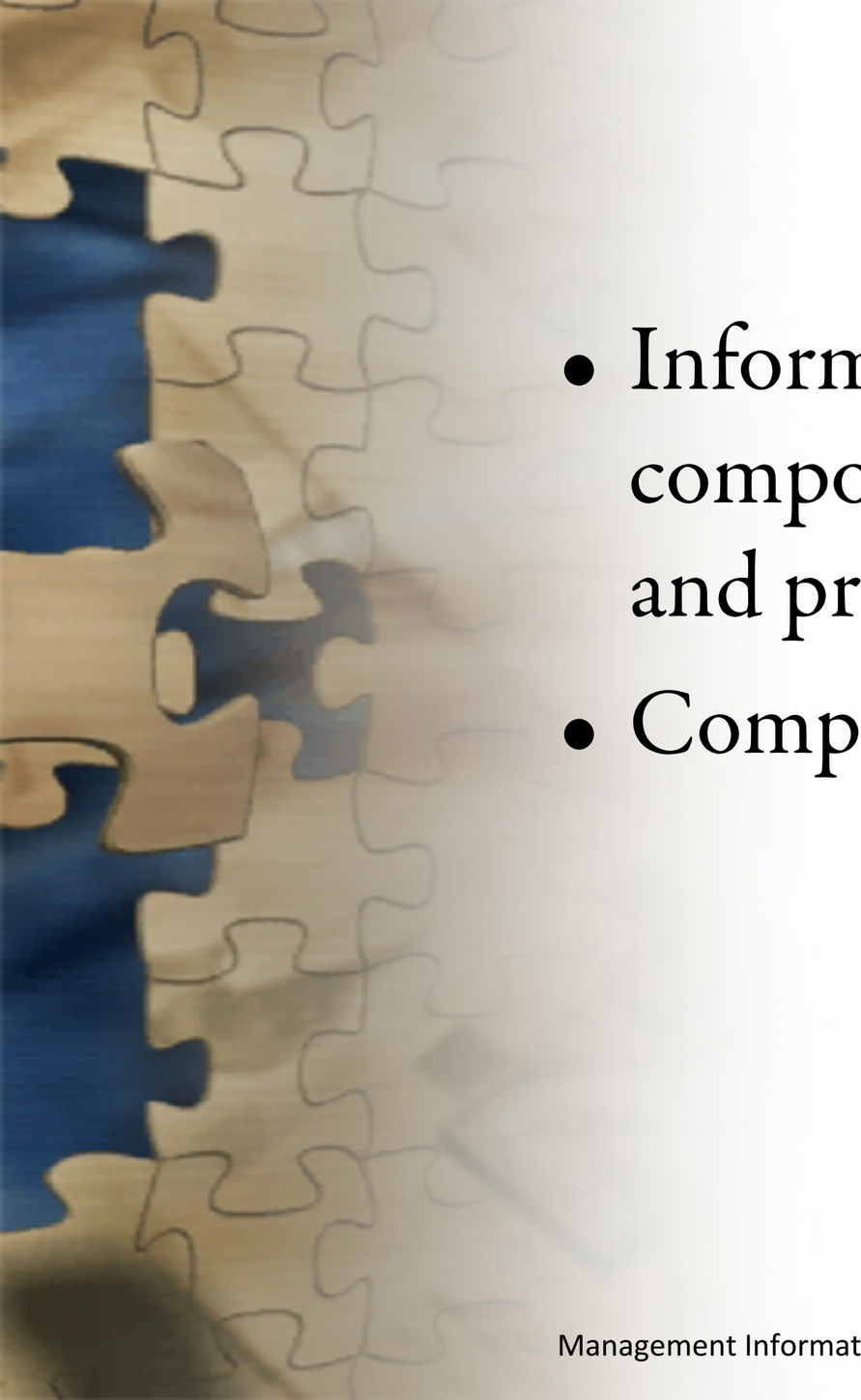
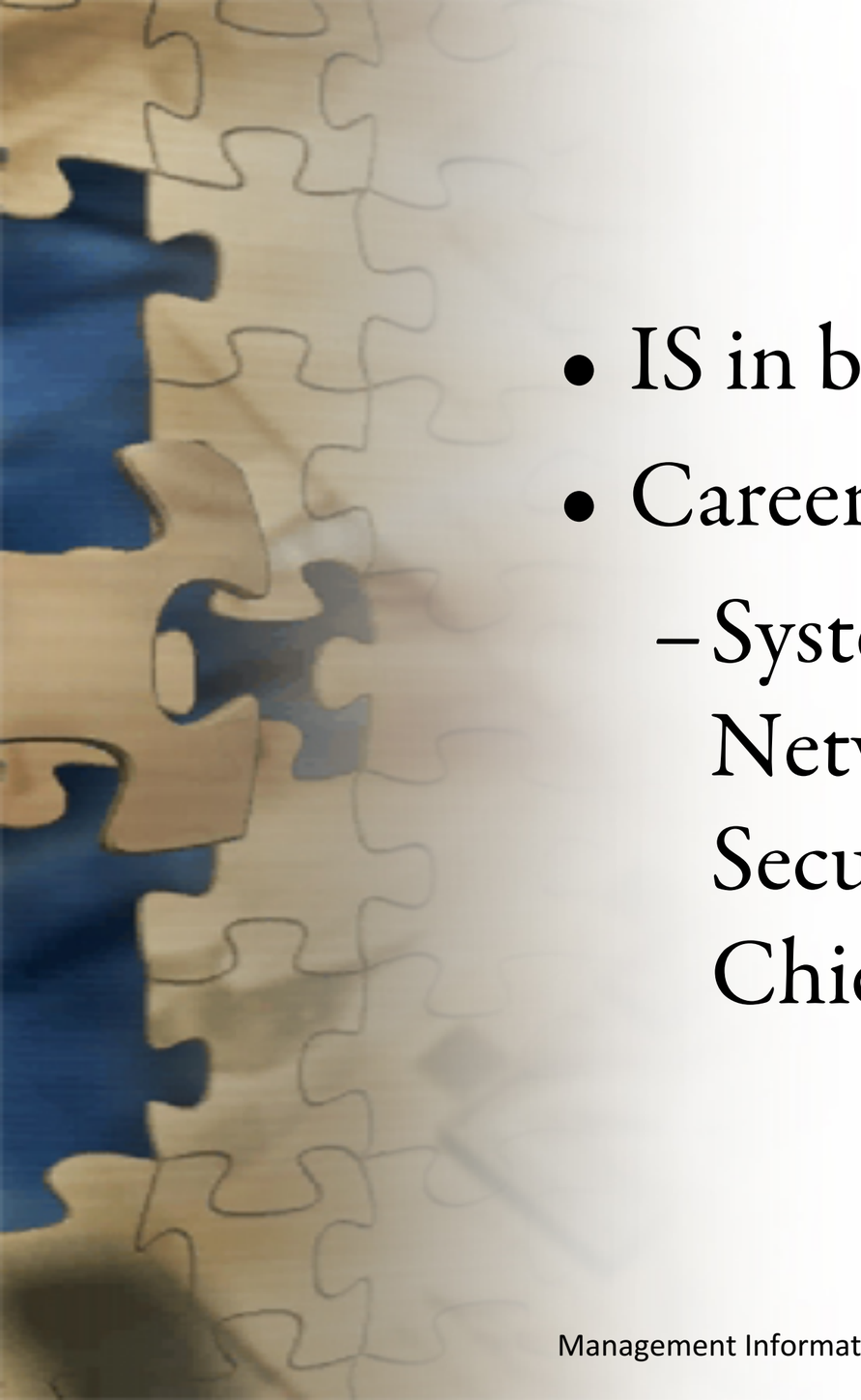


Week One Review

- Information systems (IS) consist of all components that work together to process data and produce information
- Components of an IS

Week One Review

- Four stages of processing
  - Input
  - Data processing
  - Output
  - Storage
- Types of IS



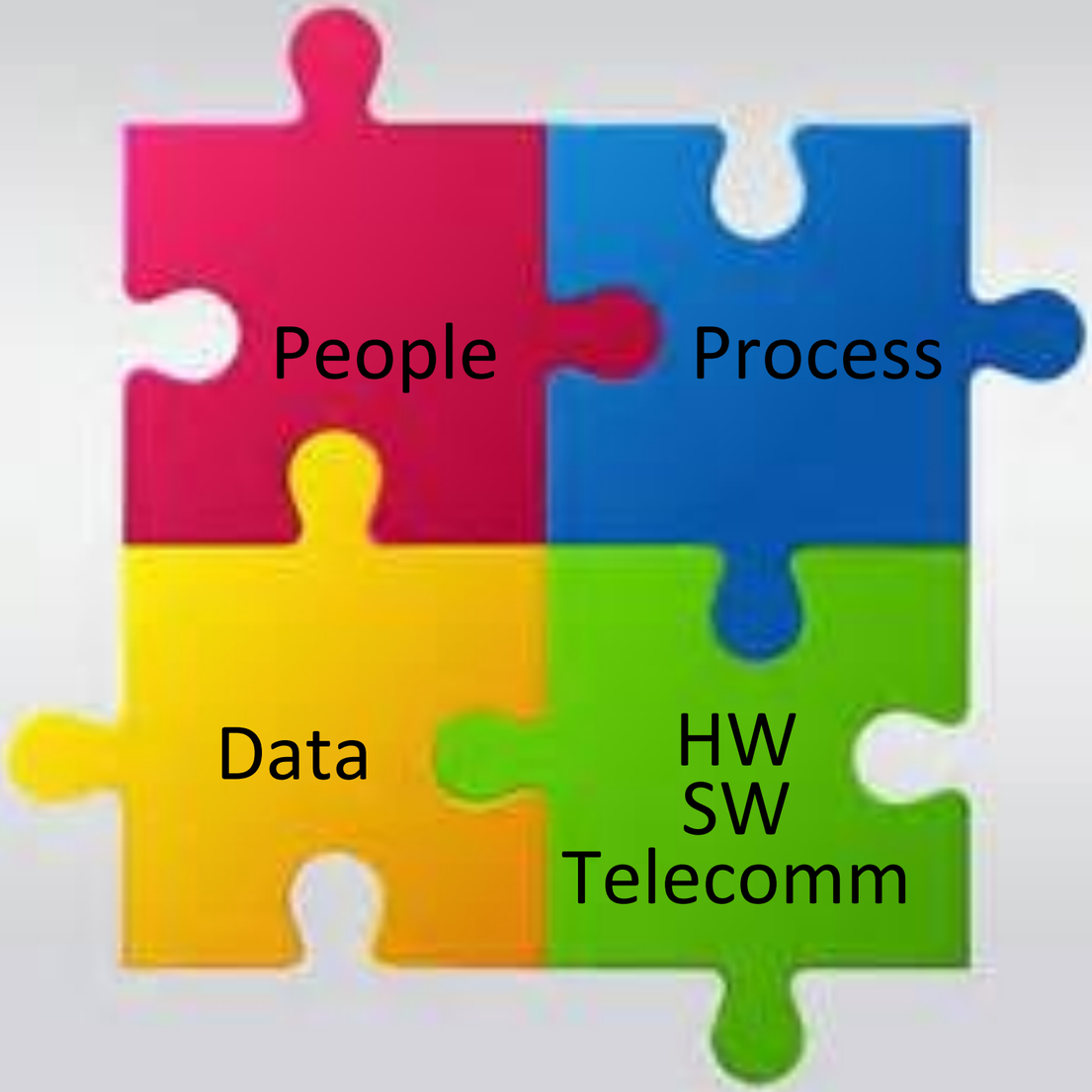
Week One Review

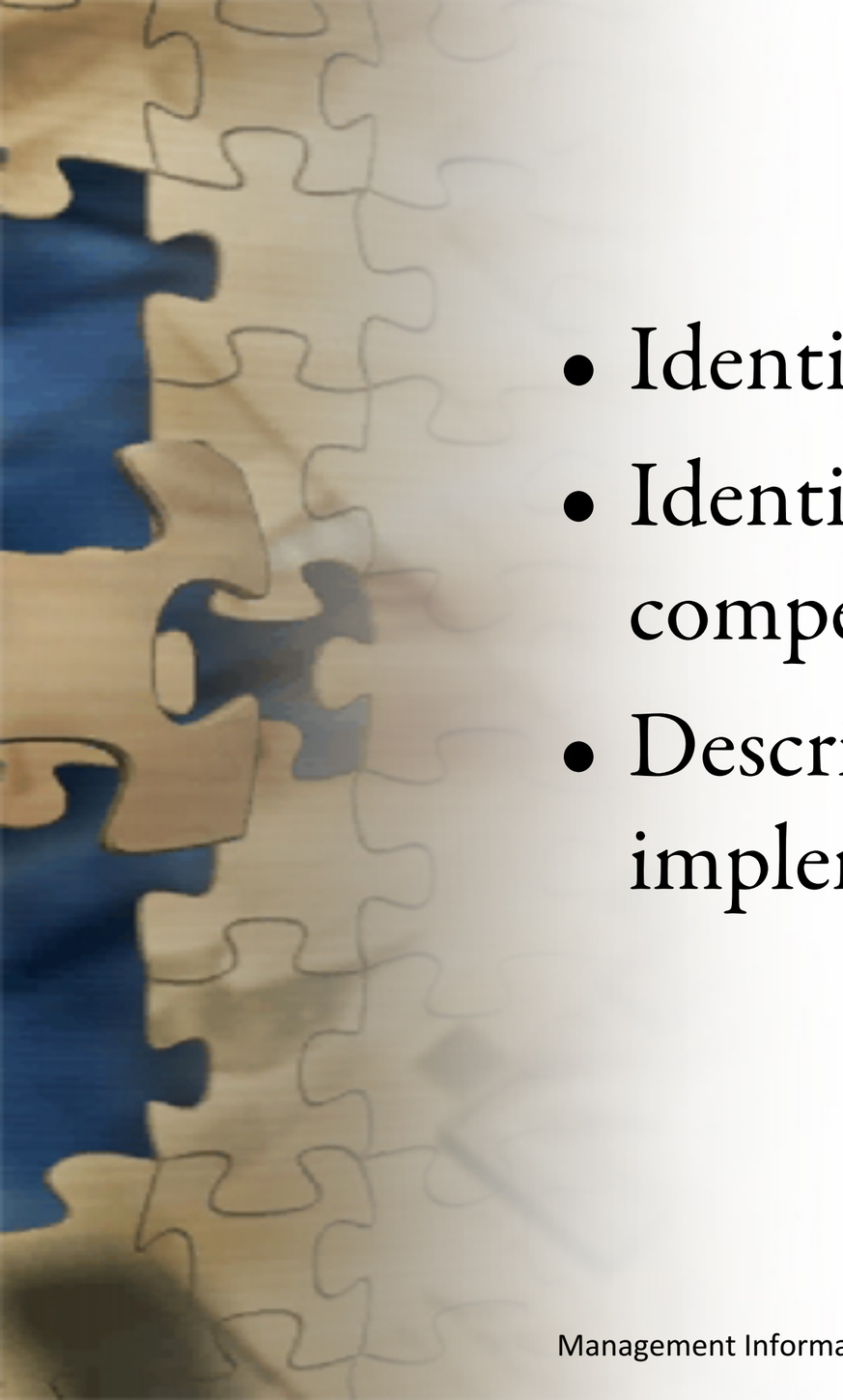
- IS in business functions
- Careers in IS
  - Systems Analyst, Database Administrator, Network Administrator, Webmaster, Chief Security Officer, Chief Information Officer & Chief Technology Officer

Management Information System (MINSYST)

