

Management Information Systems

Arab World Edition

Laudon, Laudon, Elragal

Chapter 3: Information Systems, Organizations, and Strategy

Lecturer:
Dr.Noha Amer



Chapter Learning Objectives

After reading this chapter, you will be able to answer the following questions:

1. Which features of organizations do managers need to know about to build and use information systems successfully? What is the impact of information systems on organizations?
2. Using Information Systems to achieve a competitive advantage
3. How does Porter's competitive forces model help companies develop competitive strategies using information systems?
4. How do the value chain and value web models help businesses identify opportunities for strategic information system applications?
5. How do information systems help businesses use synergies and core competencies to achieve competitive advantage?
6. What are the challenges posed by strategic information systems and how should they be addressed?

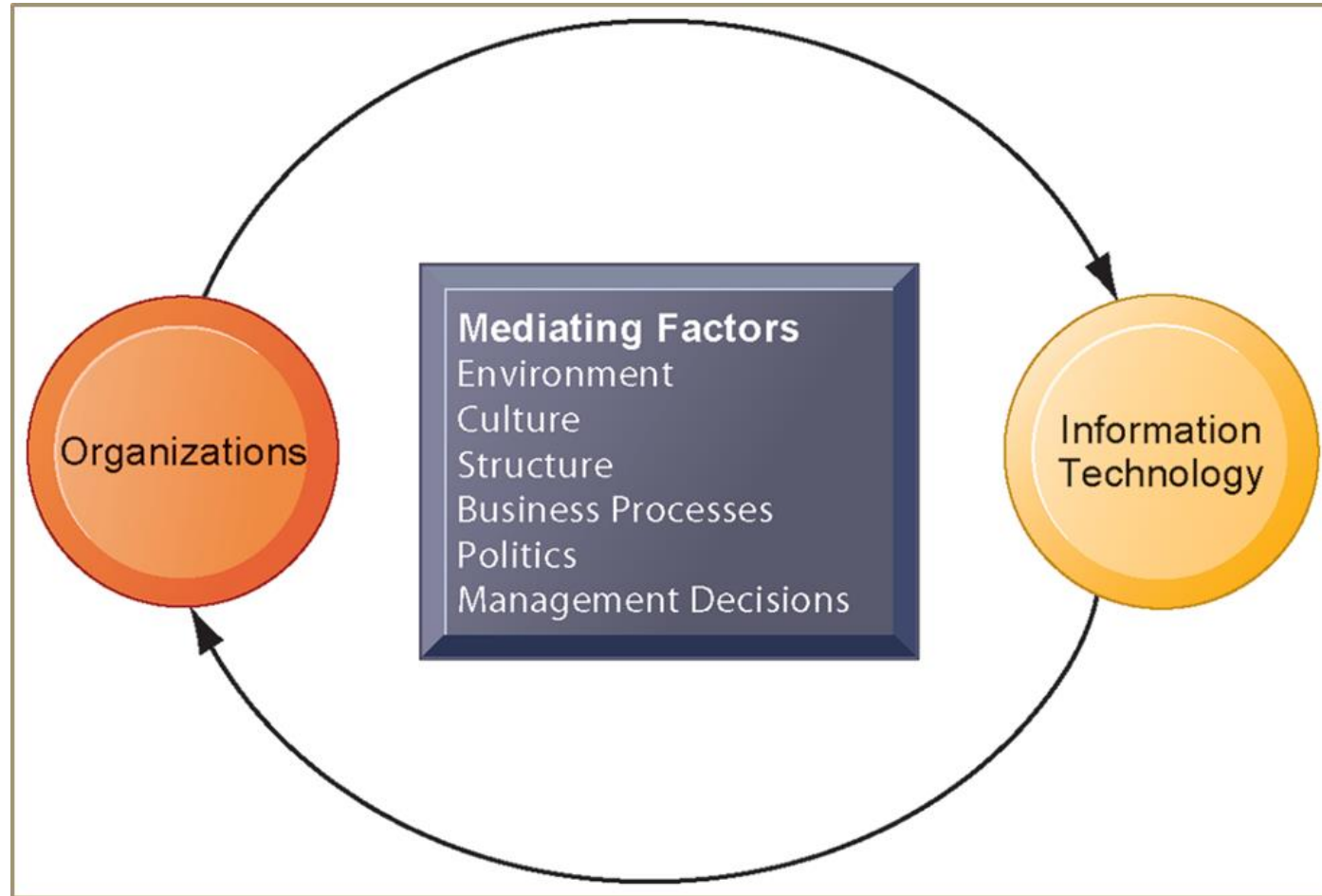
Chapter Learning Objectives

After reading this chapter, you will be able to answer the following questions:

- 1. Which **features** of organizations do managers need to know about to build and use information systems successfully?**
What is the impact of information systems on organizations?
2. Using Information Systems to achieve a competitive advantage
3. How does Porter's competitive forces model help companies develop competitive strategies using information systems?
4. How do the value chain and value web models help businesses identify opportunities for strategic information system applications?
5. How do information systems help businesses use synergies and core competencies to achieve competitive advantage?
6. What are the challenges posed by strategic information systems and how should they be addressed?

Organizations and Information Systems

You will not be able to design new systems successfully or understand existing systems without understanding your own business organization.



Example

- **Remote Work System in a Corporate Bank**
 - **System Idea:** A collaborative digital workplace to improve hybrid team productivity.
- **What Went Wrong:** Employees didn't use it because it clashed with a "**face time**" **culture** where visibility in office equated to performance.
- **Overlooked Factors:**
 - **Culture:** Success was still linked to physical presence.
 - **Management Decisions:** Leaders continued rewarding office attendance.
 - **Processes:** Approval workflows still required printed forms.
- **Lesson:** Without cultural alignment and process transformation, digital tools gather dust.

Which features of organizations do managers need to know about to build and use information systems successfully?

