Understand how AI can be used in competitive strategy.

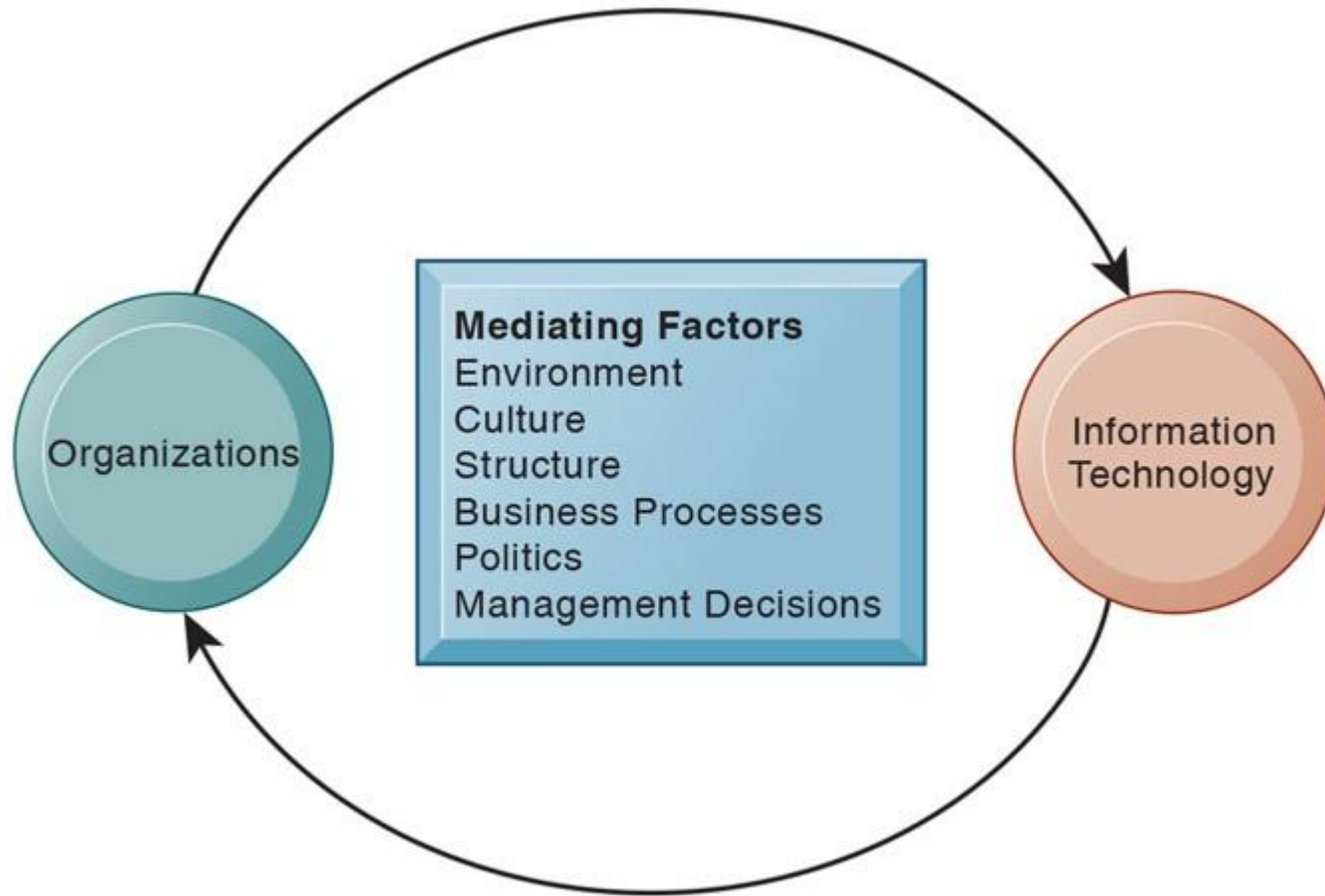
3.8 Describe the challenges posed by strategic information systems.

3.9 Understand how the information in this chapter can help your career.

Discuss Technical and Behavioral Views of Organizations (1 of 2)

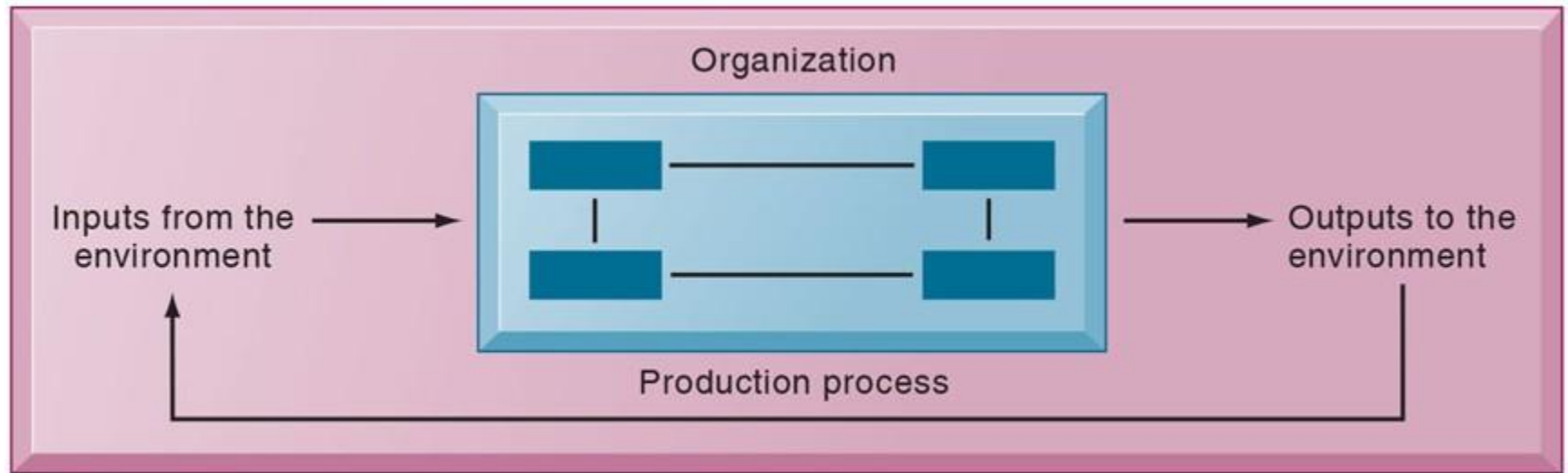
- What is an organization?
 - A stable, formal social structure that processes resources from environment to produce outputs
 - A formal legal entity with internal rules and procedures, as well as a social structure
- Behavioral definition
 - A collection of rights, privileges, obligations, and responsibilities delicately balanced over a period of time through conflict and conflict resolution