Week Two

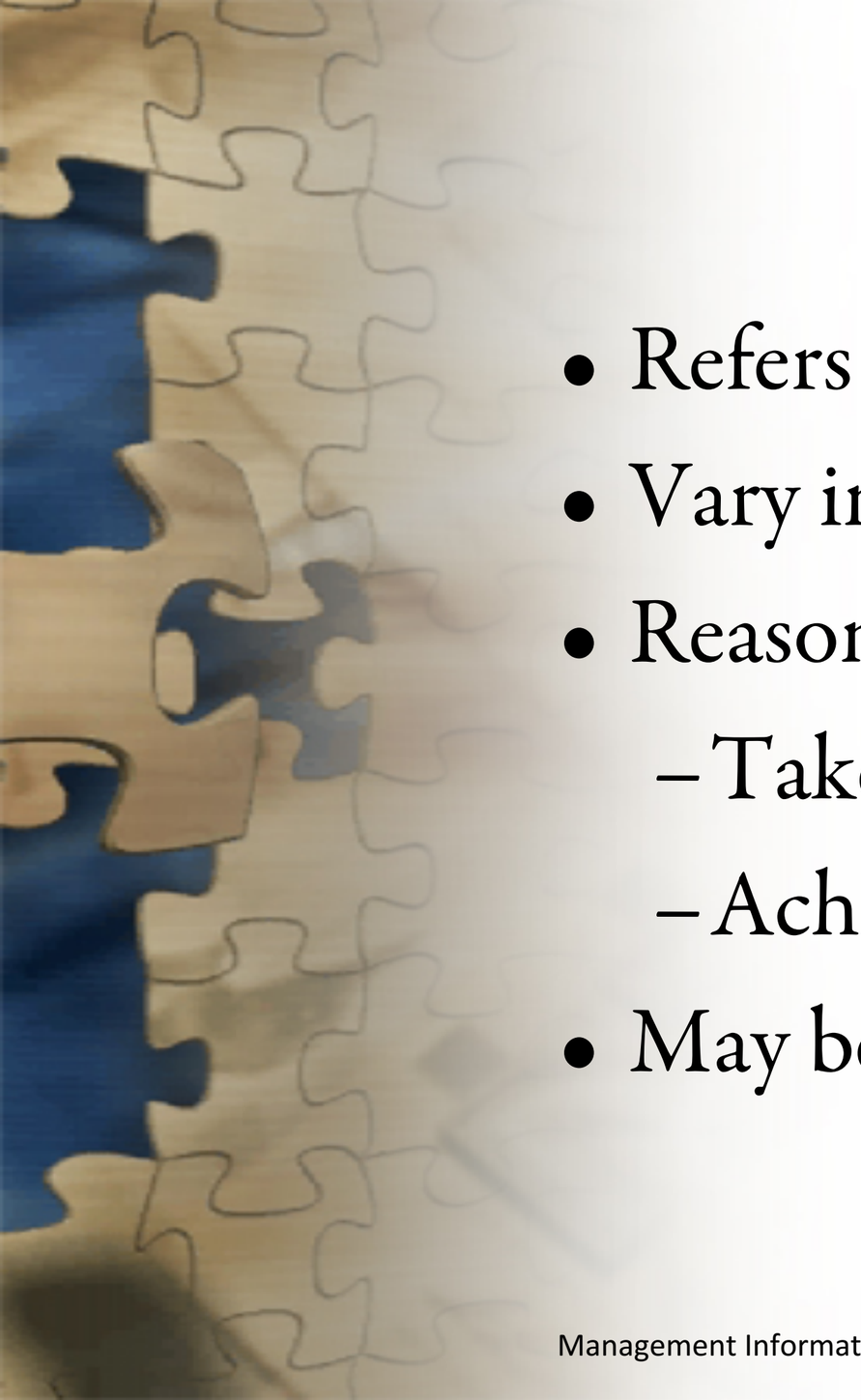
Management Information System





Objectives

- Identify the different uses of information systems
- Identify the factors that help an organization gain competitive advantage
- Describe the cultural, legal and other challenges to implementing information systems

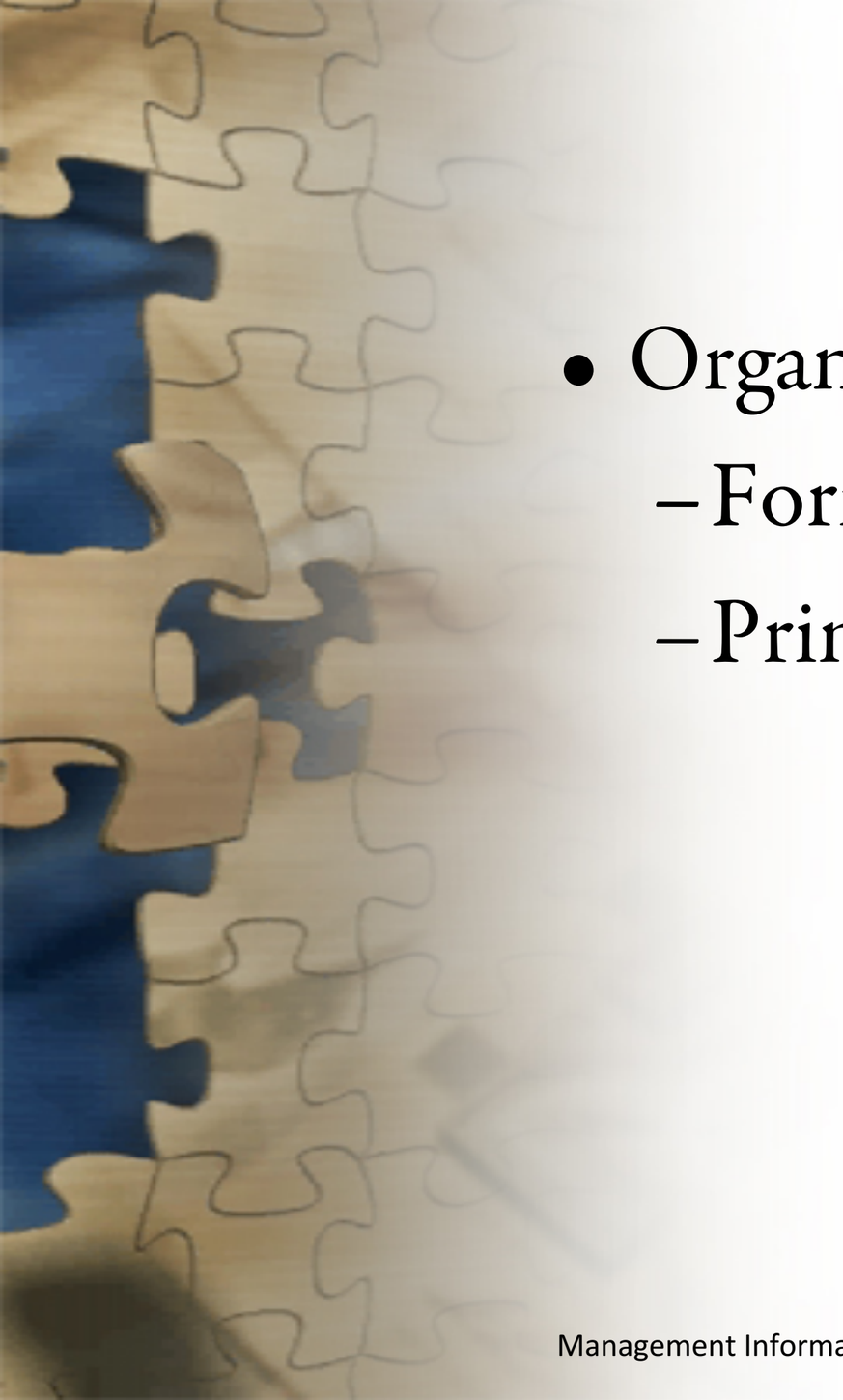


Systems Development

- Refers to creating or modifying IS
- Vary in scope and fields
- Reasons:
  - Take advantage of new technologies
  - Achieve competitive advantage
- May be developed in-house or out-sourced

Systems Development

1. SYSTEMS INVESTIGATION
   - Understand problem
2. SYSTEMS ANALYSIS
   - Understand solutions
3. SYSTEMS DESIGN
   - Select and plan best solution
4. SYSTEMS IMPLEMENTATION
   - Place solution into effect
5. SYSTEMS MAINTENANCE AND REVIEW
   - Evaluate results of solution

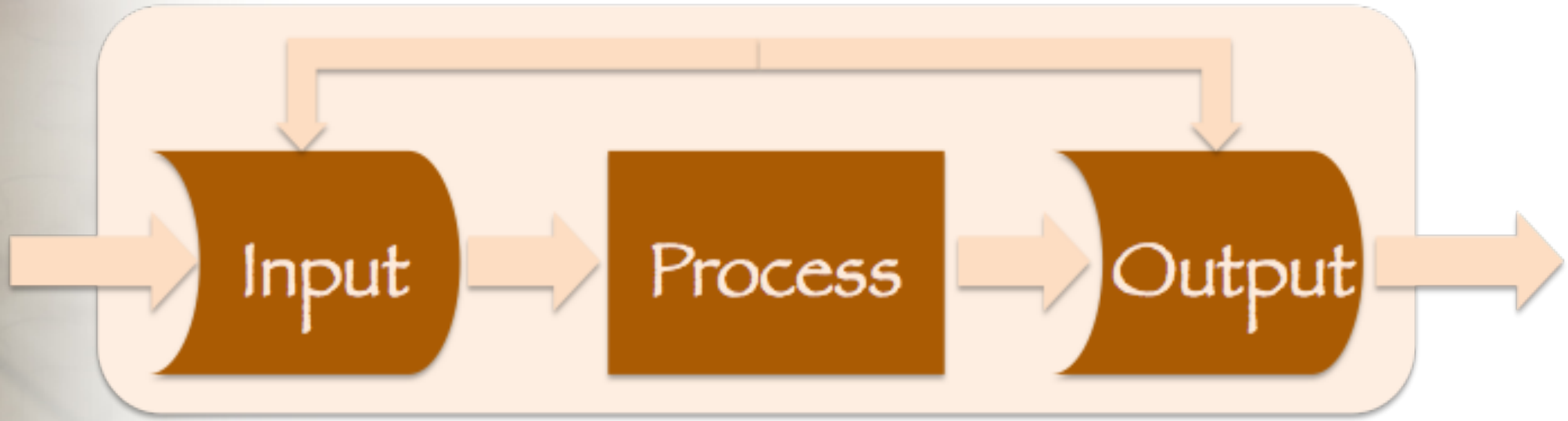


Organizations and IS

- Organization
  - Formal collection of people and other resources
  - Primary goal is to provide value to a stakeholder