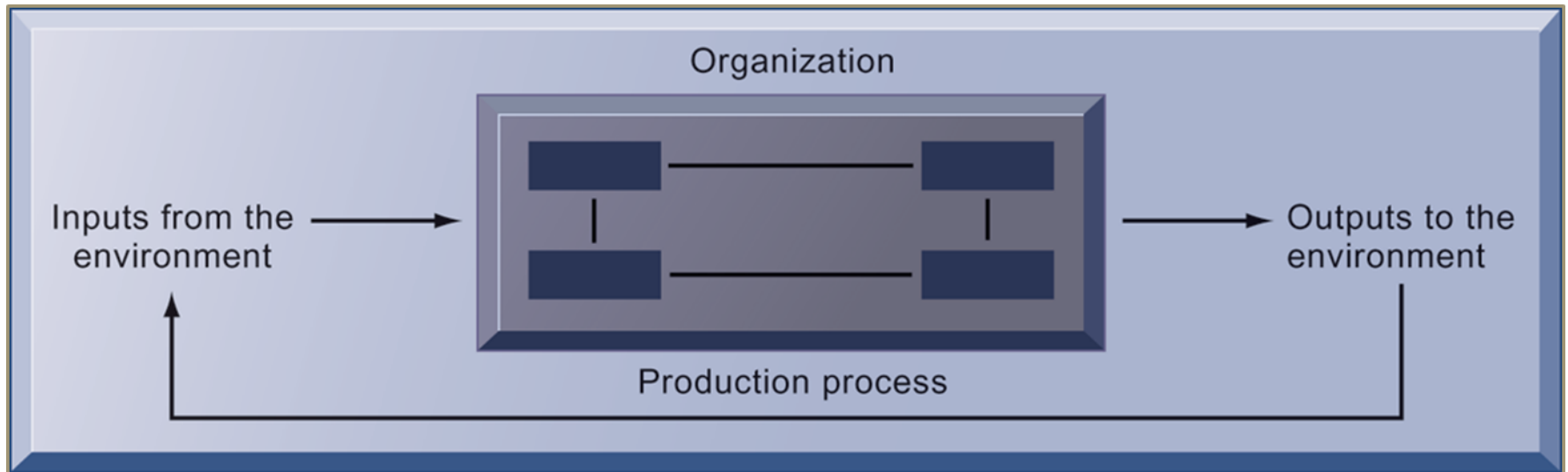
- **Centralized Decision-Making:** In organizations with **centralized decision-making**, managers need to be aware of the hierarchical structure and **clear lines of authority**. Information systems should support this structure by providing **top-down reporting** and decision support tools tailored to the needs of senior management.
- **Decentralized Decision-Making:** Conversely, in organizations with **decentralized decision-making**, managers need to understand the **distributed nature of decision authority** and the importance of **empowering employees at all levels**.

What is an organization?

Organizations and Information Systems

Technical Definition

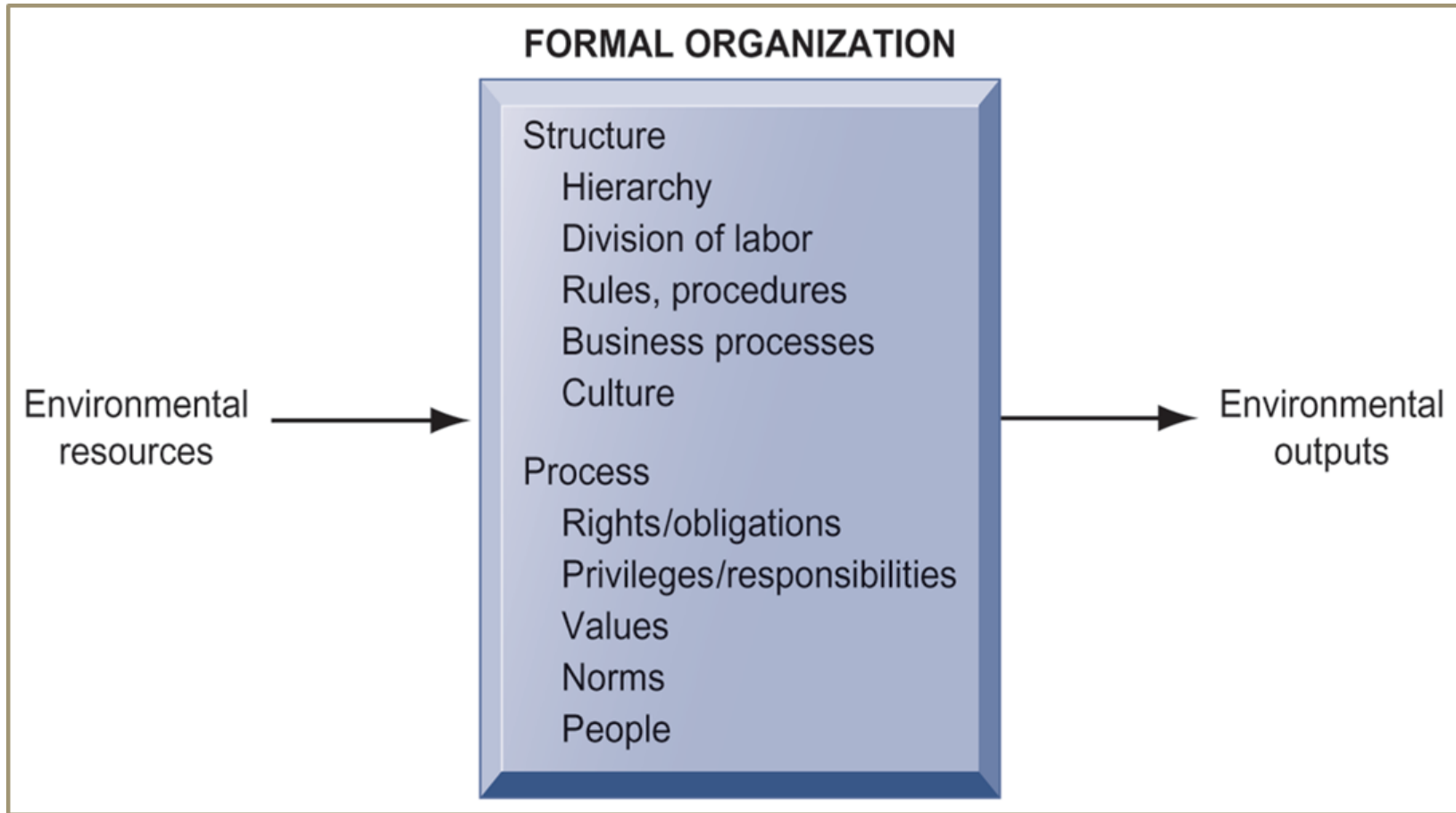
The technical microeconomic definition of the organization



In the microeconomic definition of organizations, **capital and labor** (the primary production factors provided by the environment) are transformed by the firm through the production process into **products and services** (outputs to the environment). The products and services are consumed by the environment, which supplies additional capital and labor as inputs in the feedback loop.

Organizations and Information Systems

Behavioral Definition



The **behavioral view** of organizations emphasizes group relationships, values, and structures

Organizations and Information Systems

What is an organization?

Technical definition:

- Stable, formal social structure that takes **resources** from environment and processes them to produce **outputs**
- A formal legal entity with internal **rules** and **procedures**, as well as a social structure

Behavioral definition:

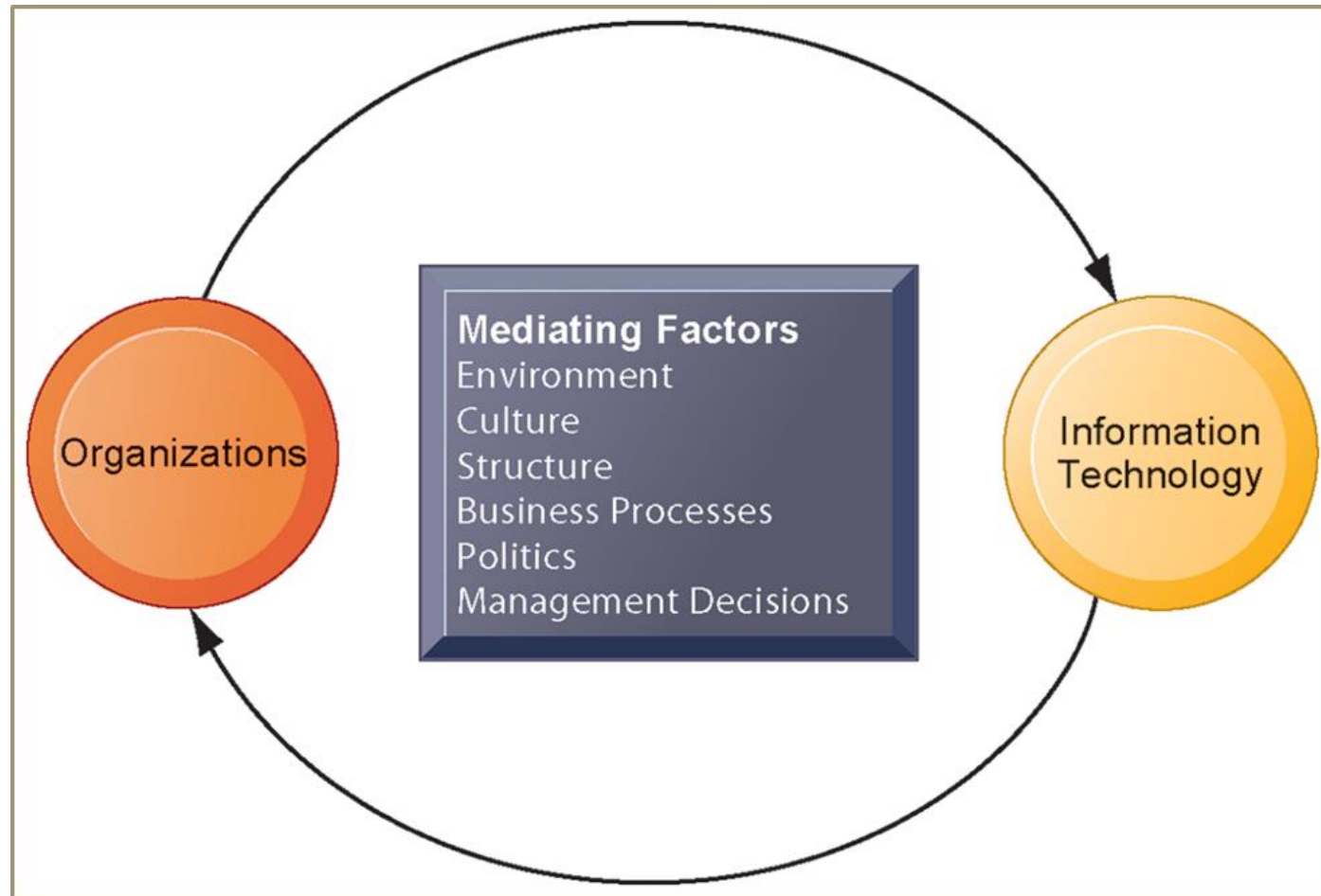
- A collection of **rights, privileges, obligations**, and responsibilities that is delicately balanced over a period of time through conflict and conflict resolution

Organizations and Information Systems

Environments
shape what
organizations can
do,

AND

Organizations can
influence their
environments and
decide to change
environments.



Organizations and Information Systems

Disruptive technologies

Technology that brings about sweeping change to businesses, industries, markets

Examples: Electric Vehicles, Block chain Technologies, AI, 3D printing, IOT

First movers and fast followers

- **First movers** – inventors of disruptive technologies
- **Fast followers** – firms with the size and resources to capitalize on that technology

Chapter Learning Objectives

After reading this chapter, you will be able to answer the following questions:

1. Which features of organizations do managers need to know about to build and use information systems successfully? **What is the impact of information systems on organizations?**
2. Using Information Systems to achieve a competitive advantage
3. How does Porter's competitive forces model help companies develop competitive strategies using information systems?
4. How do the value chain and value web models help businesses identify opportunities for strategic information system applications?
5. How do information systems help businesses use synergies and core competencies to achieve competitive advantage?
6. What are the challenges posed by strategic information systems and how should they be addressed?

How Information Systems Impact Organizations and Business Firms

The **transaction cost theory** of the impact of information technology on the organization

Transaction costs: costs of participating in markets

IT reduces the firm's market transaction costs. This means firms can outsource work, reduce their employee head count, and still grow revenues, relying more on outsourcing firms and external contractors.

How Information Systems Impact Organizations and Business Firms

The **agency cost theory** of the impact of information technology on the organization

Agency costs are the costs of managing a firm's employees.

IT reduces agency costs, making management more efficient. Fewer managers are needed to manage employees. IT makes it possible to build very large global firms and to run them efficiently without greatly expanding management.

How Information Systems Impact Organizations and Business Firms

The internet and organizational impact

The internet increases the accessibility, storage, and distribution of information and knowledge for organizations

The internet can greatly lower transaction and agency costs

Example: Large firm delivers internal manuals to employees via a corporate website, saving millions of dollars in distribution costs

How Information Systems Impact Organizations and Business Firms

Organizational and behavioral impacts

IT flattens organizations

- Decision making pushed to lower levels
- Fewer managers needed (IT enables faster decision making and increases span of control)