Figure 3.1 The Two-Way Relationship Between Organizations and Information Technology



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Figure 3.2 The Technical Microeconomic Definition of the Organization

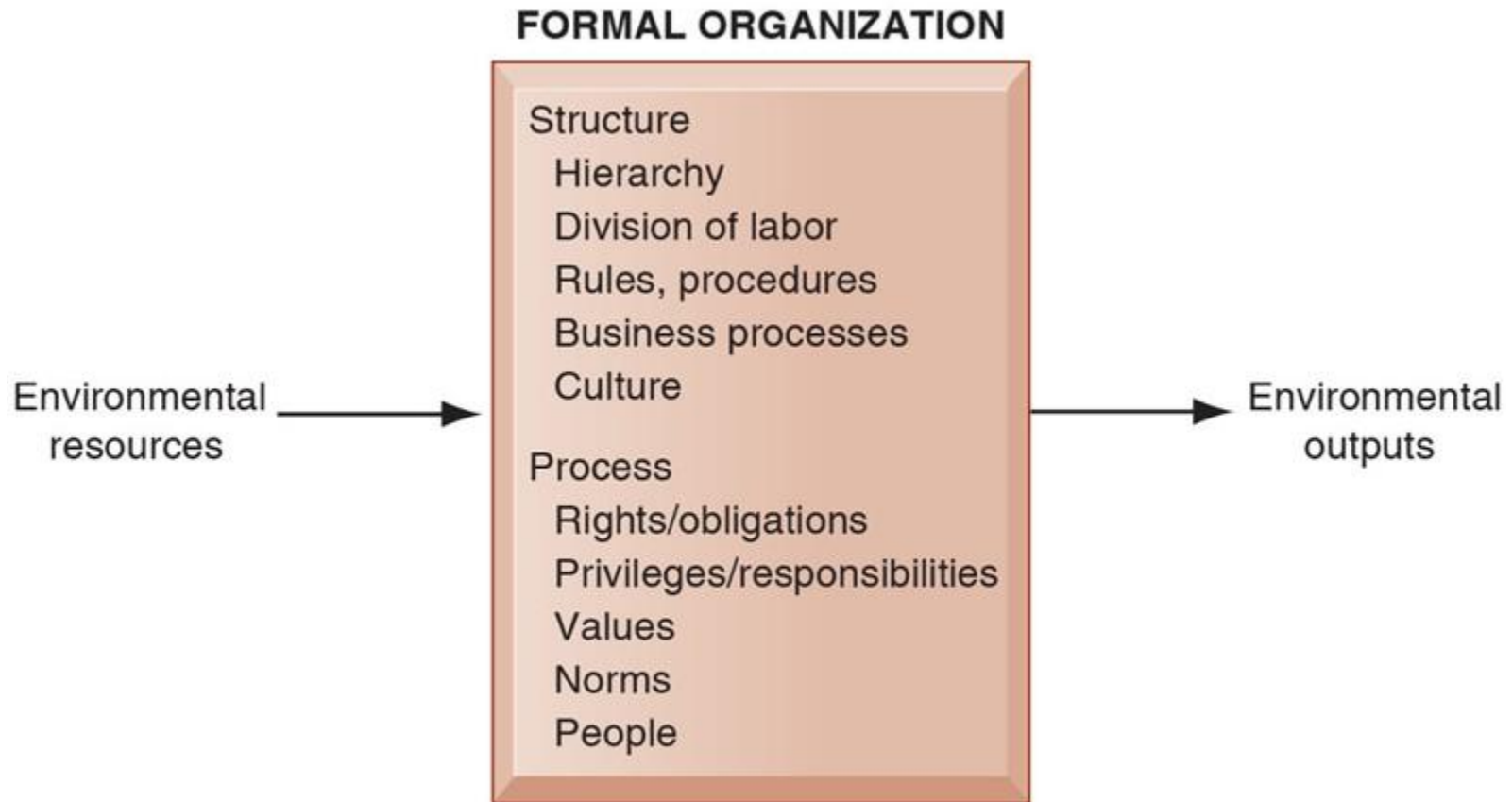


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Discuss Technical and Behavioral Views of Organizations (2 of 2)

- Organizations are formal legal entities with internal rules and procedures
 - Must abide by laws
 - Social structures
 - A collection of social elements