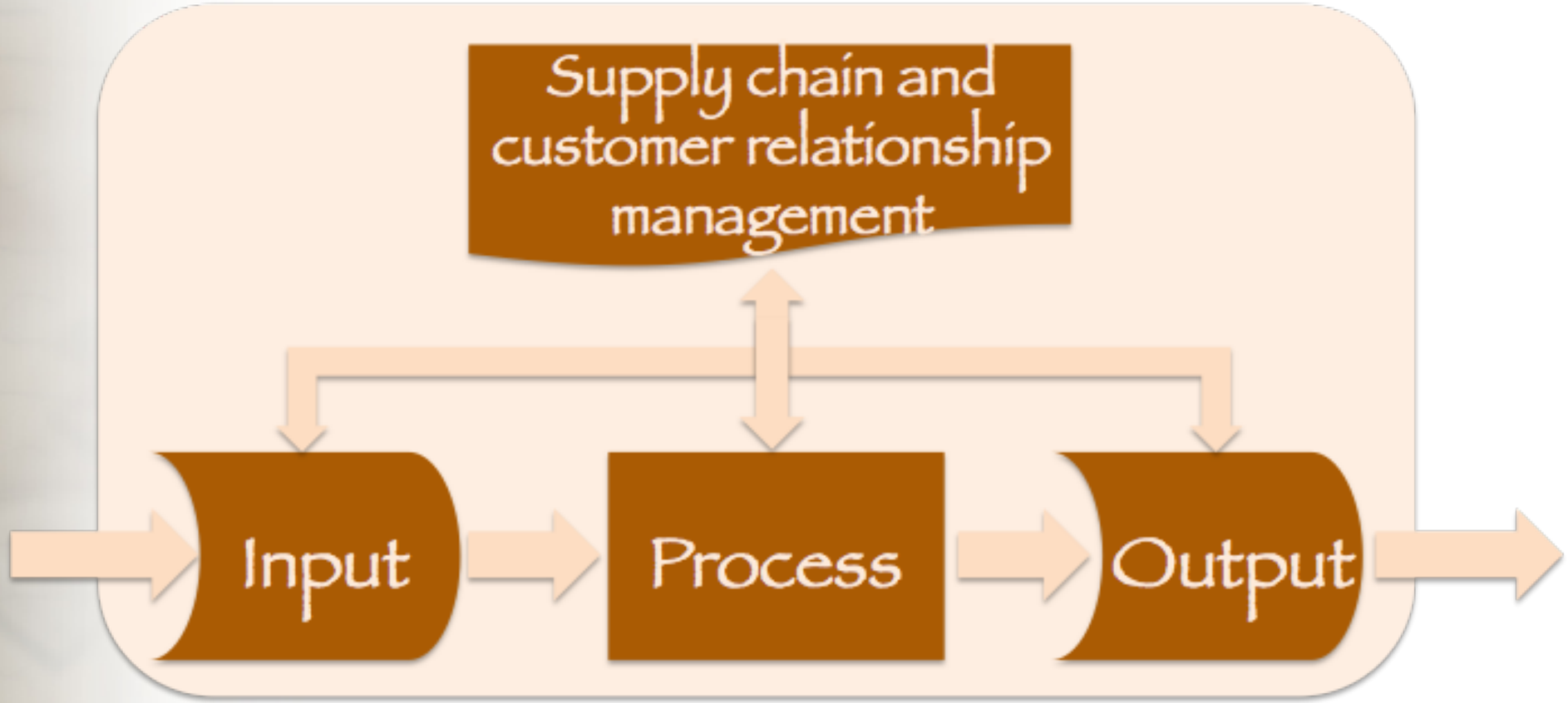
Organizations and IS

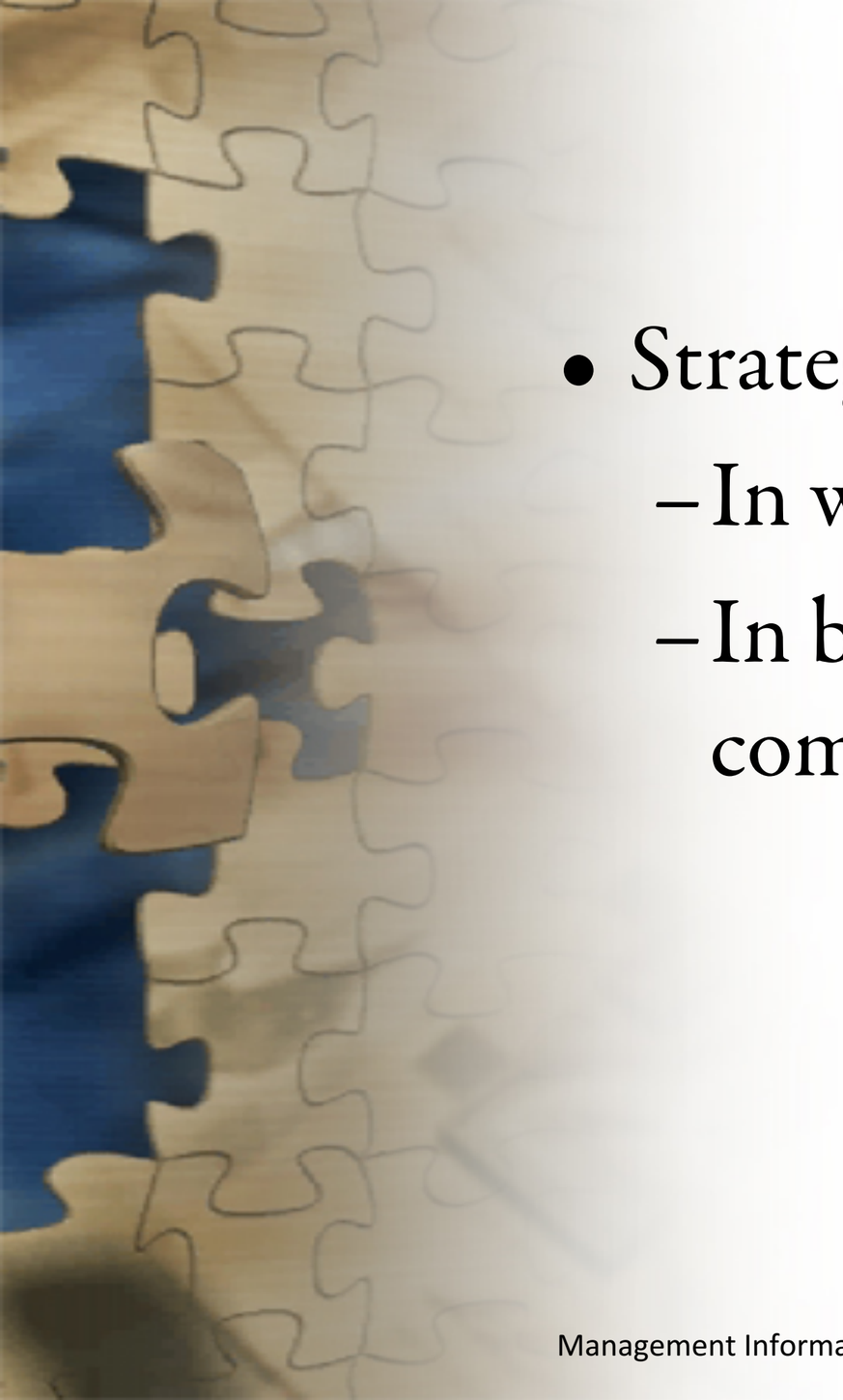
- Organizational system
  - Value chain - series of activities that lead to production of product or service



Organizations and IS

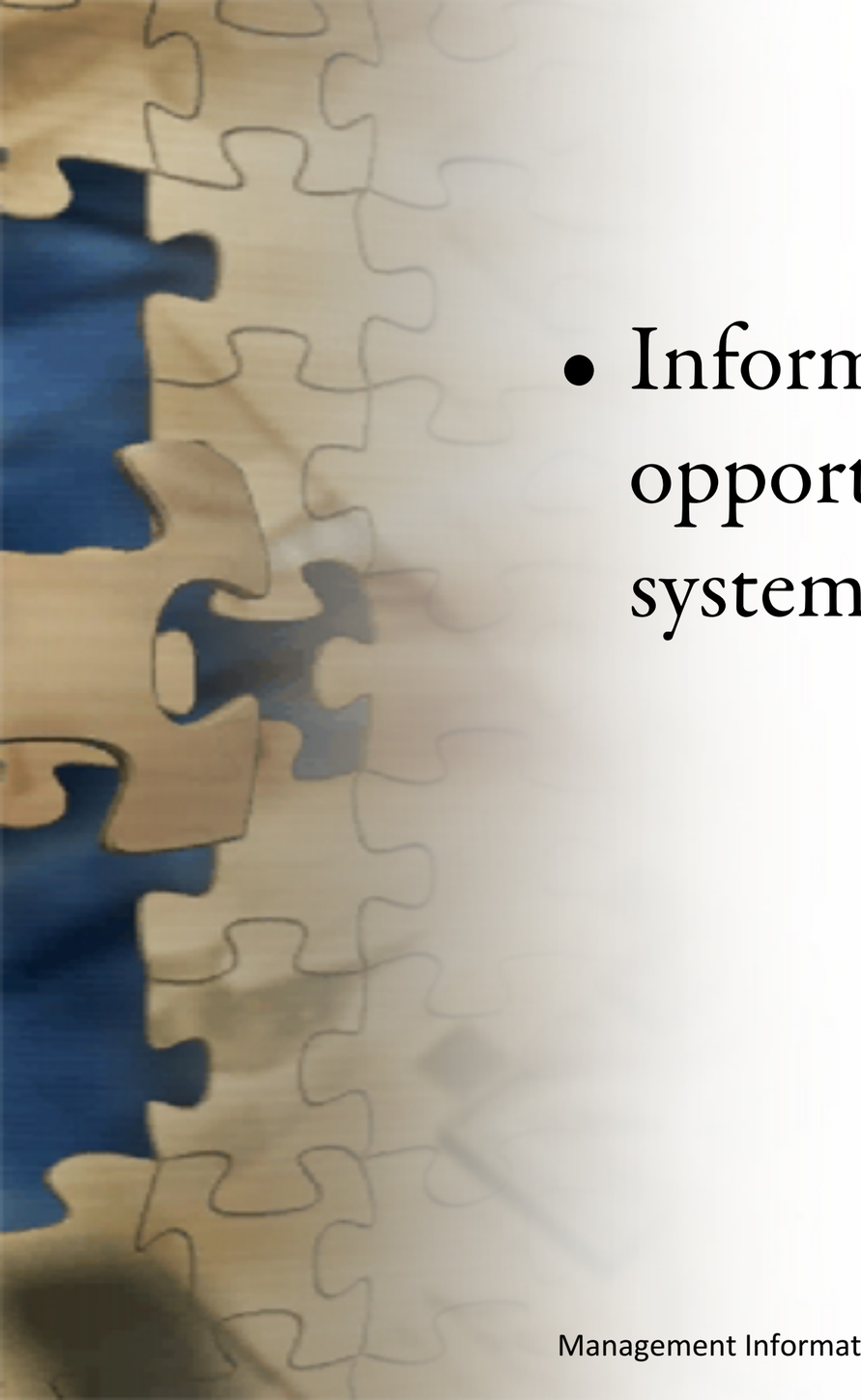
- Organizational system





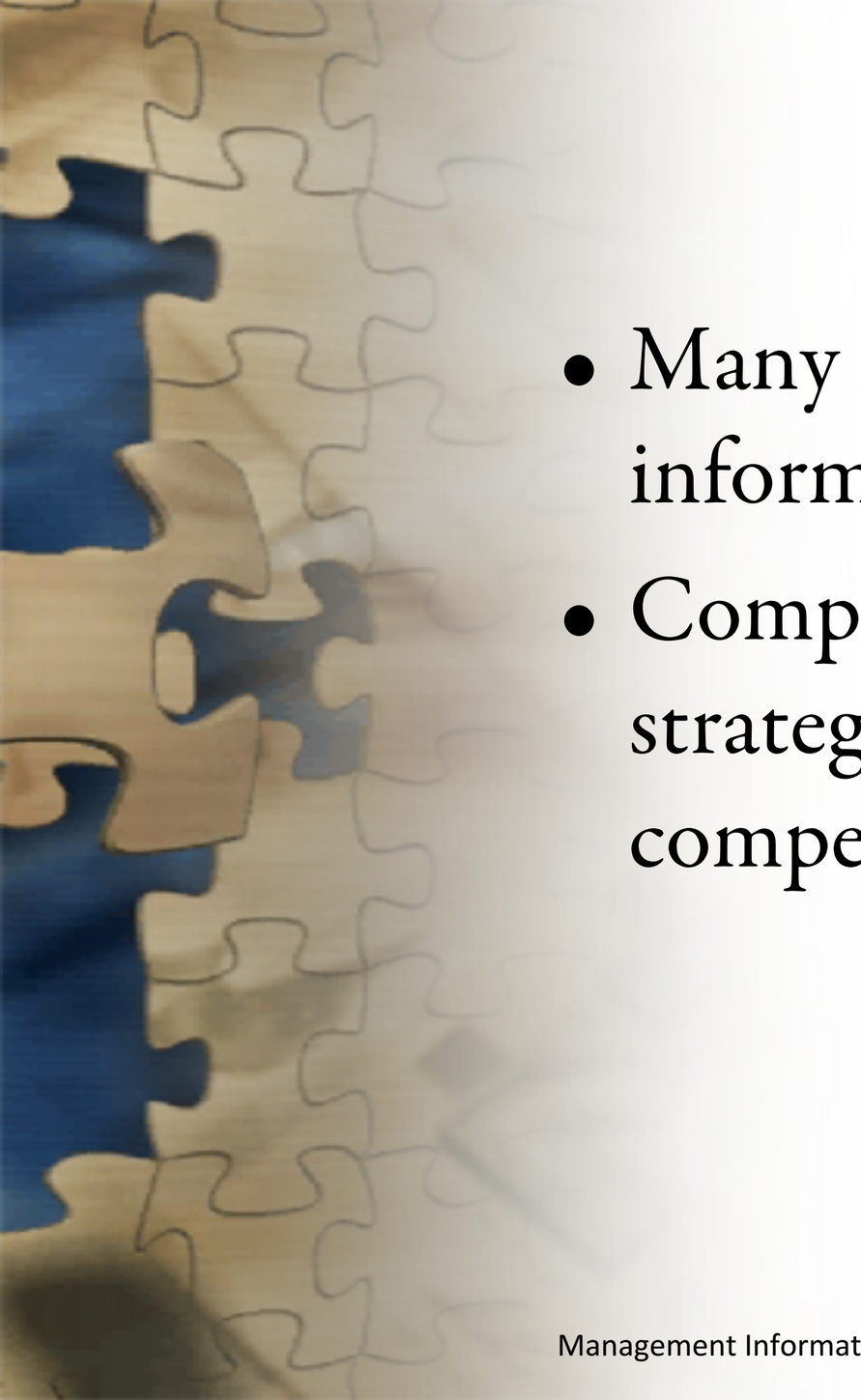
Strategic Information Systems

- Strategy
  - In war - plan to gain advantage over the enemy
  - In business - plan to help outperform the competition



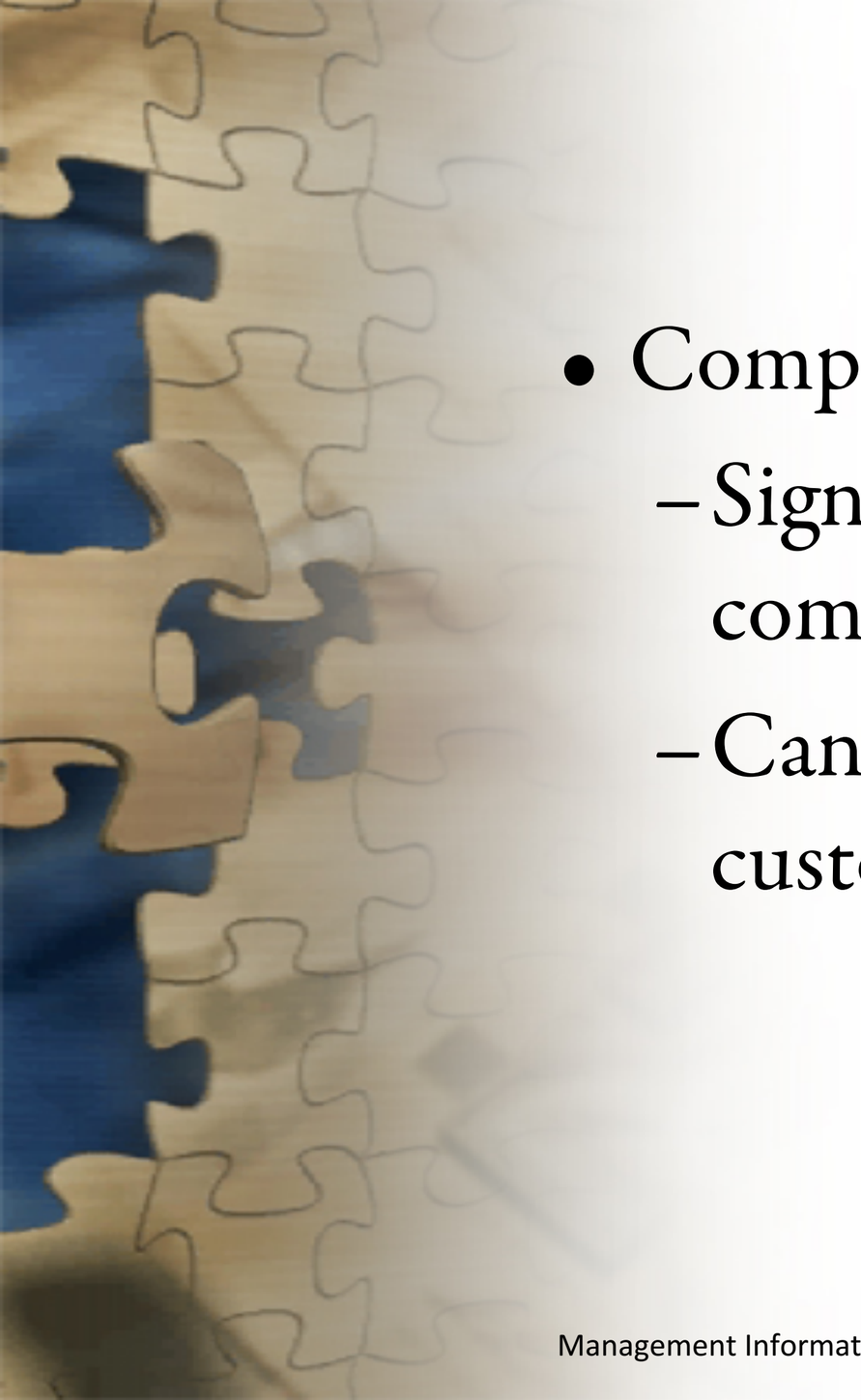
Strategic Information Systems

- Information systems that create and seize opportunities are called strategic information systems