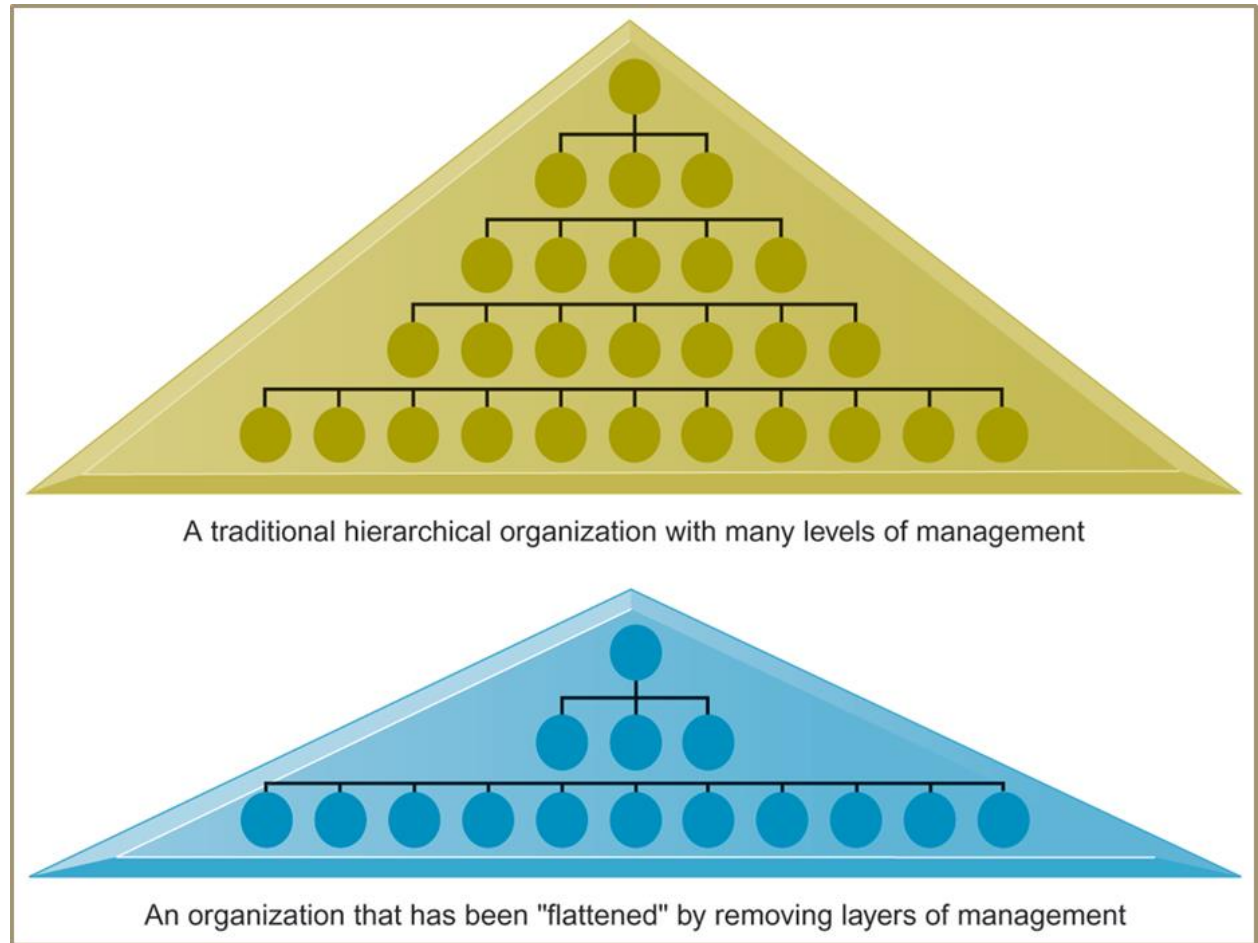
Postindustrial organizations

- Organizations flatten because in postindustrial societies, **authority increasingly relies on knowledge and competence** rather than **formal positions**

How Information Systems Impact Organizations and Business Firms

Information systems can reduce the number of levels in an organization by providing managers with information to supervise larger numbers of workers and by giving lower-level employees more decision-making authority.

Flattening organizations



Chapter Learning Objectives

After reading this chapter, you will be able to answer the following questions:

1. Which features of organizations do managers need to know about to build and use information systems successfully? What is the impact of information systems on organizations?
- 2. Using Information Systems to achieve a competitive advantage**
3. How does Porter's competitive forces model help companies develop competitive strategies using information systems?
4. How do the value chain and value web models help businesses identify opportunities for strategic information system applications?
5. How do information systems help businesses use synergies, core competencies, and network-based strategies to achieve competitive advantage?
6. What are the challenges posed by strategic information systems and how should they be addressed?

Using Information Systems to Achieve Competitive Advantage

Four generic strategies for dealing with competitive forces, enabled by using IT:

1. Low-cost leadership
2. Product differentiation
3. Focus on market niche
4. Strengthen customer and supplier intimacy

Using Information Systems to Achieve Competitive Advantage

Low-cost leadership:

- Produce products and services at a lower price than competitors while enhancing quality and level of service
- Examples: Wal-Mart

Product differentiation:

- Enable new products or services, greatly change customer convenience and experience
- Examples: Google, Nike, Apple

Using Information Systems to Achieve Competitive Advantage

Focus on market niche:

- Use information systems to enable a focused strategy on a single market niche; specialize
- Example: Hilton Hotels

Strengthen customer and supplier intimacy:

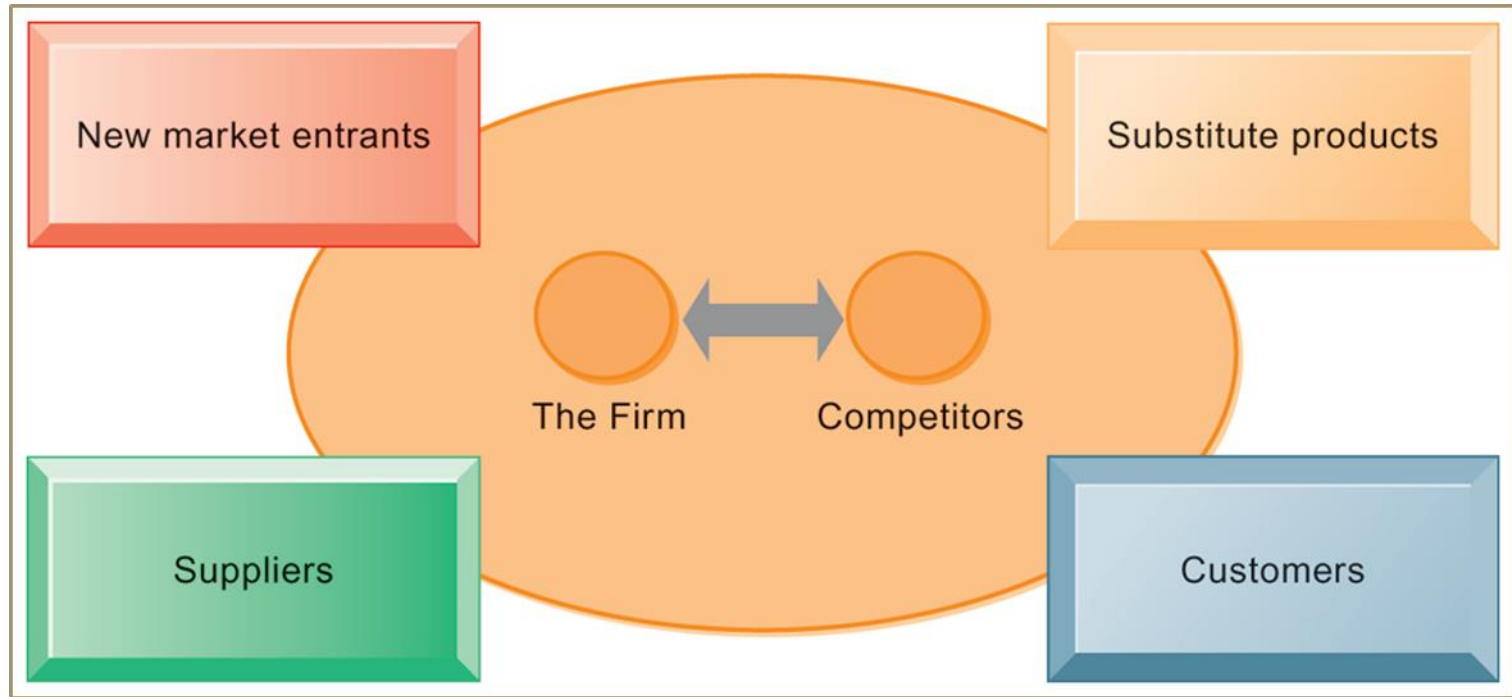
- Use information systems to develop strong ties and loyalty with customers and suppliers; increase switching costs
- Example: Netflix, Amazon

Chapter Learning Objectives

After reading this chapter, you will be able to answer the following questions:

1. Which features of organizations do managers need to know about to build and use information systems successfully? What is the impact of information systems on organizations?
2. Using Information Systems to achieve a competitive advantage
3. **How does Porter's competitive forces model help companies develop competitive strategies using information systems?**
4. How do the value chain and value web models help businesses identify opportunities for strategic information system applications?
5. How do information systems help businesses use synergies and core competencies to achieve competitive advantage?
6. What are the challenges posed by strategic information systems and how should they be addressed?