Figure 3.3 The Behavioral View of Organizations

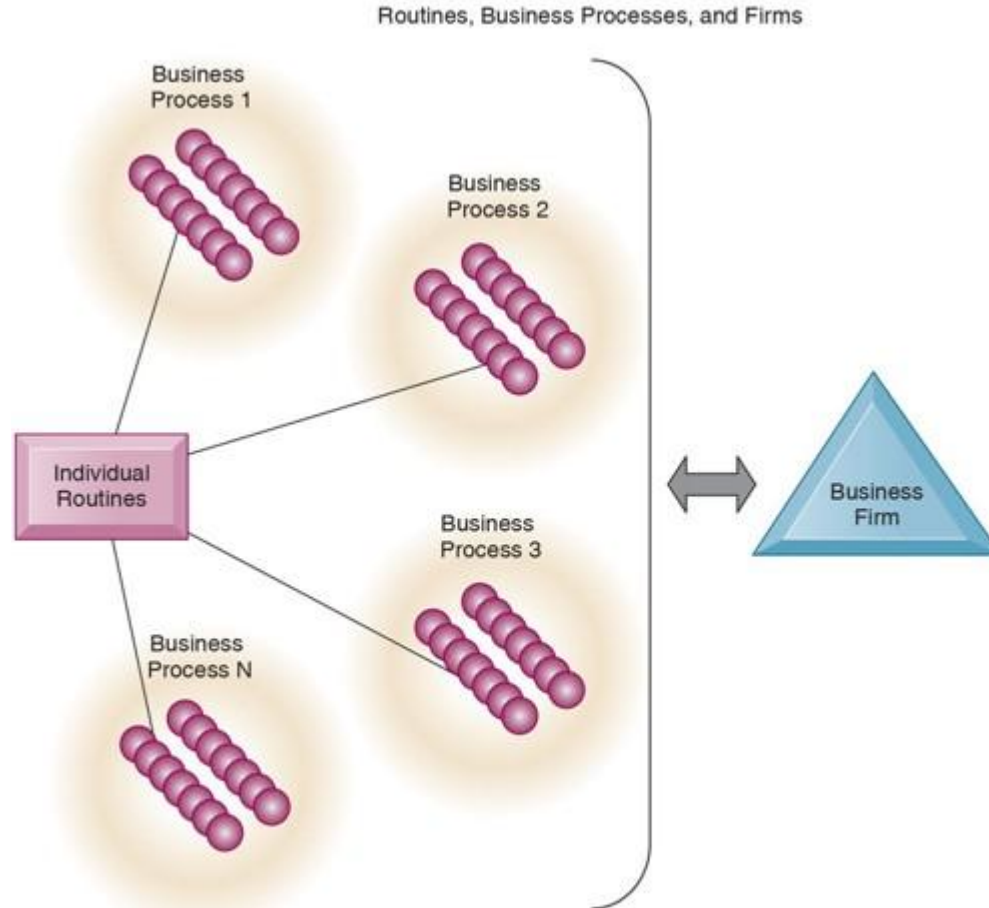


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Discuss Features of Organizations that Affect Information Systems (1 of 5)

- Routines (standard operating procedures)
 - Precise rules, procedures, and practices developed to cope with virtually all expected situations
- Business processes
 - Collections of routines

Figure 3.4 Routines, Business Processes, and Firms



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Discuss Features of Organizations that Affect Information Systems (2 of 5)

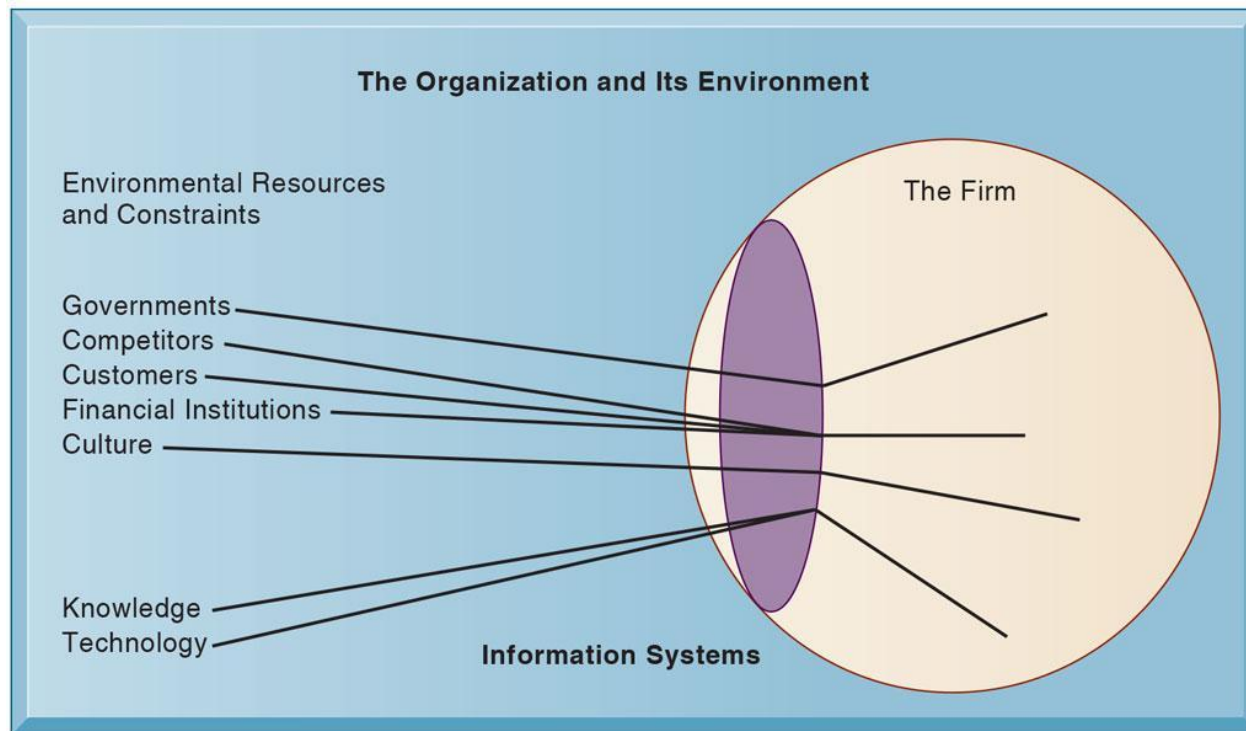
- Organizational politics
 - People in organizations, from different positions with different specialties, concerns, and perspectives, naturally have divergent viewpoints
 - The result can be political struggles for resources, competition, and conflict