Strategic Information Systems

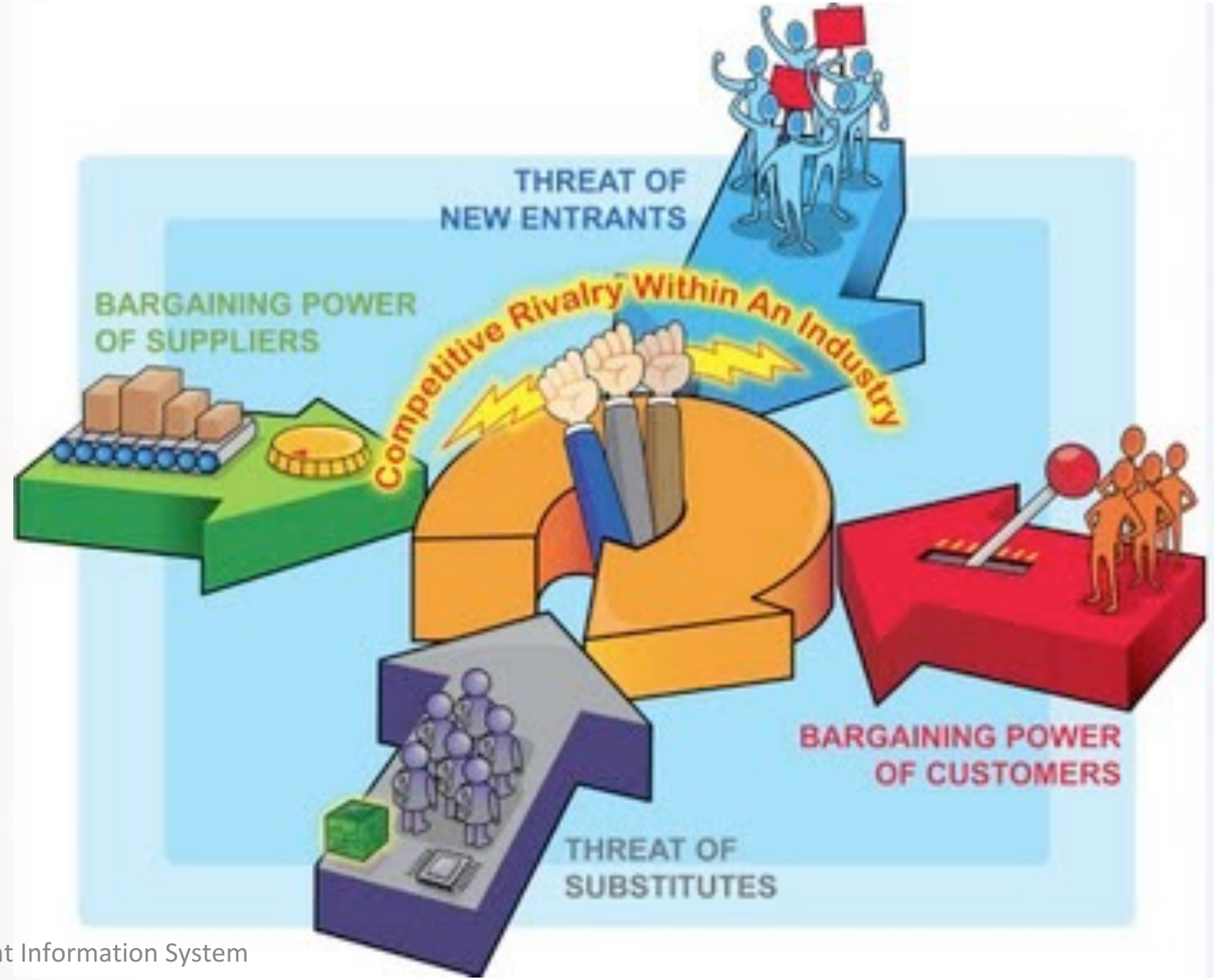
- Many strategies, may or may not involve information systems
- Company achieves strategic advantage by using strategy to maximize its strengths, resulting in competitive advantage

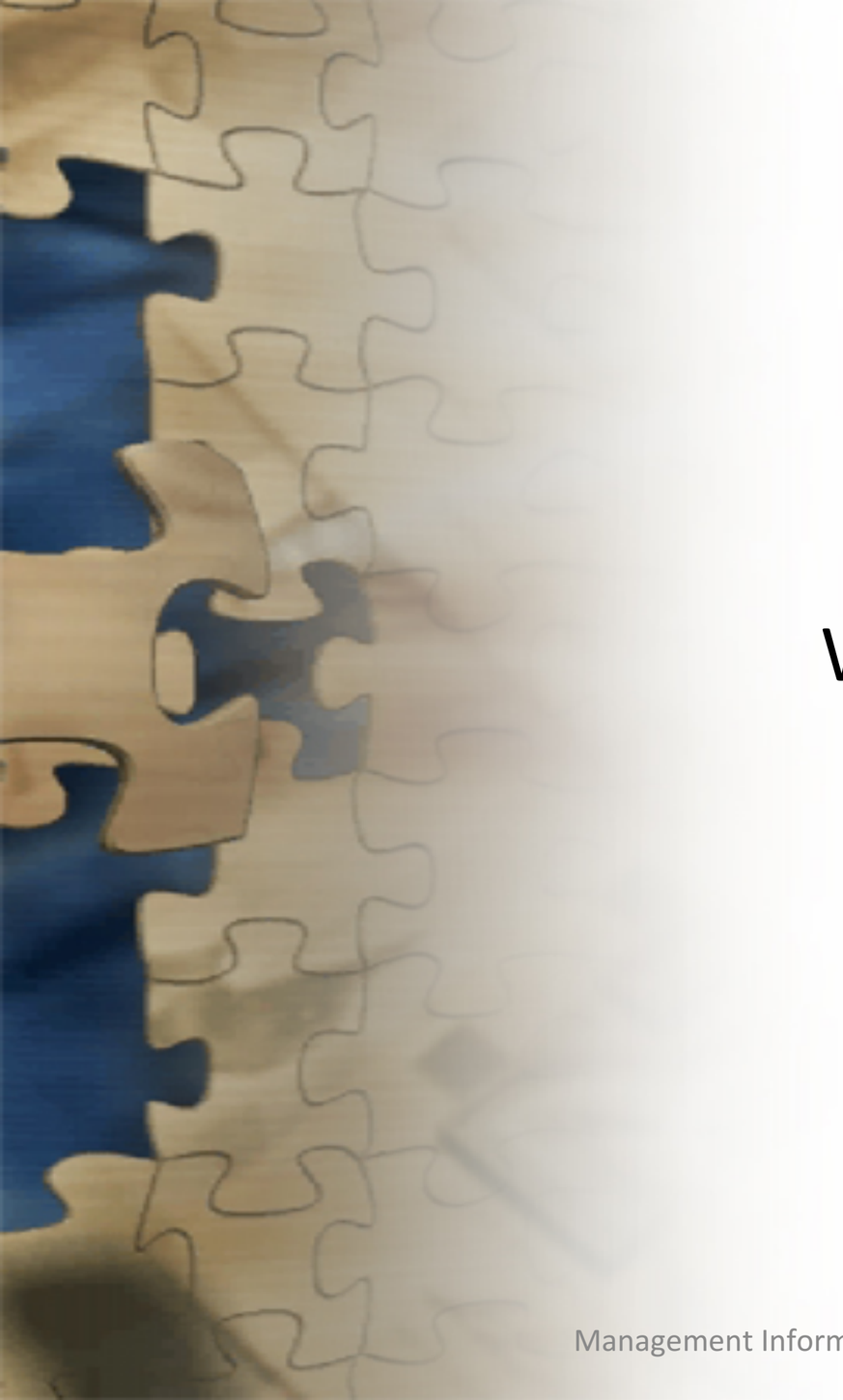


Strategic Information Systems

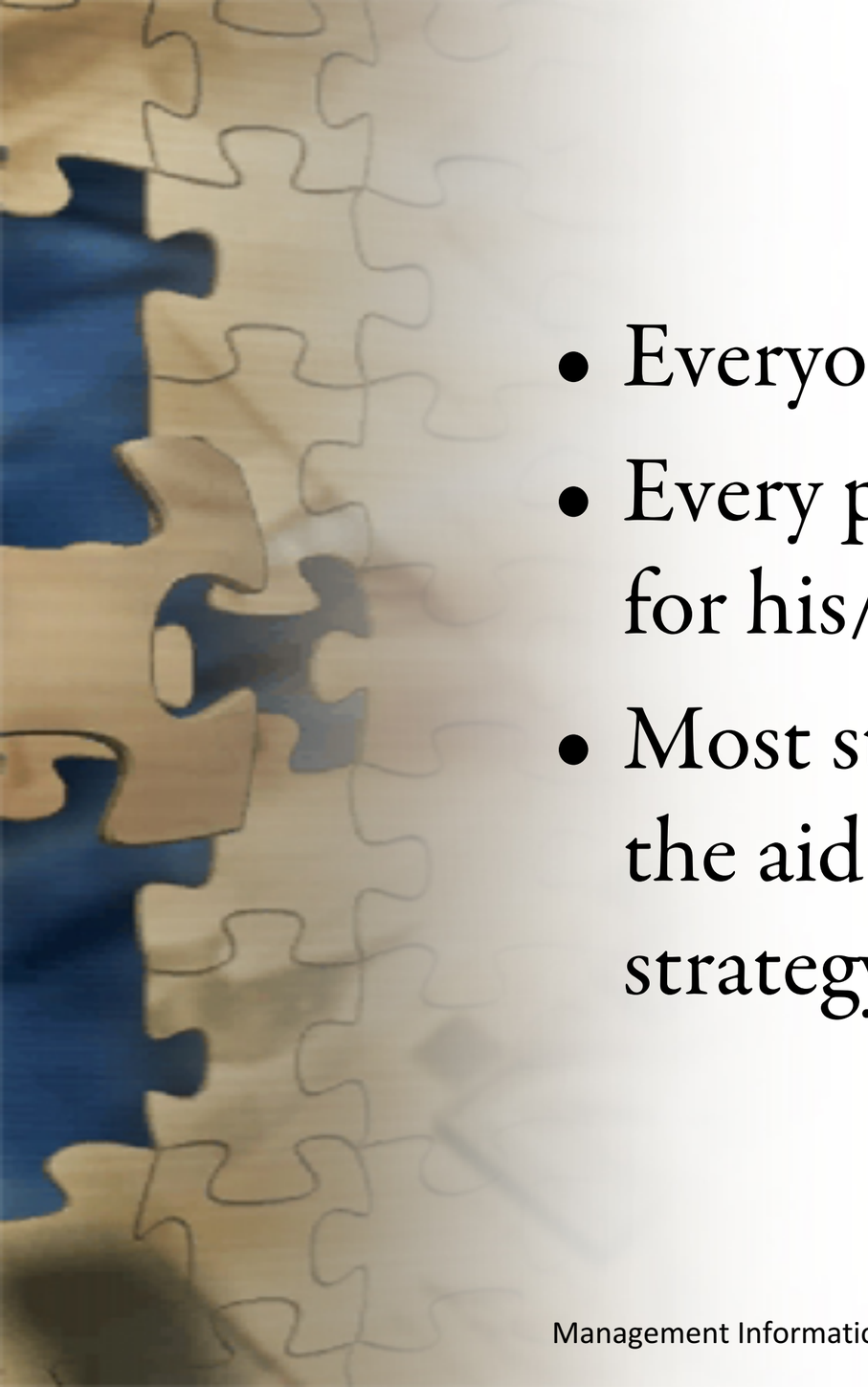
- Competitive advantage
  - Significant and ideally long-term benefit to a company over its competition
  - Can result in higher-quality products, better customer service, lower costs

Strategic Information Systems





Why do we need to understand the notion of strategic information systems?



Strategic Information Systems

- Everyone is a potential manager
- Every professional should try to think strategically for his/her organization
- Most strategic moves are either possible only with the aid of IS, or have IS at the center of the strategy

Creating and Maintaining SIS

- Strategic information systems
  - any IS that can help an organization achieve a long-term competitive advantage
- SIS combine two types of ideas:
  - Ideas for making potentially winning business decisions
  - Ideas for harnessing IT to implement the decisions

Creating and Maintaining SIS

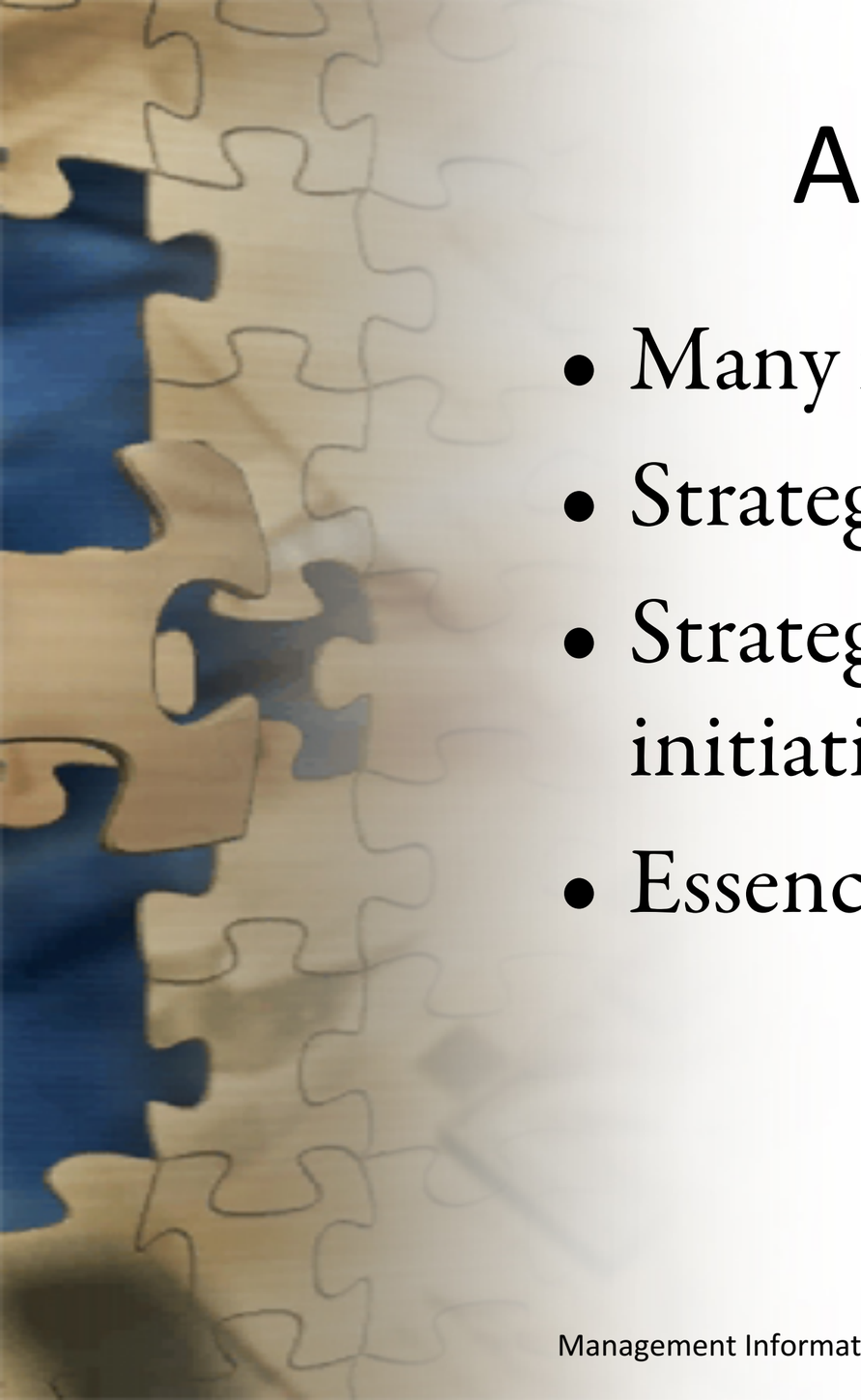
- Strategic information systems (SIS)
  - Must serve an organizational goal
  - Must work with other functional units to pursue the organizational goal
  - Must be part of the overall organizational strategic plan

Creating and Maintaining SIS

- Reengineering and organizational change
  - *Reengineering* - eliminating and rebuilding operations
  - To implement SIS, organizations must rethink the way they operate
  - New SIS requires a business to revamp processes

Creating and Maintaining SIS

- Competitive advantage as a moving target
  - Often short-lived
  - Organizations imitating leaders diminish advantage
  - SIS has become expected business practice
  - Must modify and enhance technology to sustain competitive advantage