Using Information Systems to Achieve Competitive Advantage



In **Porter's competitive forces model**, the strategic position of the firm & its strategies are determined not only by **competition with its traditional direct competitors** but also by 4 other forces in the industry's environment: **new market entrants, substitute products, customers, and suppliers.**

Using Information Systems to Achieve Competitive Advantage

Traditional competitors:

- All firms share market space with competitors who are continuously devising new products, services, efficiencies, switching costs

New market entrants:

- Some industries have high barriers to entry, e.g. computer chip business
- New companies have new equipment, younger workers, but little brand recognition

Using Information Systems to Achieve Competitive Advantage

Why do some firms become leaders in their industry?

Substitute products and services

- Substitutes customers might use if your prices become too high, e.g. iTunes substitutes for CDs

Customers

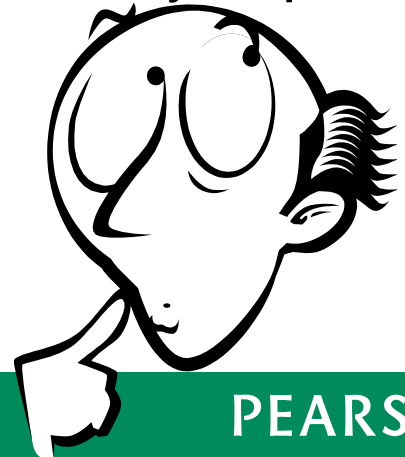
- Can customers easily switch to competitor's products? Can they force businesses to compete on price alone in transparent marketplace?

Suppliers

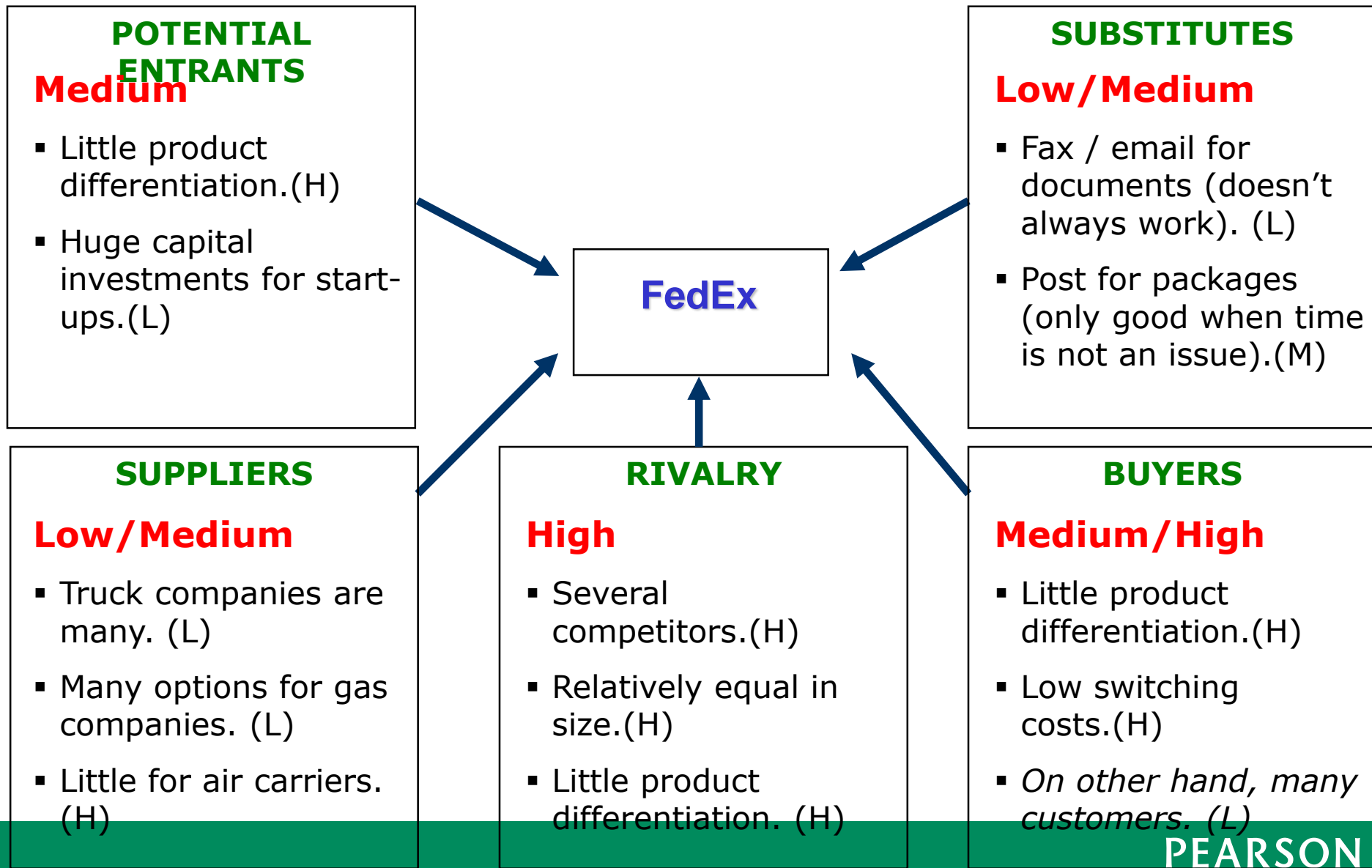
- Market power of suppliers when firm cannot raise prices as fast as suppliers

The Five Forces Model: Example

- You have been hired as a consultant by **FedEX** to analyze external environment using Porter's Five Forces Model. (Assume that FedEx nor any other competitor has started using online tracking.)
- Rate each of the five forces' power (threat): **high**, **medium/high**, **medium**, **medium/low** or **low**. Briefly explain why.