Discuss Features of Organizations that Affect Information Systems (3 of 5)

- Organizational culture
 - A set of assumptions about what products the organization should produce
 - How, where, and for whom it should produce them
 - Business processes—the actual way business firms produce value—are usually ensconced in the organization's culture

Figure 3.4 Routines, Business Processes, and Firms

- Organizational environments
 - Environments and organizations have a reciprocal relationship



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Discuss Features of Organizations that Affect Information Systems (4 of 5)

- Disruptive technologies are those that substitute for and significantly reduce the market share of existing products, services, and business models
- A technology and resulting business innovation may come along and radically change the business landscape and environment

Discuss Features of Organizations that Affect Information Systems (5 of 5)

- Organizational structure
 - The structure or shape of an organization impacts the information systems in a business
 - Nature of problems with these systems often reflects the type of organizational structure

Describe the Impact of Information Systems on Organizations (1 of 6)

- Over the past decade, information systems have fundamentally altered the economics of organizations
 - Has greatly increased the possibilities for organizing work
 - Theories and concepts from economics and sociology help us understand the changes brought about by IT

Describe the Impact of Information Systems on Organizations (2 of 6)

- Economic impacts
 - I T changes relative costs of capital and the costs of information
 - Information systems technology is a factor of production, like capital and labor
 - Affects the cost and quality of information; changes economics of information

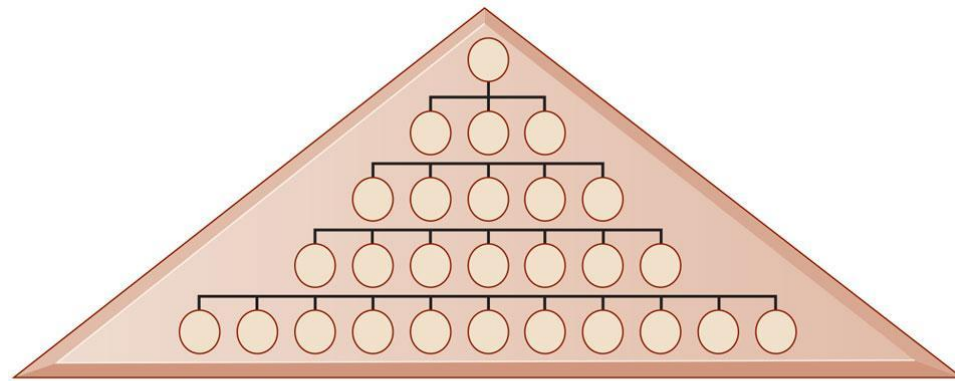
Describe the Impact of Information Systems on Organizations (3 of 6)

- Economic impacts

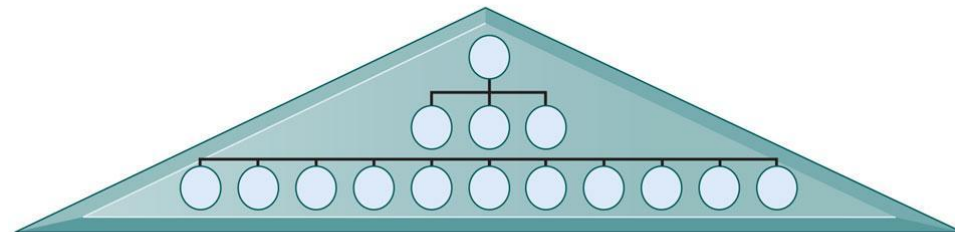
- Information technology helps firms contract in size because it can reduce transaction costs (cost of participating in markets)
 - Transaction costs
 - The costs incurred when a firm buys on the marketplace what it cannot make itself
 - Transaction cost theory
 - Companies seek to economize on transaction costs, much as they do on production costs
 - Agency theory
 - The firm is viewed as a “nexus of contracts” among self-interested individuals rather than as a unified, profit-maximizing entity