Achieving Competitive Advantage

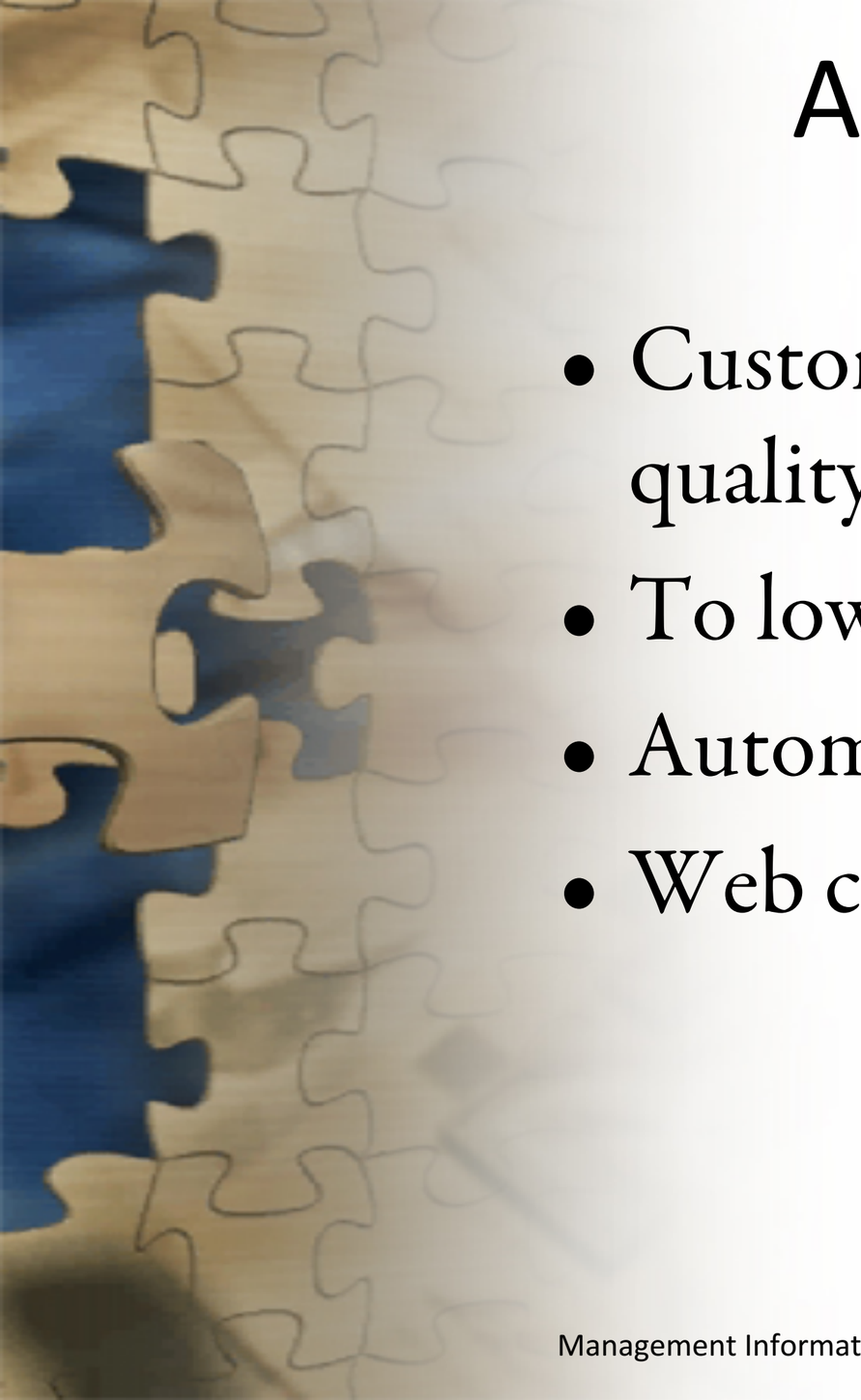
- Many initiatives to gain competitive advantage
- Strategies aim to maximize competitive advantage
- Strategic moves often consist of combination of initiatives
- Essence of strategy is innovation

Achieving Competitive Advantage

- Eight basic ways to gain competitive advantage
  - Reduce costs
  - Raise barriers to market entrants
  - Establish high switching costs
  - Create new products or services

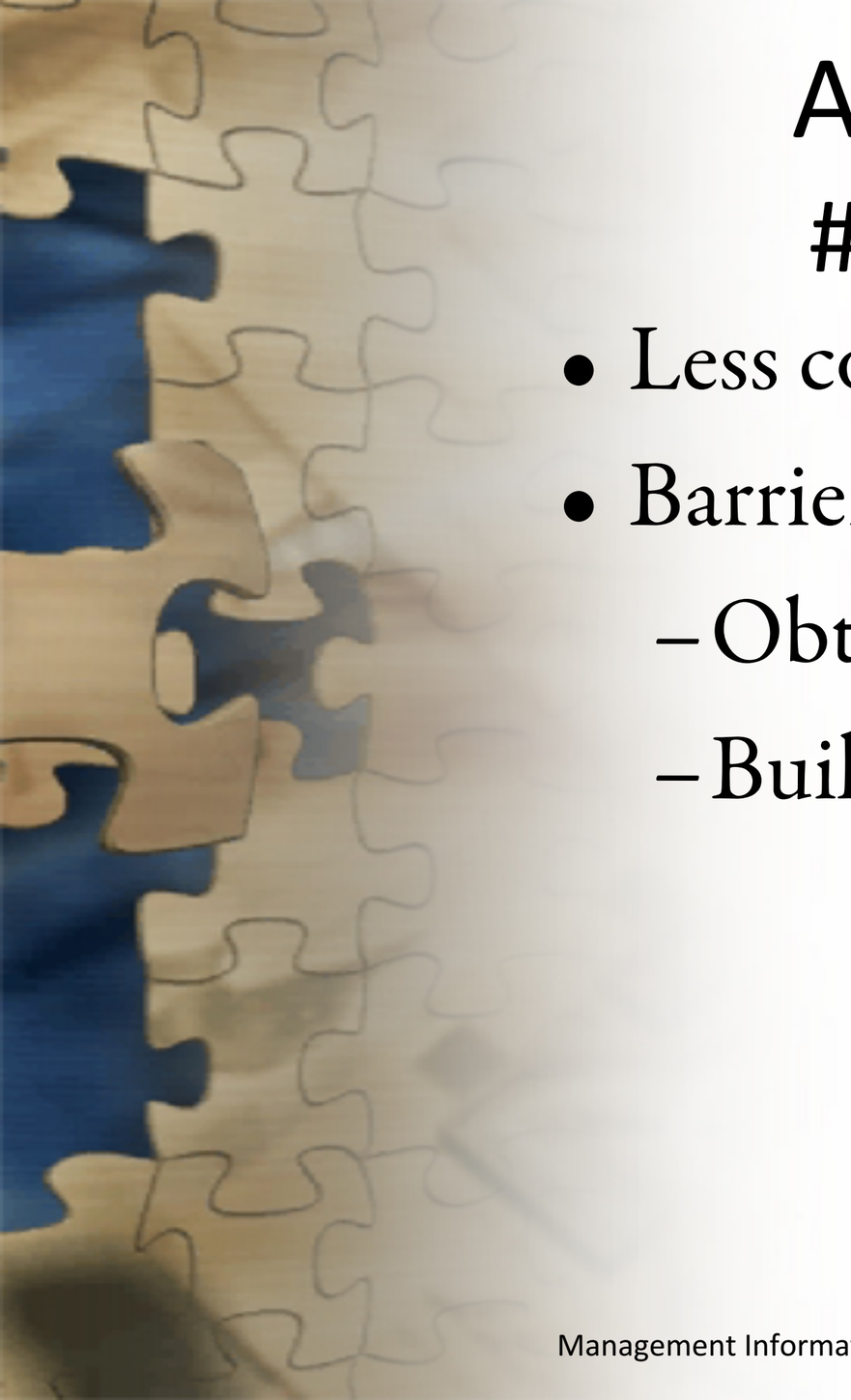
Achieving Competitive Advantage

- Eight basic ways to gain competitive advantage
  - Differentiate products or services
  - Enhance products or services
  - Establish alliances
  - Lock in suppliers or buyers



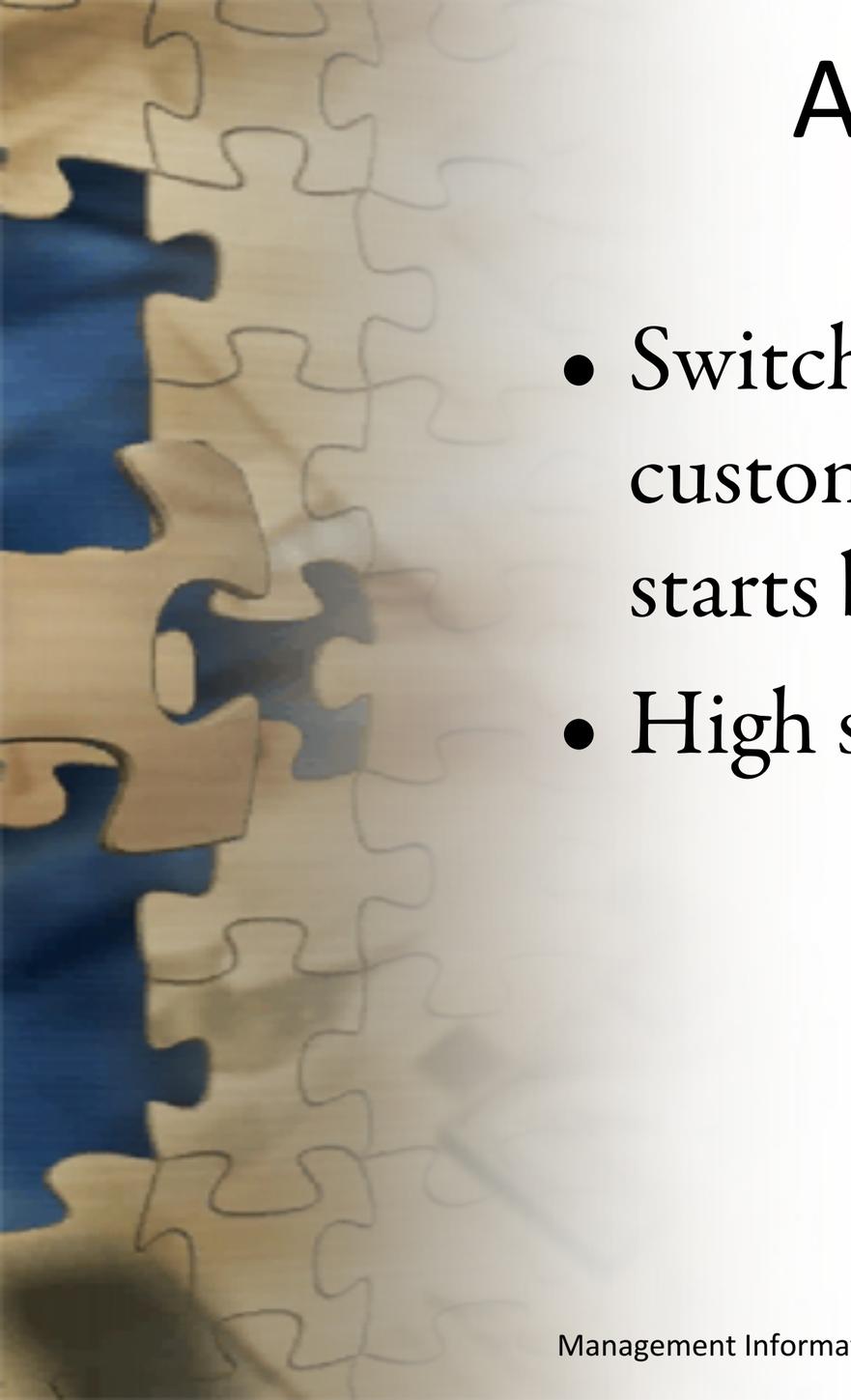
Achieving Competitive Advantage #1: Reduce costs

- Customers want to pay as little as possible for quality service or product
- To lower prices, reduce costs
- Automation greatly reduces costs
- Web can automate customer service



Achieving Competitive Advantage
#2: Raise barriers to market entrants

- Less competition is better for the company
- Barriers to new entrants:
  - Obtain legal protection for intellectual property
  - Build unmatchable IS



Achieving Competitive Advantage
#3: Establish high switching costs

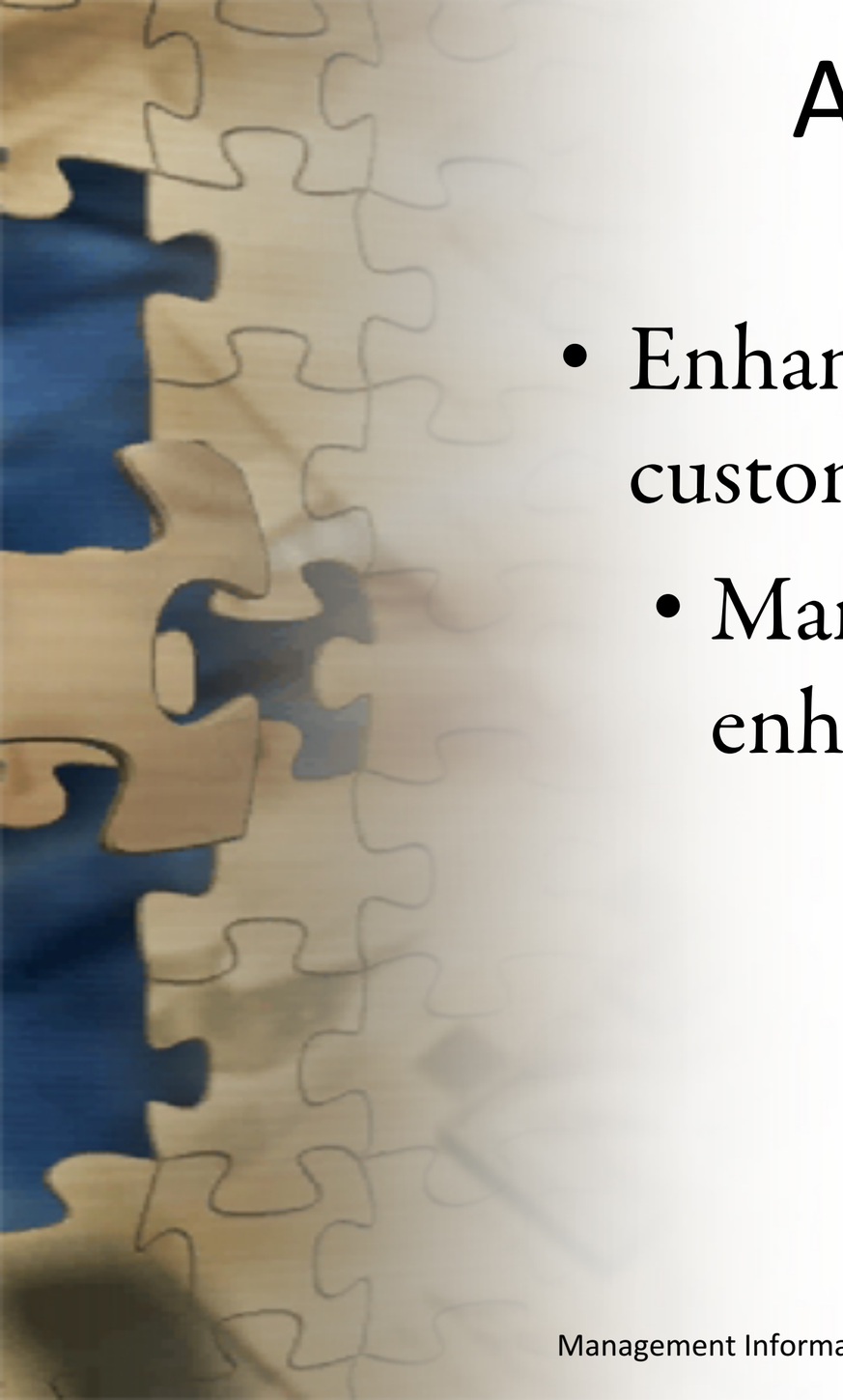
- Switching cost refers to costs incurred when customer stops buying from one company and starts buying from another
- High switching costs lock in the customers