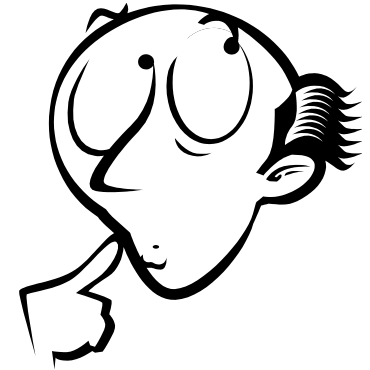


The Five Forces Model



Analyzing Strategic IT Opportunities

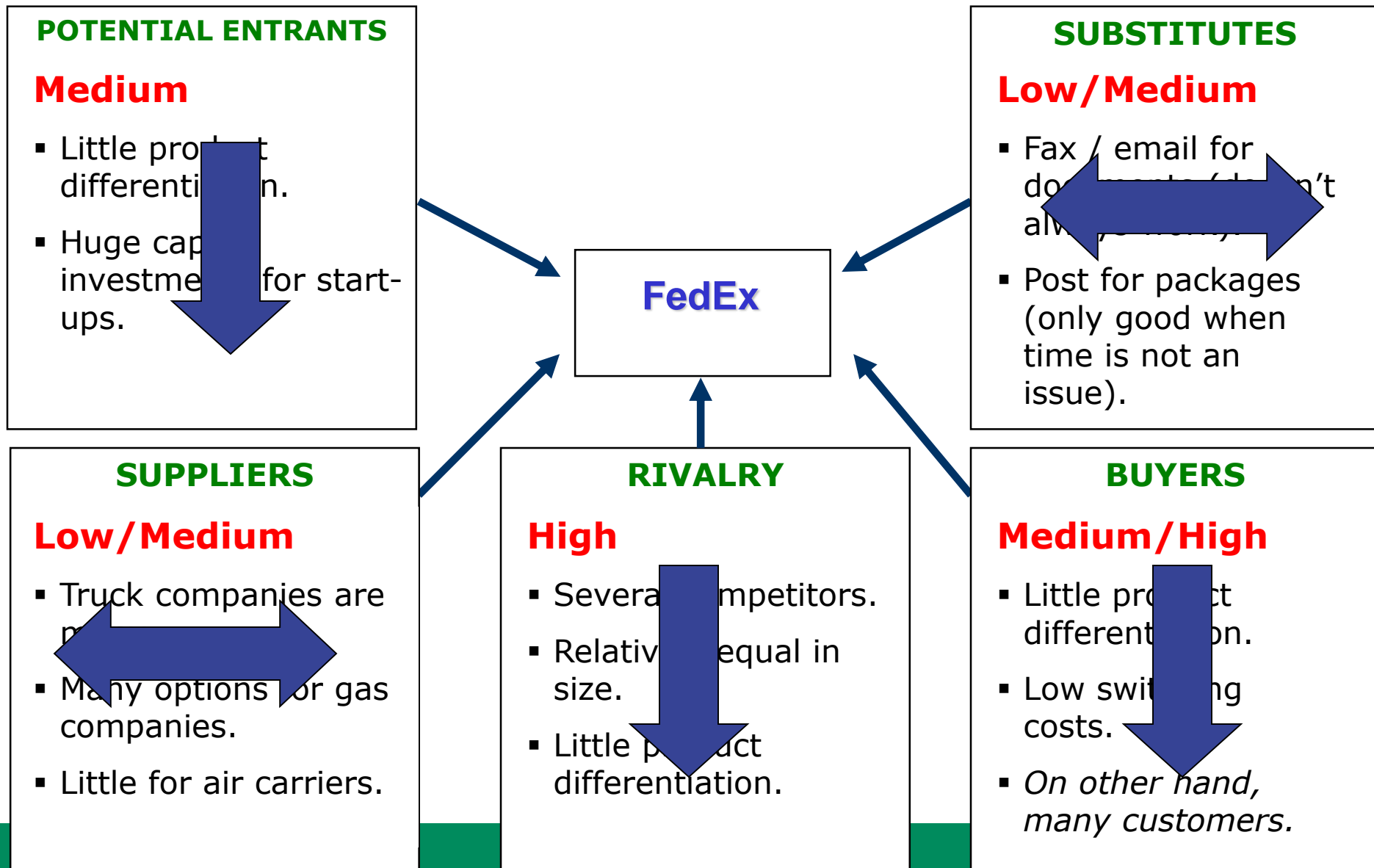
*How can use of **IT** alter the competitive dynamics of each force?*



Online tracking is an example of using IT to alter Porter's five forces.

Assume that FedEx was the first to introduce online tracking. Can you analyze strategic benefits using Porter's 5-forces model that FedEx had enjoyed with the IT-based online tracking before other companies introduced online tracking?

The Five Forces Model



Chapter Learning Objectives

After reading this chapter, you will be able to answer the following questions:

1. Which features of organizations do managers need to know about to build and use information systems successfully? What is the impact of information systems on organizations?
2. Using Information Systems to achieve a competitive advantage
3. How does Porter's competitive forces model help companies develop competitive strategies using information systems?
4. **How do the value chain and value web models help businesses identify opportunities for strategic information system applications?**
5. How do information systems help businesses use synergies and core competencies to achieve competitive advantage?
6. What are the challenges posed by strategic information systems and how should they be addressed?

Using Information Systems to Achieve Competitive Advantage

Business value chain model

Views firm as series of activities that add value to products or services

Highlights activities where competitive strategies can best be applied

- Primary activities vs. support activities

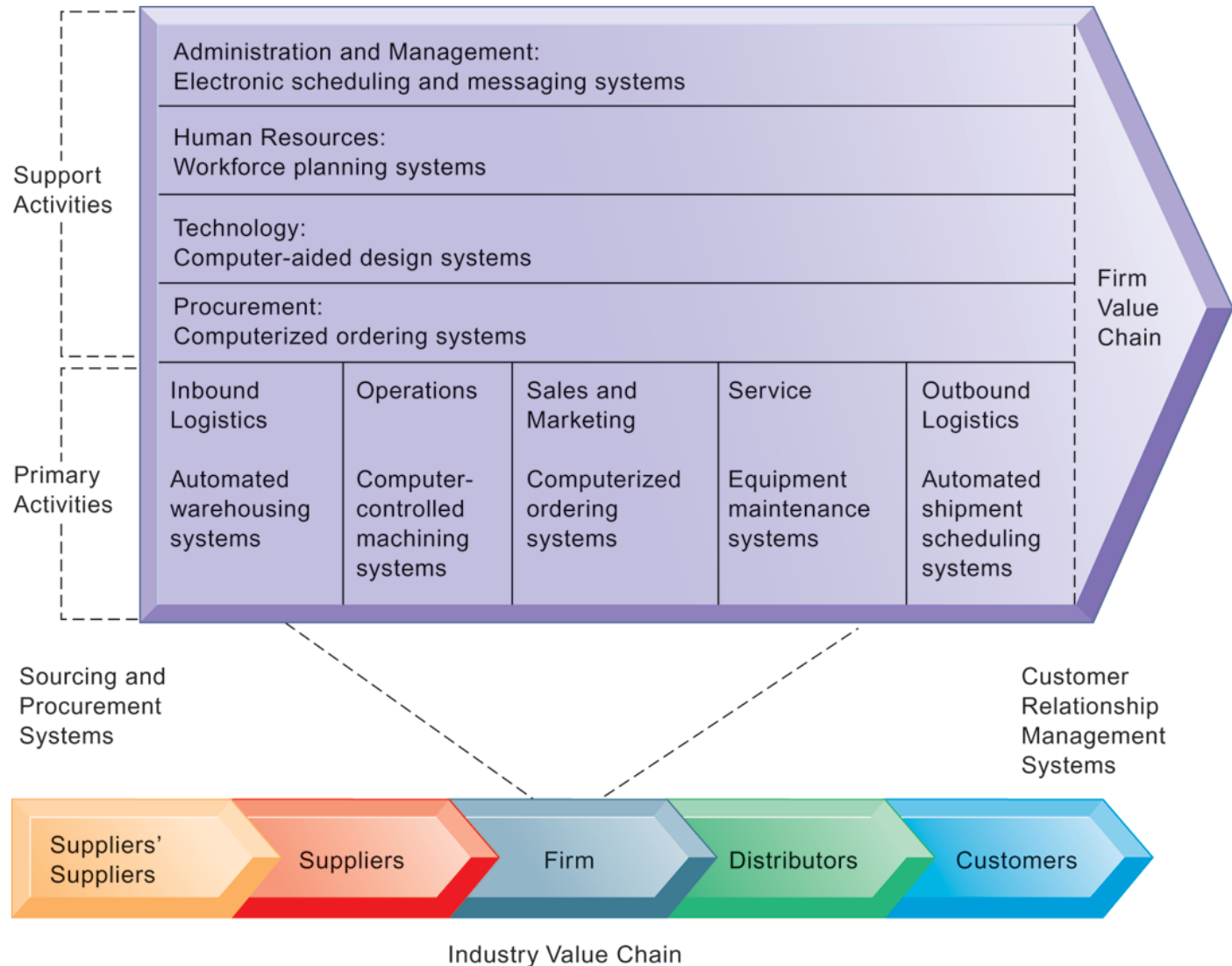
At each stage, determine how information systems can improve operational efficiency and improve customer and supplier intimacy