Figure 3.6 Flattening Organizations

- Organizational and behavioral impacts
 - IT flattens organizations



A traditional hierarchical organization with many levels of management



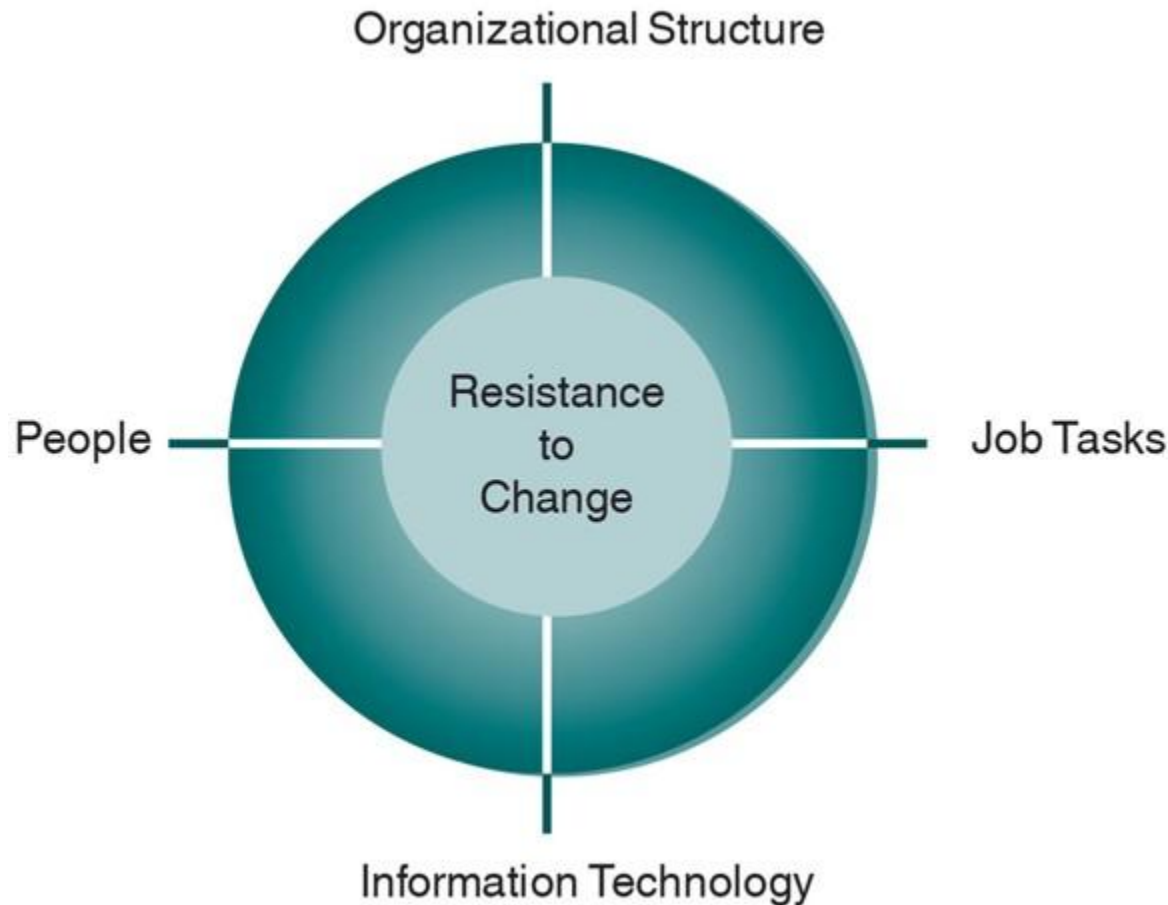
An organization that has been "flattened" by removing layers of management

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Describe the Impact of Information Systems on Organizations (4 of 6)

- Organizational and behavioral impacts
 - Information systems affect who does what to whom, when, where, and how in an organization
 - information systems potentially change an organization's structure, culture, business processes, and strategy, there is often considerable resistance to them when they are introduced

Figure 3.7 Organizational Resistance to Information System Innovations



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Describe the Impact of Information Systems on Organizations (5 of 6)

Central organizational factors to consider when planning a new system include:

- The environment in which the organization must function
- The structure of the organization: hierarchy, specialization, routines, and business processes
- The organization's culture and politics

Describe the Impact of Information Systems on Organizations (6 of 6)

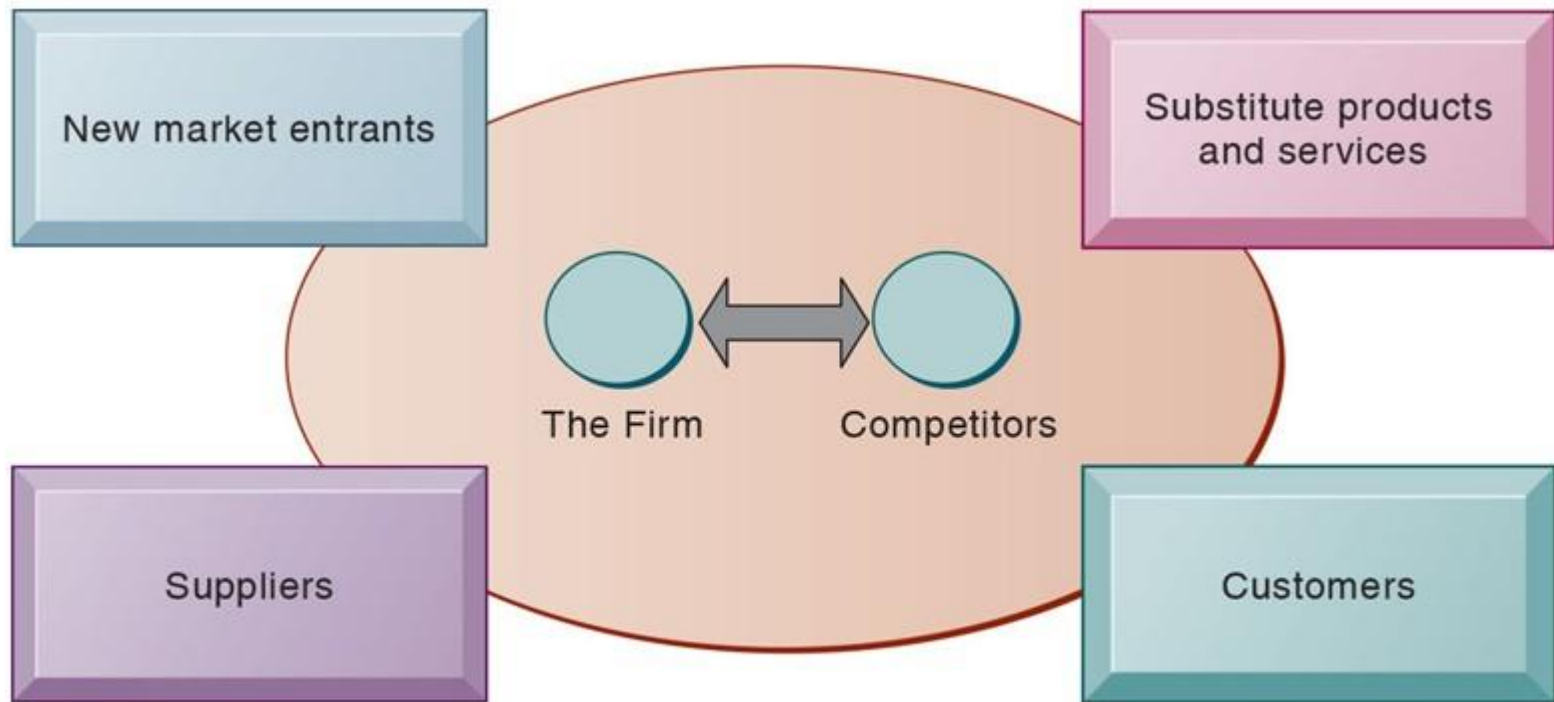
Central organizational factors to consider when planning a new system include:

- The type of organization and its style of leadership
- The principal interest groups affected by the system and the attitudes of workers who will be using the system
- The kinds of tasks, decisions, and business processes that the information system is designed to assist

Discuss Porter's Competitive Forces Model (1 of 3)

- Why do some firms become leaders in their industry?
- Michael Porter's competitive forces model
 - Provides general view of firm, its competitors, and environment
- Five competitive forces shape fate of firm:
 - Traditional competitors
 - New market entrants
 - Substitute products and services
 - Customers
 - Suppliers

Figure 3.8 Porter's Competitive Forces Model



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Discuss Porter's Competitive Forces Model (2 of 3)

- What is a firm to do when it is faced with these competitive forces?
- Four generic strategies for dealing with competitive forces, enabled by using I T
 - Low-cost leadership
 - Product differentiation
 - Focus on market niche
 - Strengthen customer and supplier intimacy

Discuss Porter's Competitive Forces Model (3 of 3)

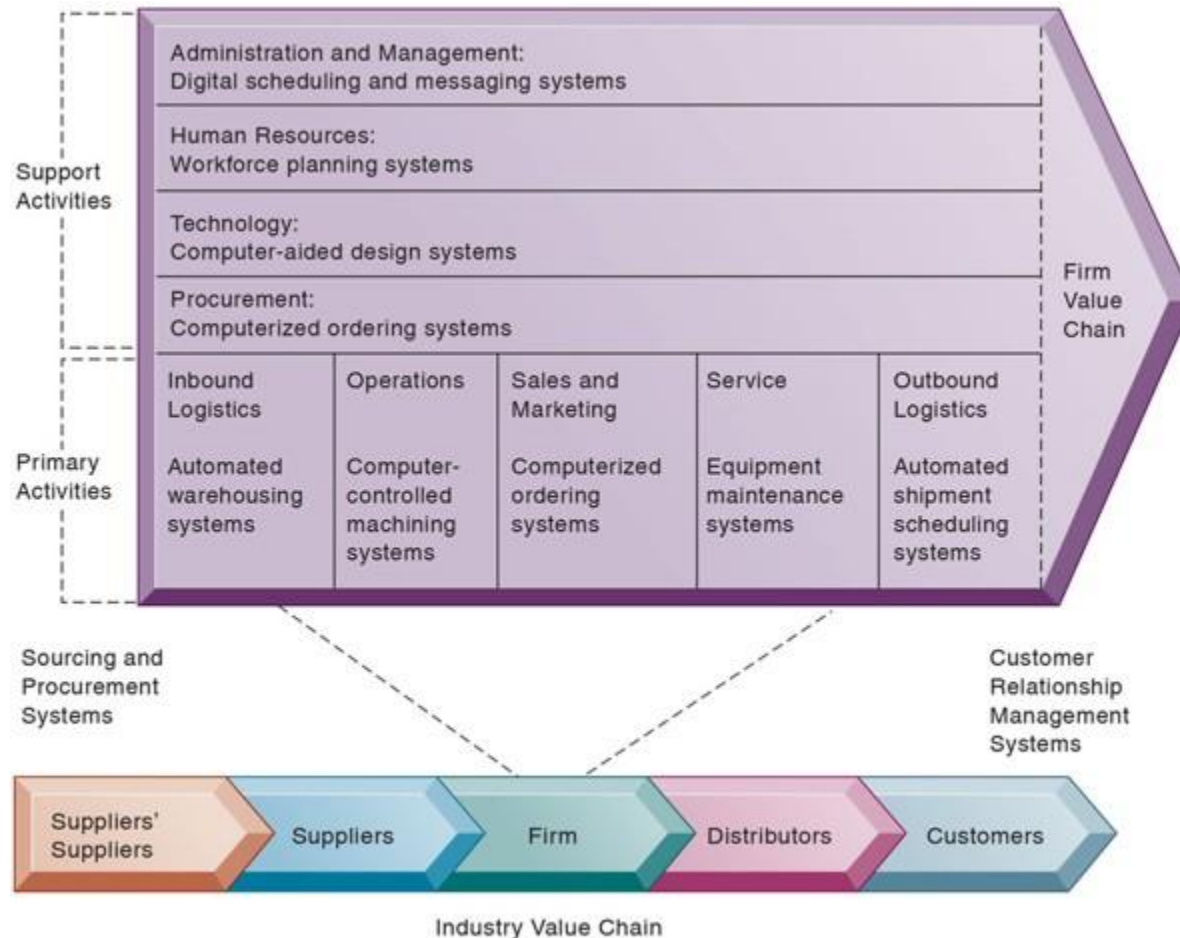
- Transformation or threat to some industries
 - Examples: travel agency, printed encyclopedia, media
- Competitive forces still at work, but rivalry more intense
- Universal standards allow new rivals, entrants to market
- New opportunities for building brands and loyal customer bases