Achieving Competitive Advantage
#4: Create new products or services

- Unique product or service
- *First mover*: organization that is first to offer a new product or service
  - Must continuously improve products and services

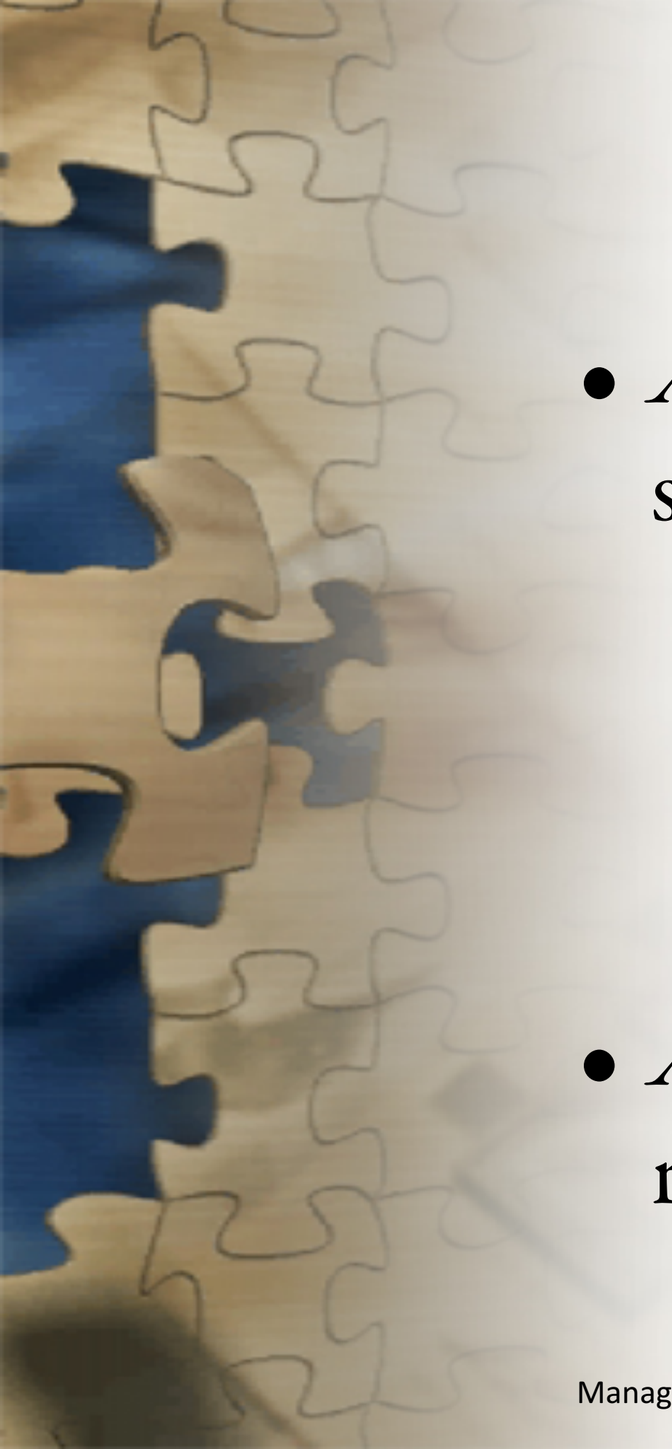
Achieving Competitive Advantage #5: Differentiate products and services

- *Product differentiation*: persuading customers that product is better than competitors
  - Achieved through advertising
  - Exemplified by brand name success
  - Promotes brand name



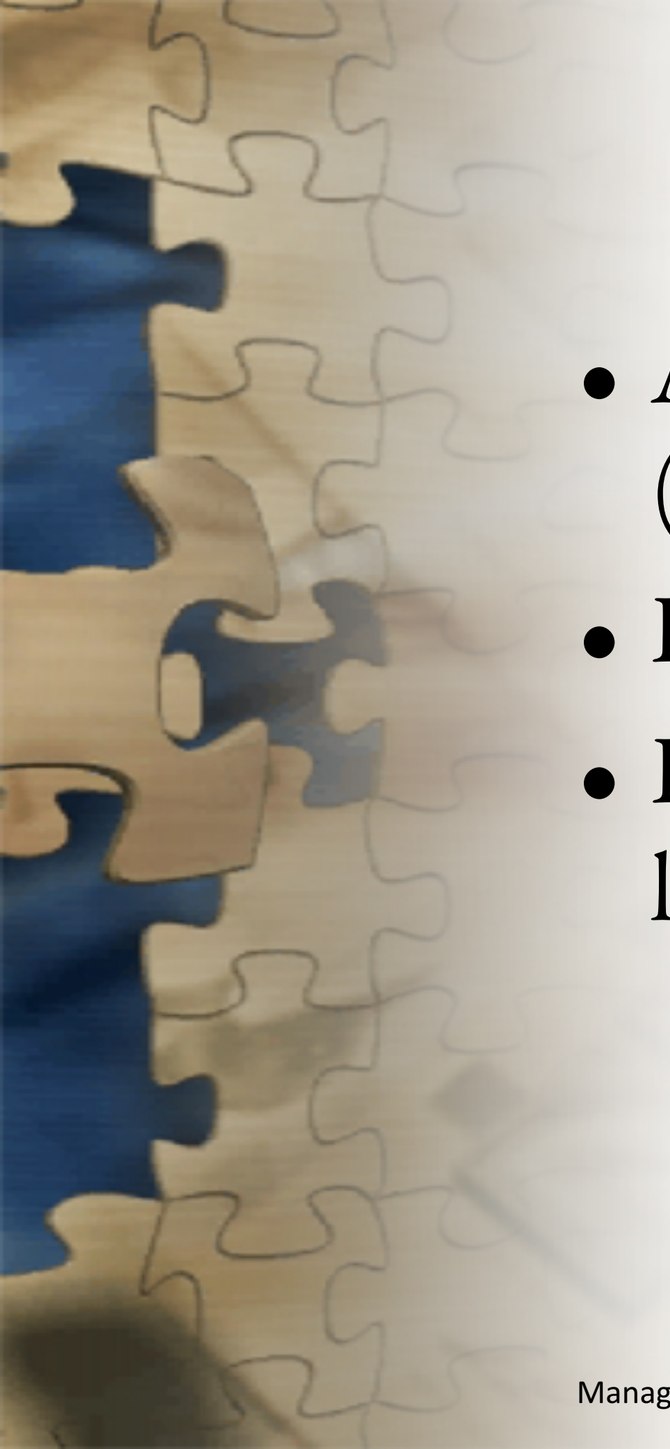
Achieving Competitive Advantage #6: Enhance products or services

- Enhance products and services to increase value to customer
  - Many products and services have been enhanced by the Web



Achieving Competitive Advantage
#7: Establish alliances

- *Alliances*: two or more companies combining services
  - Makes product more attractive
  - Reduces costs
  - Provides one-stop shopping
- *Affiliate program*: linking to other companies and rewarding the linker for the click-throughs



Achieving Competitive Advantage #8: Lock in suppliers and buyers

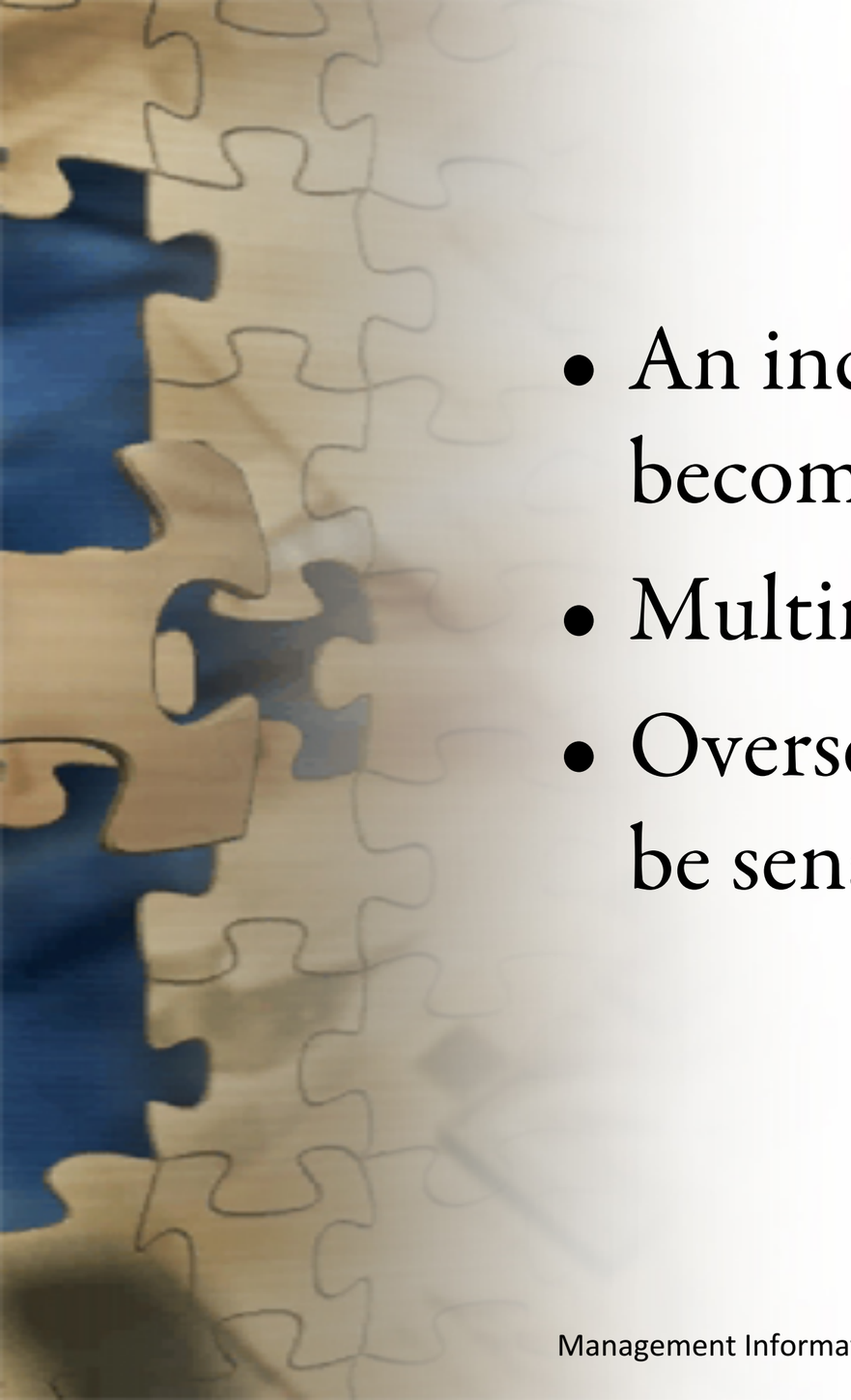
- Accomplished by achieving bargaining power (leverage to influence buyers and suppliers)
- Lock in clients by creating high standards
- Lock in clients by creating physical or software limitation on using technology

Performance-based IS

- Three major stages in the use of IS
  - Using IS to reduce costs and improve productivity
  - Using IS to gain competitive advantage
  - Using IS and evaluating its contribution to the business

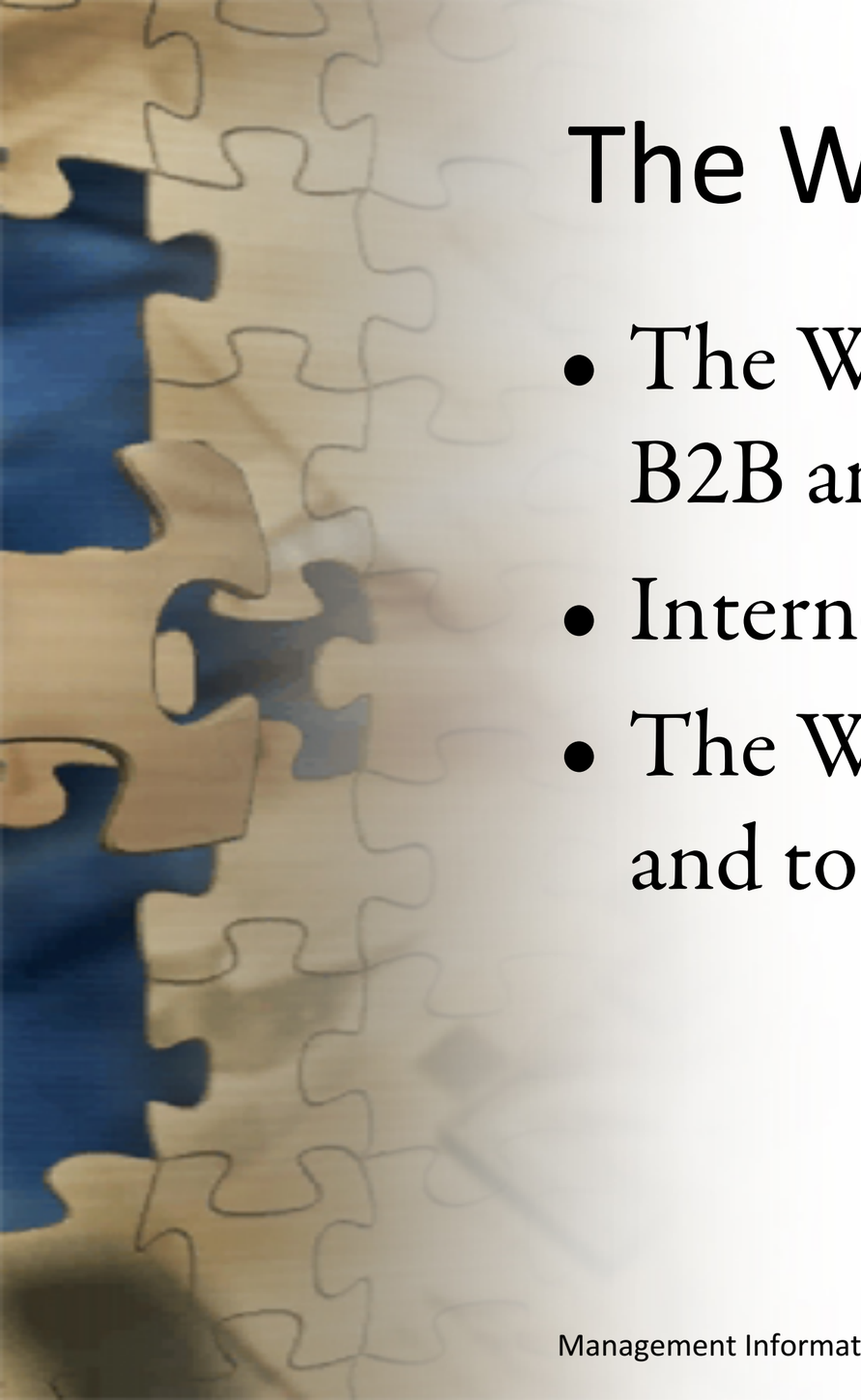
Performance-based IS

- Measures of performance
  - Productivity
  - Return on Investment (ROI)
  - Earnings Growth
  - Market Share and Speed to Market
  - Customer Awareness and Satisfaction
  - Total Cost of Ownership
  - Risk