Utilize benchmarking, industry best practices

Using Information Systems to Achieve Competitive Advantage

The value chain model

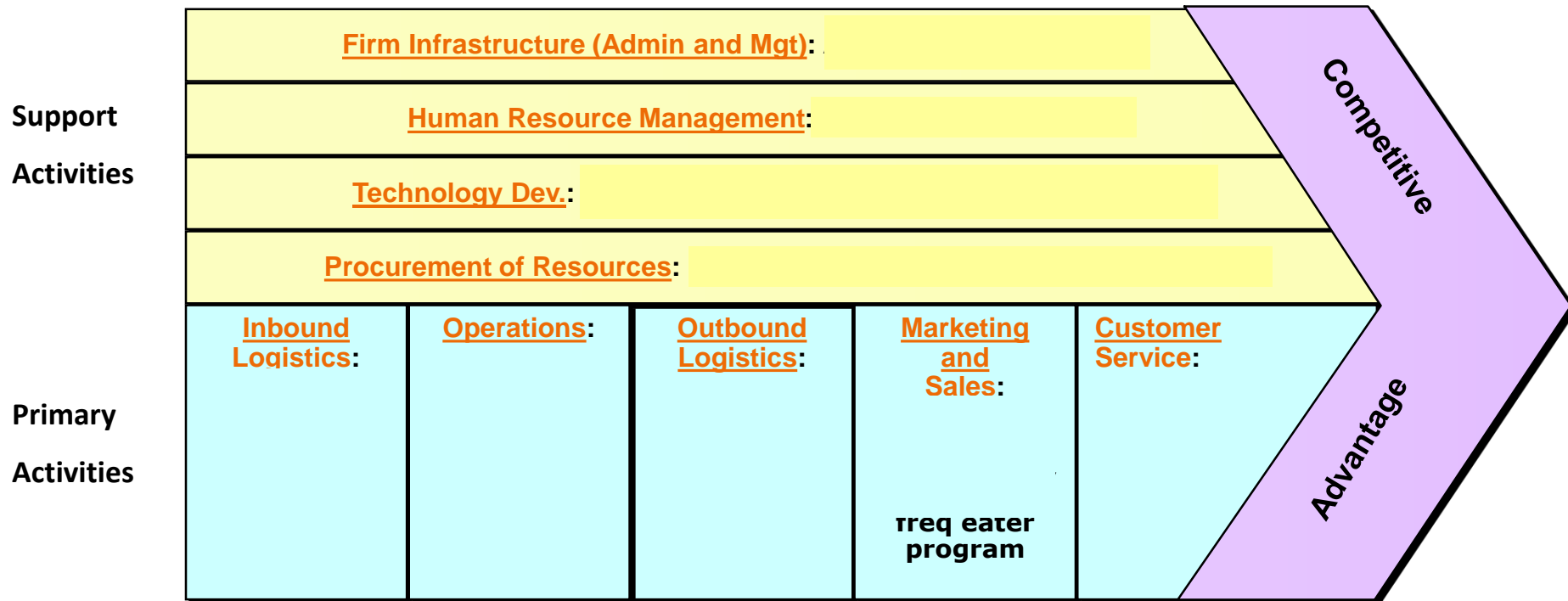
Examples of systems for both primary and support activities of a firm and of its value partners that can **add a margin of value to a firm's products or services.**



Value Chain

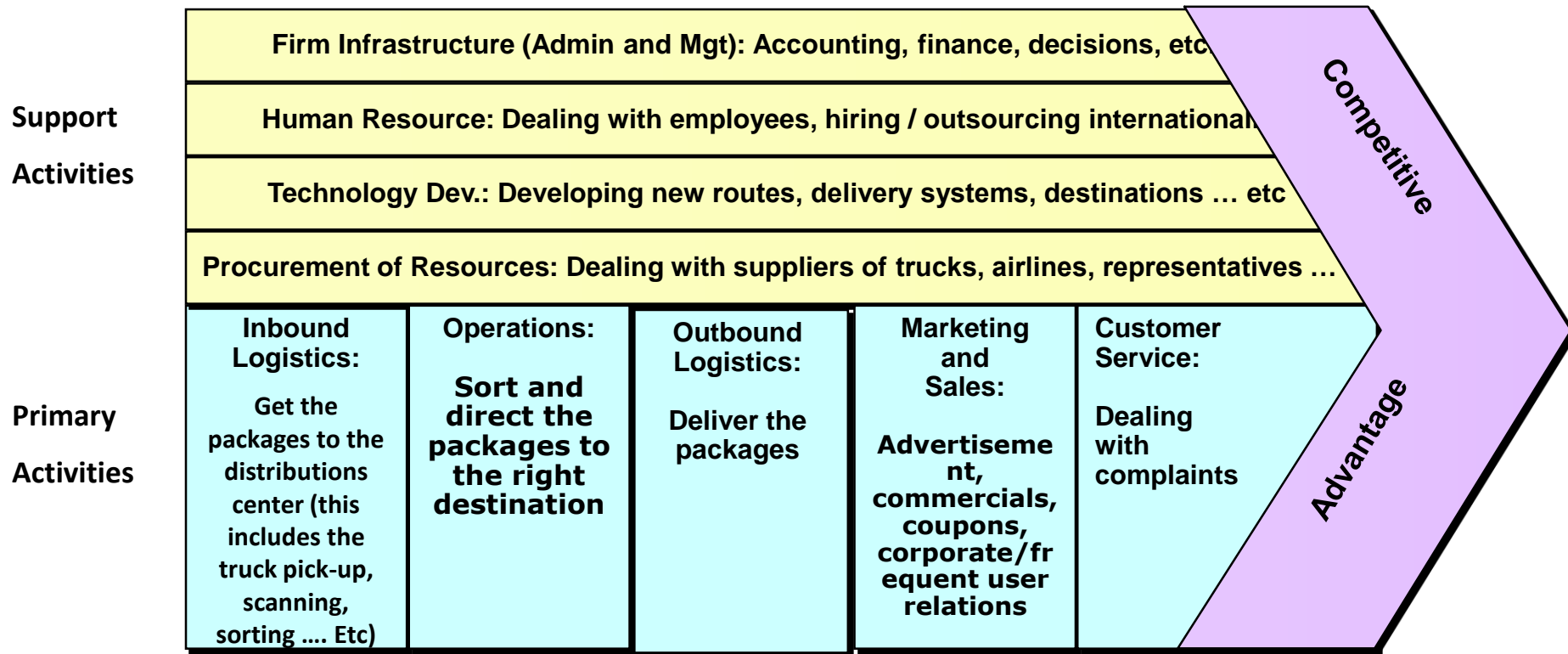
- Now let's see if we can analyze the value chain for FedEx (again, assume that FedEx nor any other competitor has started using online tracking).