Discuss the Value Chain Model

(1 of 4)

- The value chain model highlights specific activities in the business
 - Where competitive strategies can best be applied
 - Where information systems are most likely to have a strategic impact

Figure 3.9 The Value Chain Model



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Discuss the Value Chain Model

(2 of 4)

- Primary activities

- Most directly related to the production and distribution of the firm's products and services, which create value for the customer

- Support activities

- Make the delivery of the primary activities possible
- Consist of activities related to the organizational infrastructure
 - Administration and management
 - Human resources
 - Technology
 - Procurement

Discuss the Value Chain Model

(3 of 4)

- Benchmarking

- Involves comparing the efficiency and effectiveness of a business' processes to strict standards
- Then measuring performance against those standards

- Best practices

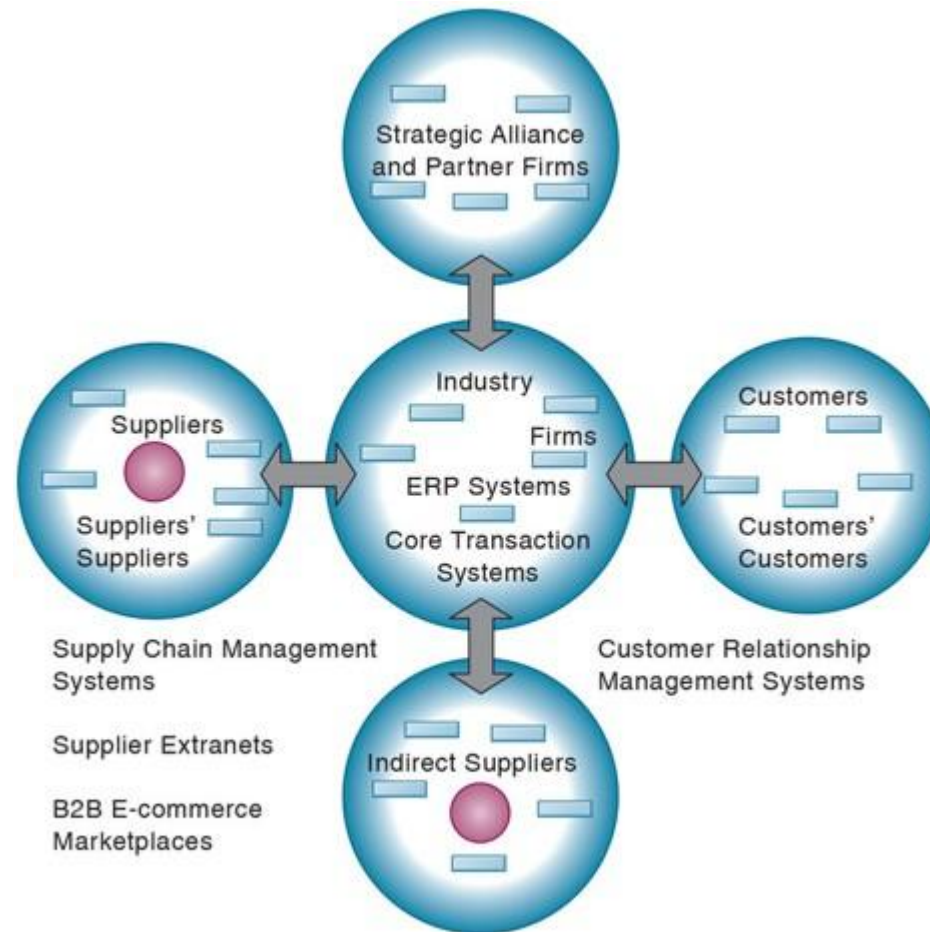
- Usually identified by consulting companies, research organizations, government agencies, and industry associations
- The most successful solutions or problem-solving methods for consistently and effectively achieving a business objective

Discuss the Value Chain Model

(4 of 4)

- Firm's value chain is linked to value chains of suppliers, distributors, customers
- Industry value chain
- Value web
 - Collection of independent firms using highly synchronized I T to coordinate value chains to produce product or service collectively
 - More customer driven, less linear operation than traditional value chain

Figure 3.10 The Value Web



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Synergies

- When output of some units are used as inputs to others, or organizations pool markets and expertise
- Examples
 - Merger of Bank of New York and J P Morgan Chase
 - Bank of America and Countrywide Financial Corporation

Core Competencies

- Activity for which firm is an industry leader
- Relies on knowledge, experience, and sharing this across business units
- Example: Procter & Gamble's intranet and directory of subject matter experts

Network-Based Strategies (1 of 2)

- Take advantage of firm's abilities to network with one another
- Include use of:
 - Network economics
 - Virtual company model
 - Business ecosystems

Network-Based Strategies (2 of 2)

- Marginal cost of adding new participant almost zero, with much greater marginal gain
- Value of community grows with size
- Value of software grows as installed customer base grows
- Compare to traditional economics and law of diminishing returns