Global Challenges to IS

- An increasing number of corporations are becoming multinational
- Multinational companies use global IS
- Overseas operations must abide by local laws, yet be sensitive to local cultures and standards



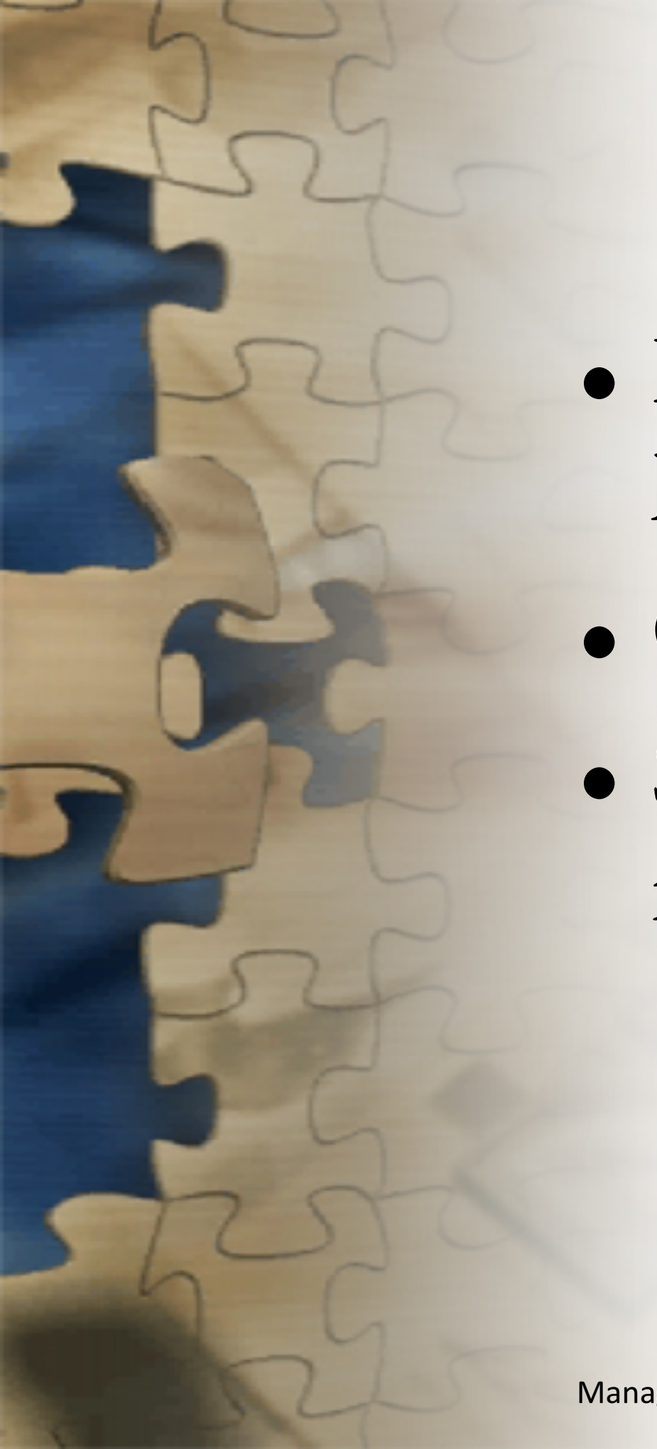
The Web and International Commerce

- The Web has become an important vehicle for B2B and B2C commerce
- Internet opens enormous global opportunities
- The Web offers opportunities to increase revenue and to save on costs

FIGURE 9.3
Imperatives to heed when designing Web sites for an international audience

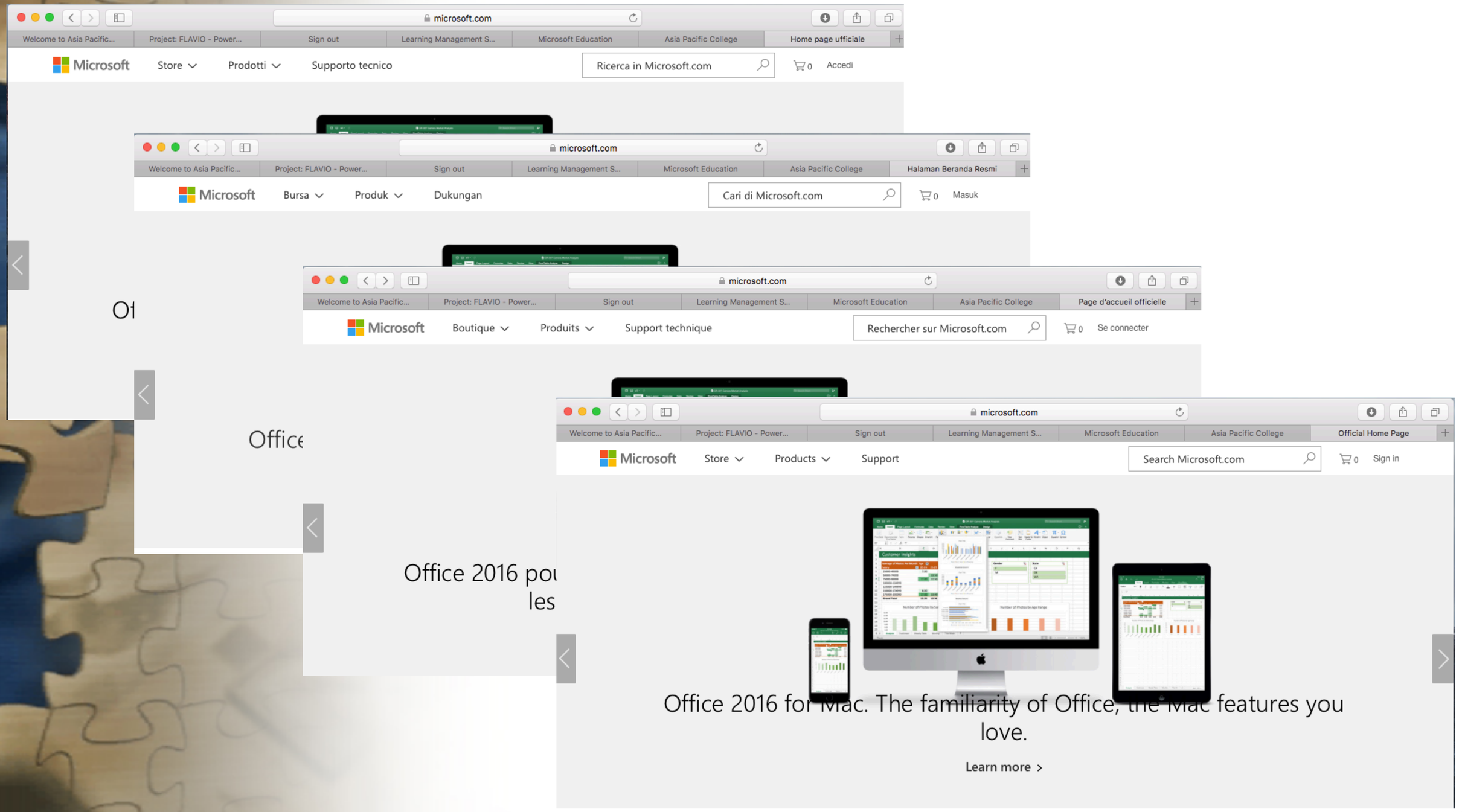
Plan	Plan the site before you develop it. A site for an international audience requires more planning than a national one.
Learn the Preferences	Learn the cultural preferences, convention differences, and legal issues, or use experts who know these preferences. Tailor each local site (or the local section of your site) to the way in which the local people prefer to shop, buy, and pay.
Translate Properly	Use local interpreters to translate content for local audiences. Do not use software or other automated methods, unless humans review the translated material. Experienced translators are attentive to contemporary nuances and connotations.
Be Egalitarian	Do not let any audience feel as if it is less important than other audiences. Keep all local sections of your site updated and with the same level of information and services.
Avoid Cultural Imperialism	If the local language or culture has a word or picture for communicating an idea, use it; do not use those of your own country. Give the local audience a homey experience.

Reference:
Oz, E. (2011). *Principles of Management Information Systems. Philippine Edition*. Cengage Learning Asia Pte.



Think Globally, Act Locally

- International companies must “think globally, act locally”
- Control must be decentralized
- Strategic planning should be global, but can be followed with a local flavor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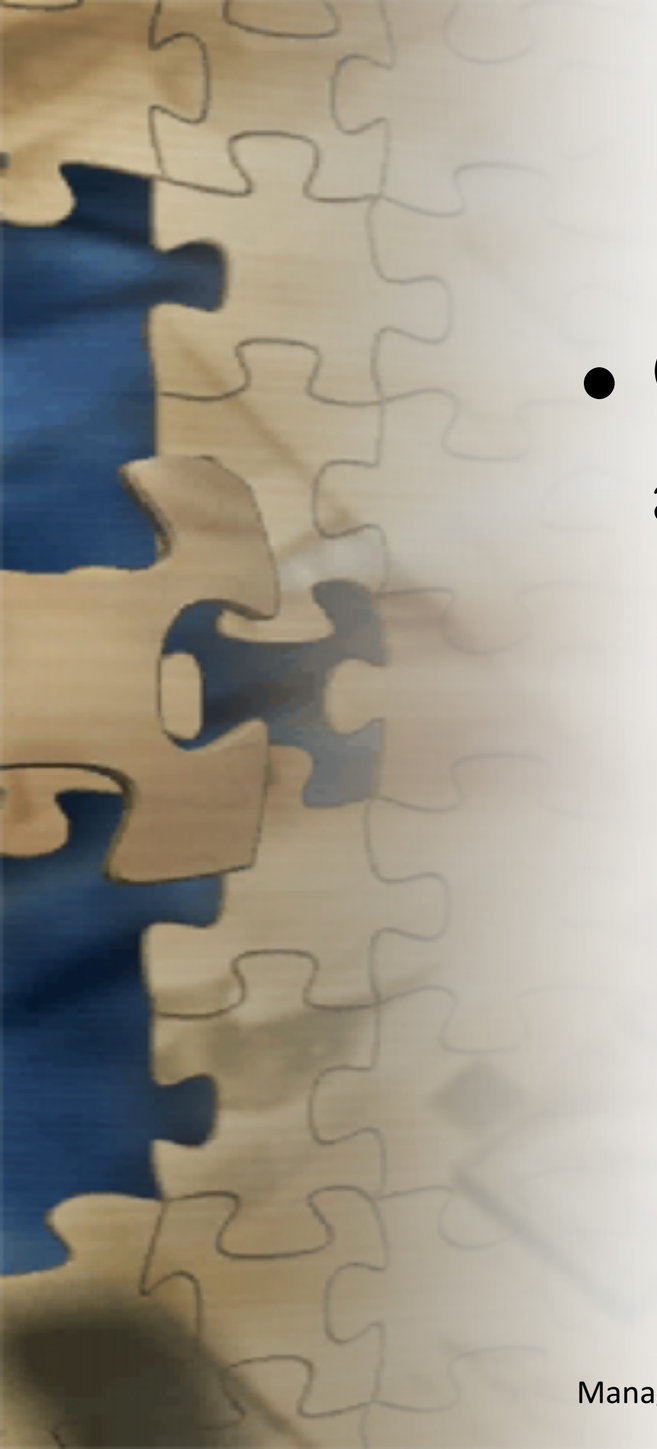
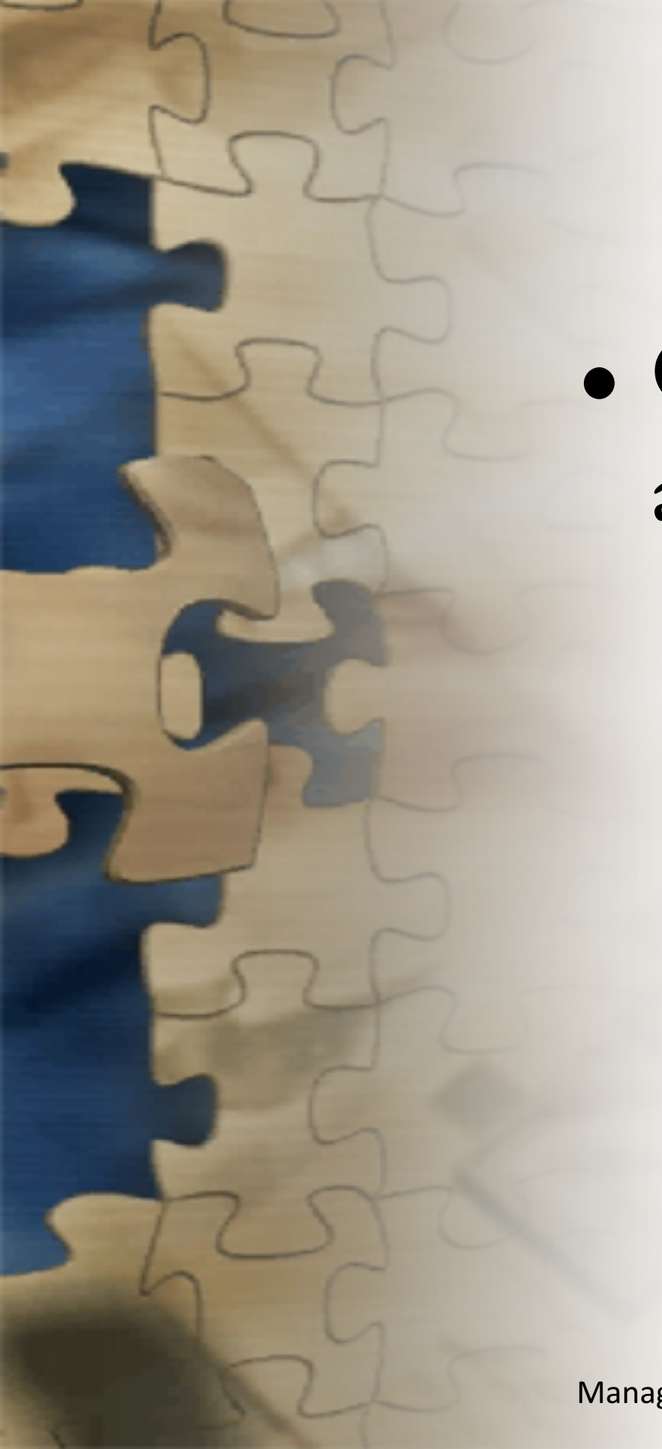