FedEx Value Chain



What does FedEx do in each of these activities?

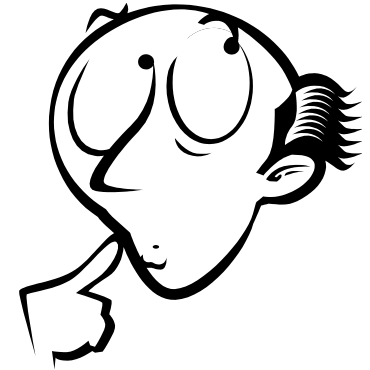
FedEx Value Chain



To gain a competitive advantage, a firm should do a better job in the above activities than its competitors.

Analyzing IT Opportunities

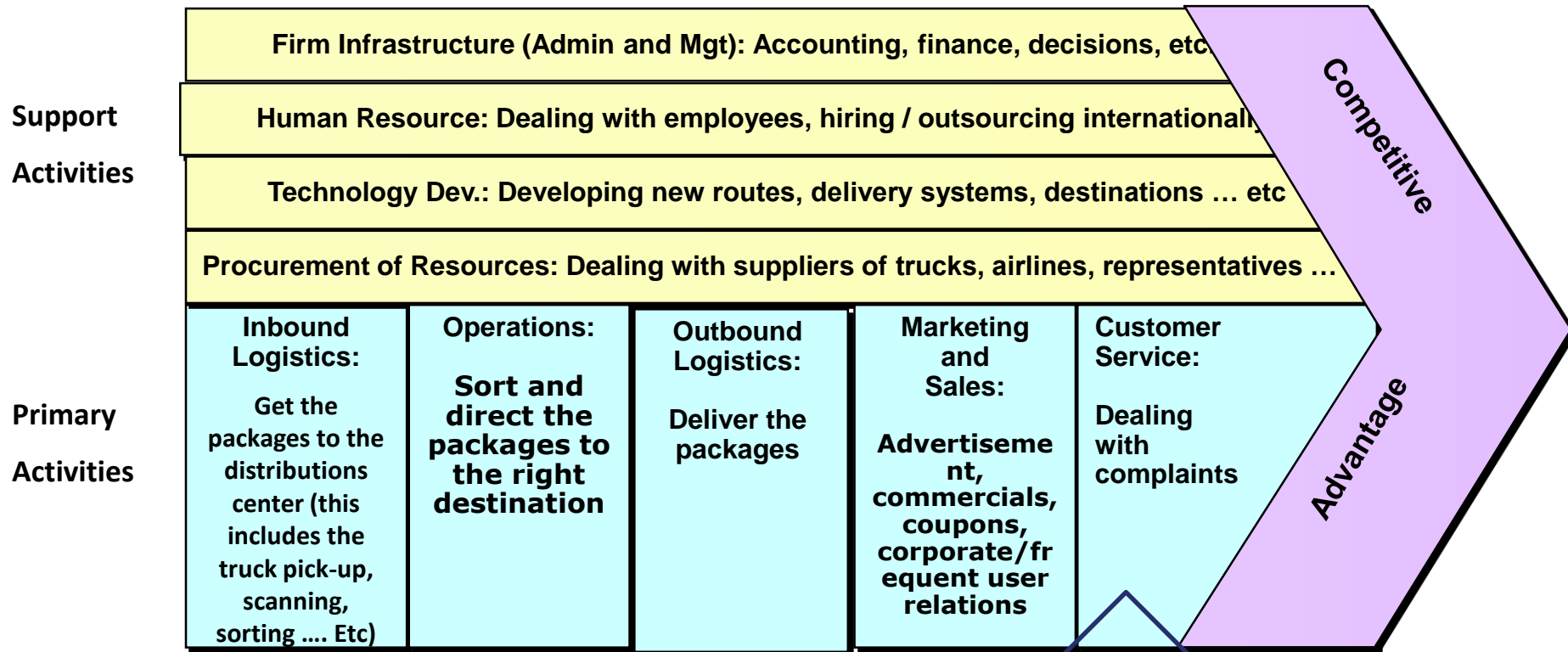
*How can use of **IT** affect your value chain?*



Online tracking is an example of using IT to alter a company's value chain.

Assume that FedEx was the first to introduce online tracking. Can you analyze how this has affected FedEx's Value Chain?

FedEx Value Chain



Online tracking will also affect the in/out bound logistics, since the people completing these activities are the ones who need to enter the updates.

Probably the largest impact is here, since online tracking is an "after-sale" activity (i.e., you already placed the order, and now we are making sure you are getting what you wanted).

Chapter Learning Objectives

After reading this chapter, you will be able to answer the following questions:

1. Which features of organizations do managers need to know about to build and use information systems successfully? What is the impact of information systems on organizations?
2. Using Information Systems to achieve a competitive advantage
3. How does Porter's competitive forces model help companies develop competitive strategies using information systems?
4. How do the value chain and value web models help businesses identify opportunities for strategic information system applications?
- 5. How do information systems help businesses use synergies and core competencies to achieve competitive advantage?**
6. What are the challenges posed by strategic information systems and how should they be addressed?

Using Information Systems to Achieve Competitive Advantage

Information systems can improve overall performance of business units by promoting synergies and core competencies

- **Synergies**

- When output of some units used as inputs to others, or organizations pool markets and expertise
 - *Examples:* mergers of banks, purchase of YouTube by Google

- **Core competencies**

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

Chapter Learning Objectives

After reading this chapter, you will be able to answer the following questions:

1. Which features of organizations do managers need to know about to build and use information systems successfully? What is the impact of information systems on organizations?
2. Using Information Systems to achieve a competitive advantage
3. How does Porter's competitive forces model help companies develop competitive strategies using information systems?
4. How do the value chain and value web models help businesses identify opportunities for strategic information system applications?
5. How do information systems help businesses use synergies and core competencies to achieve competitive advantage?
6. **What are the challenges posed by strategic information systems and how should they be addressed?**

Using Systems for Competitive Advantage: Management Issues

Sustaining competitive advantage:

- Because competitors can retaliate and copy strategic systems, competitive advantage is not always sustainable; systems may become tools for survival

Performing strategic systems analysis:

- What is structure of industry?
- What are value chains for this firm?

Managing strategic transitions:

- Adopting strategic systems requires changes in business goals, relationships with customers and suppliers, and business processes

Chapter Learning Objectives

After reading this chapter, you will be able to answer the following questions:

1. Which features of organizations do managers need to know about to build and use information systems successfully? What is the impact of information systems on organizations?
2. Using Information Systems to achieve a competitive advantage
3. How does Porter's competitive forces model help companies develop competitive strategies using information systems?
4. How do the value chain and value web models help businesses identify opportunities for strategic information system applications?
5. How do information systems help businesses use synergies and core competencies to achieve competitive advantage?
6. What are the challenges posed by strategic information systems and how should they be addressed?