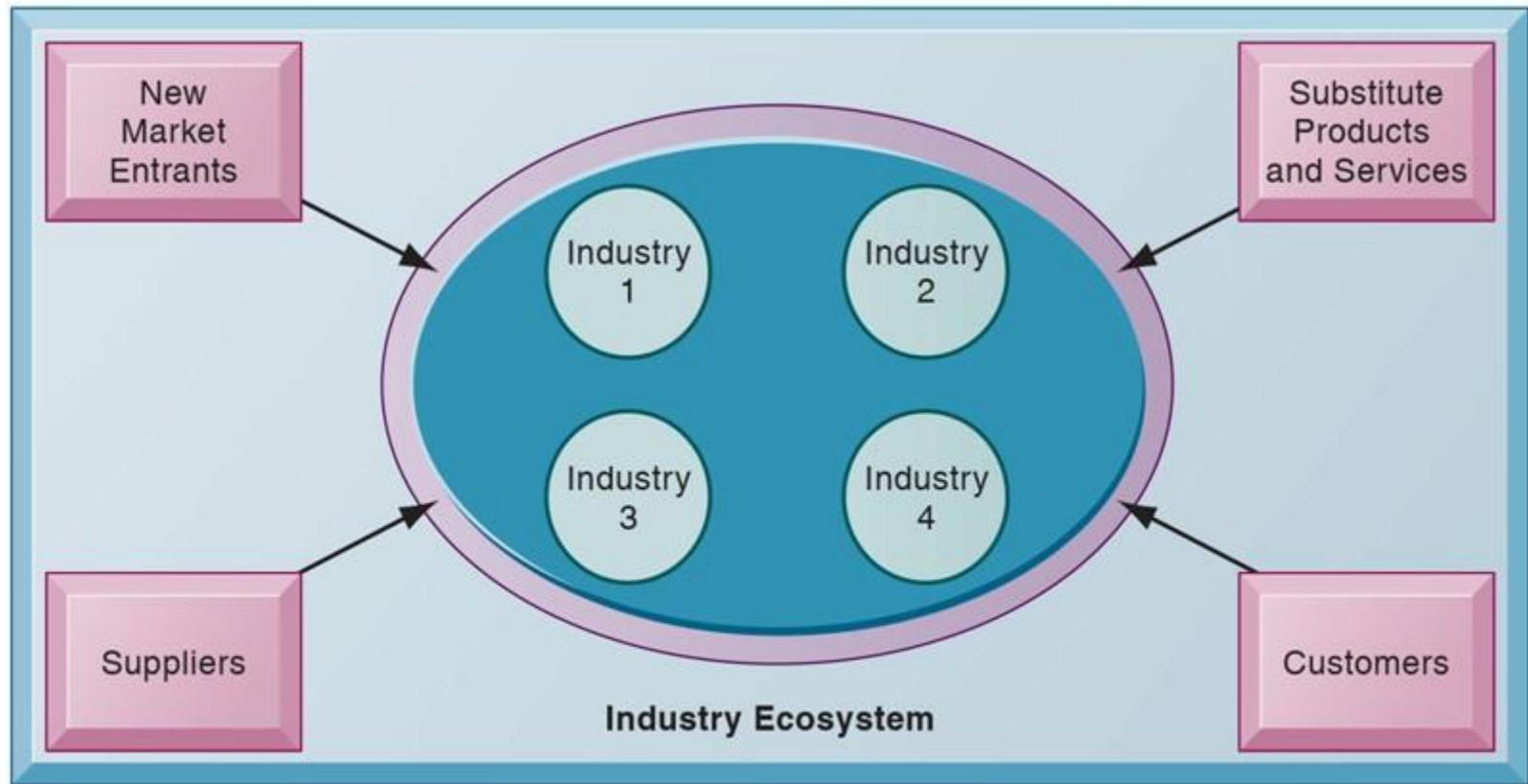
Virtual Company Model

- Virtual company
 - Uses networks to ally with other companies
 - Creates and distributes products without being limited by traditional organizational boundaries or physical locations
 - Example: Li & Fung
 - Manages production, shipment of garments for major fashion companies
 - Outsources all work to thousands of suppliers

Business Ecosystems and Platforms

- Industry sets of firms providing related services and products
- Platforms
 - Microsoft, Facebook
- Keystone firms
- Niche firms
- Individual firms can consider how I T will help them become profitable niche players in larger ecosystems

Figure 3.11 An Ecosystem Strategic Model



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Understand How AI Can Be Used in Competitive Strategy (1 of 2)

- AI is transforming the way information systems operate and deliver value to organizations
- AI is making it easier for companies to improve performance based on their existing business models
 - But it is also spawning new business models
 - Reshaping the competitive landscape

Understand How AI Can Be Used in Competitive Strategy (2 of 2)

- AI technology has impacted the various competitive forces identified in Porter's model, but not entirely in the same way as the Internet
 - Substituting products or services
 - Customers' bargaining power
 - Suppliers' bargaining power
 - Threat of new entrants
 - Positioning and rivalry among existing competitors

Describe the Challenges Posed by Strategic Information Systems

- Sustaining competitive advantage
 - Competitors can retaliate and copy strategic systems
 - Systems may become tools for survival
- Aligning I T with business objectives
 - Performing strategic systems analysis
 - Structure of industry
 - Firm value chains

Management Checklist: Performing a Strategic Systems Analysis

- To identify the types of systems that provide a strategic advantage to their firms, managers should ask the following questions
 - What is the structure of the industry in which the firm is located?
 - What are the business and industry value chains for this particular firm?
 - Have we aligned IT with our business strategy and goals? Have we correctly articulated our business strategy and goals?

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