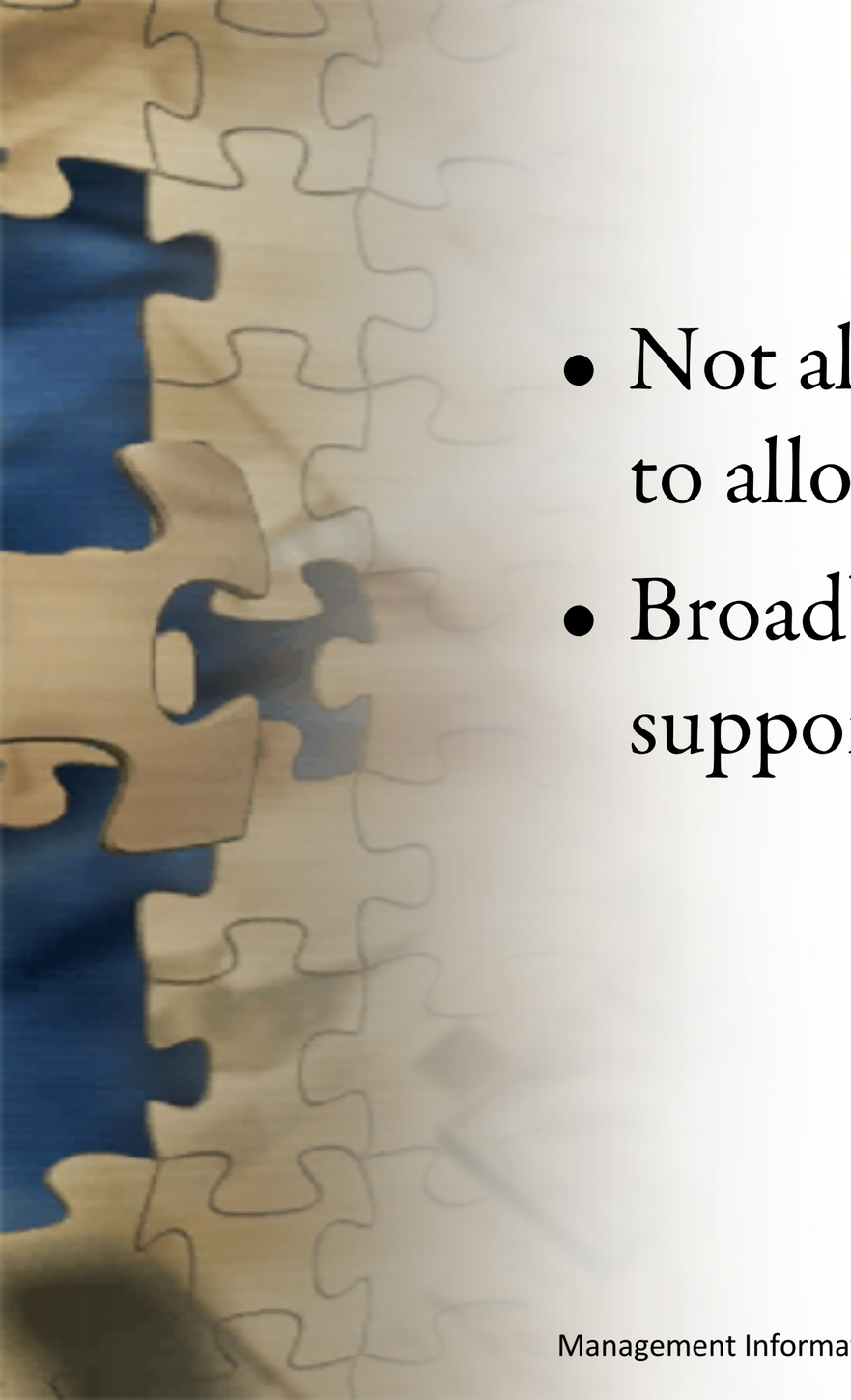
Challenges

- Global information systems face challenges such as:
  - Technological barriers
  - Regulations and tariffs
  - Electronic payment mechanisms
  - Different languages and cultures



Challenges

- Global information systems face challenges such as:
  - Economic and political considerations
  - Different measurement and notation standards
  - Legal barriers
  - Different time zones



Technological Challenges

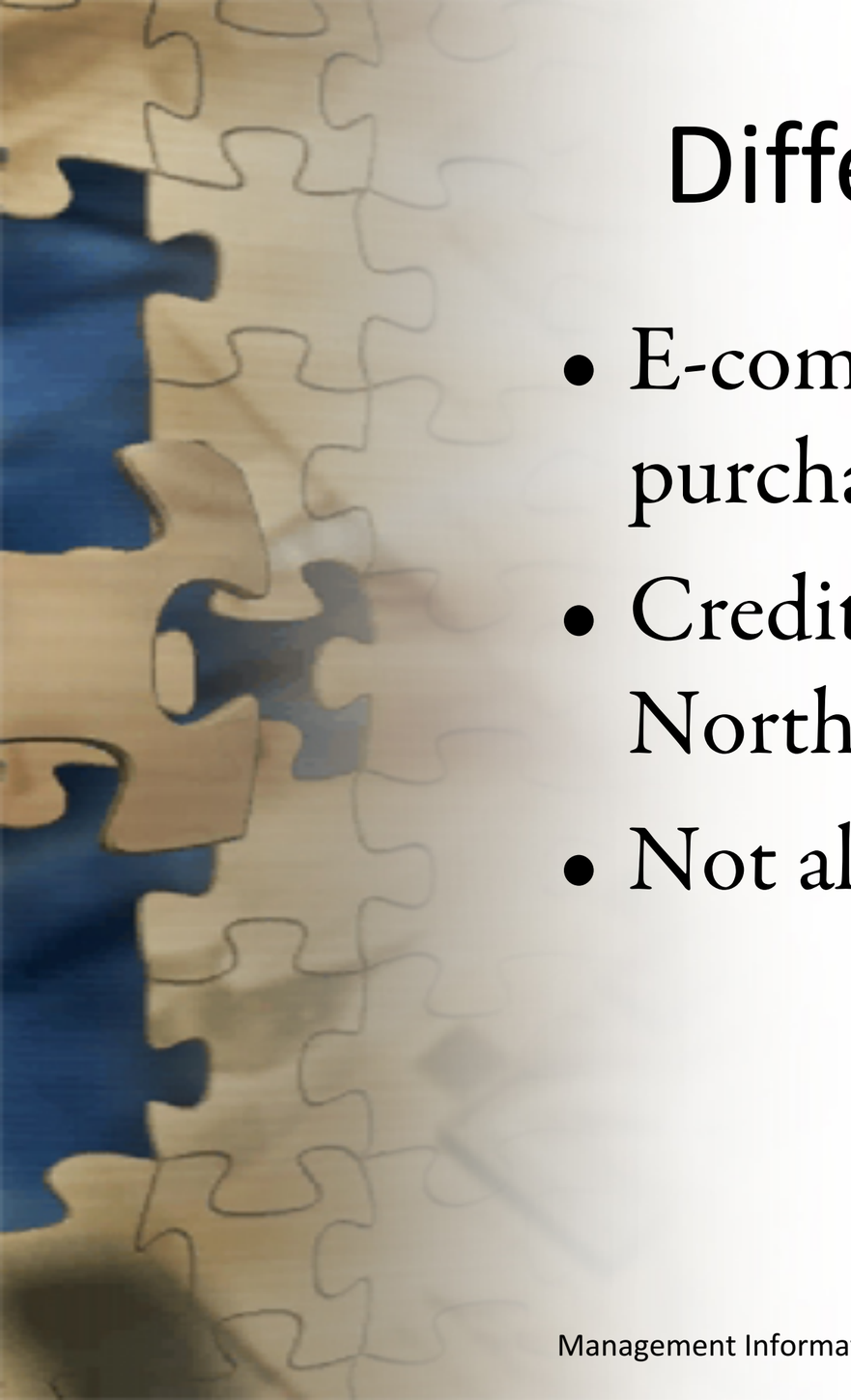
- Not all countries have adequate IT infrastructure to allow companies to build an international IS
- Broadband communication lines are needed to support today's graphics-rich Web pages

Technological Challenges

- Language is another technological challenge
- Others:
  - Telephone number format
  - Postal code format

Regulations and Tariffs

- Countries have different import regulations and tariffs
- Companies must comply with the laws of destination countries



Differences in Payment Mechanisms

- E-commerce allows easy payment for online purchases
- Credit cards are the preferred payment method in North America
- Not all countries have adopted this preference

Language Differences

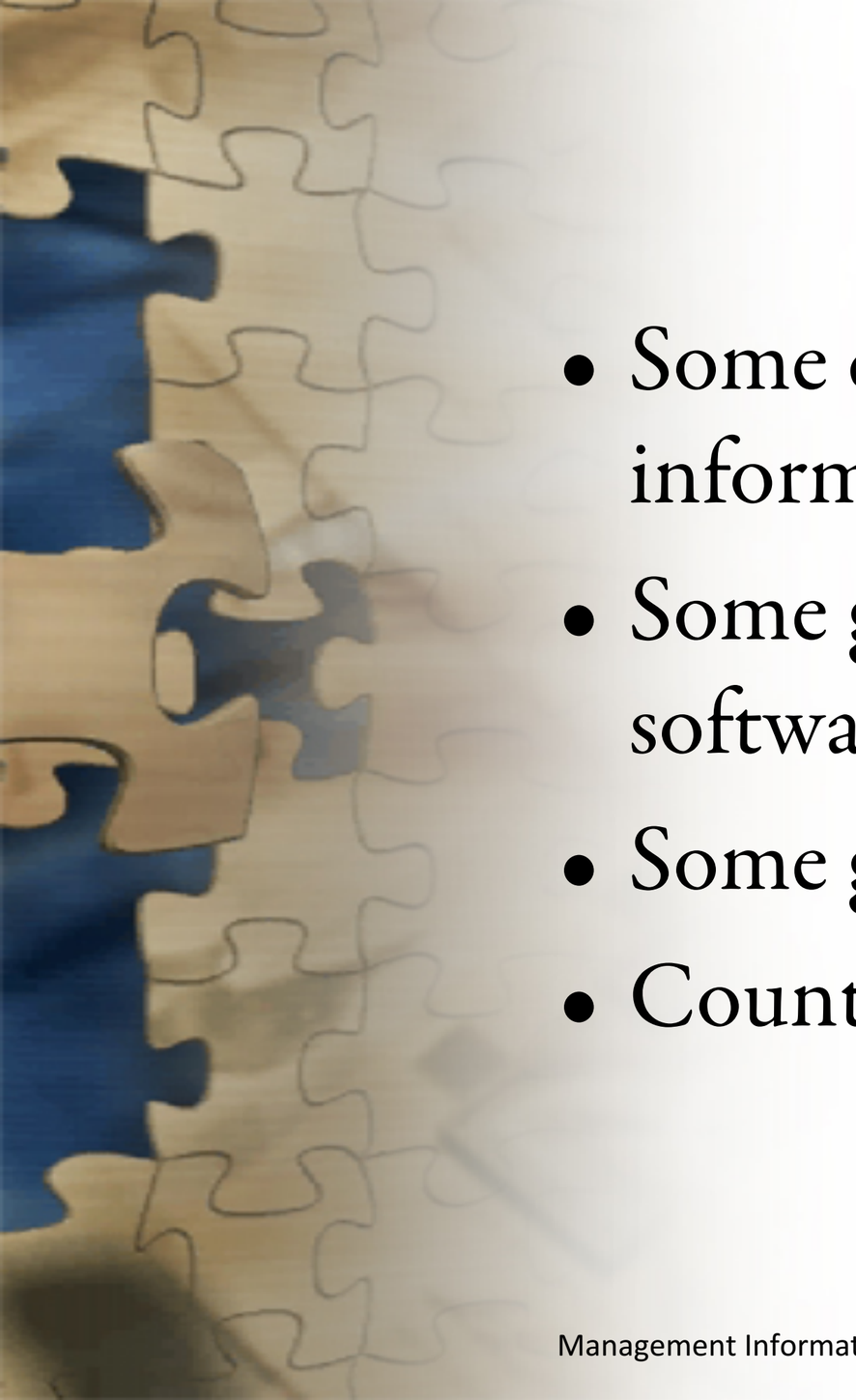
- International parties must agree on a common language for communication
  - English is considered the de facto international language
- Large companies translate their Web sites into local languages

Cultural Differences

- People from different countries vary in:
  - Tastes
  - Gestures
  - Preferred colors
  - Treatment of people of certain gender or age
  - Attitudes about work
  - Opinions about ethical issues

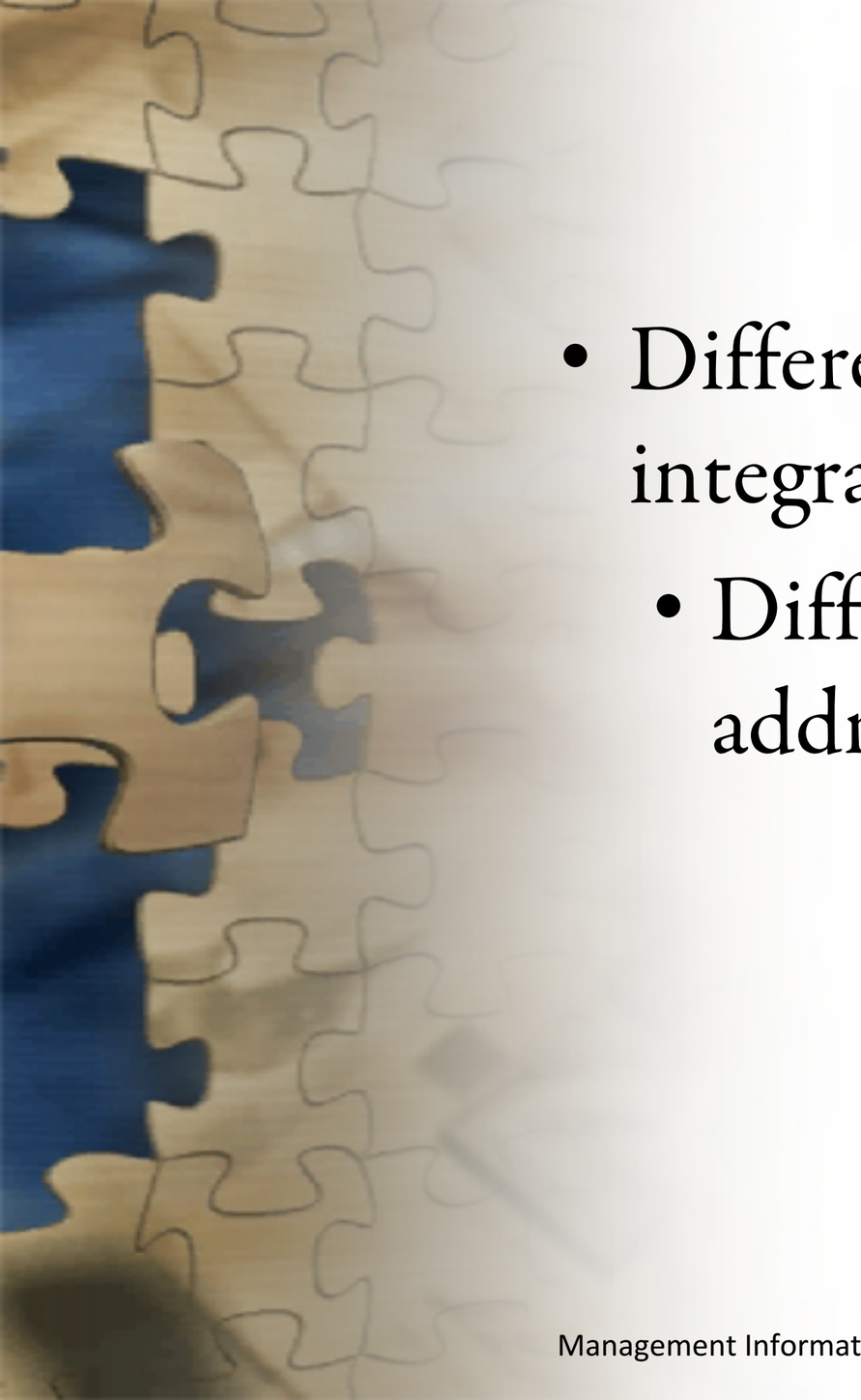
Conflicting Economic, Scientific, and Security Interests

- Goal of corporate management - seize a large market share and maximize organization profits
- Goal of a national government - protect its economic, scientific, and security interests
  - *Scientific information* is an important national resource as well as a great source of income for foreign corporations



Political Challenges

- Some countries oppose the policy of free access to information
- Some governments require that only open source software is used in government operations
- Some governments impose limits on Internet use
- Countries with limited civil rights

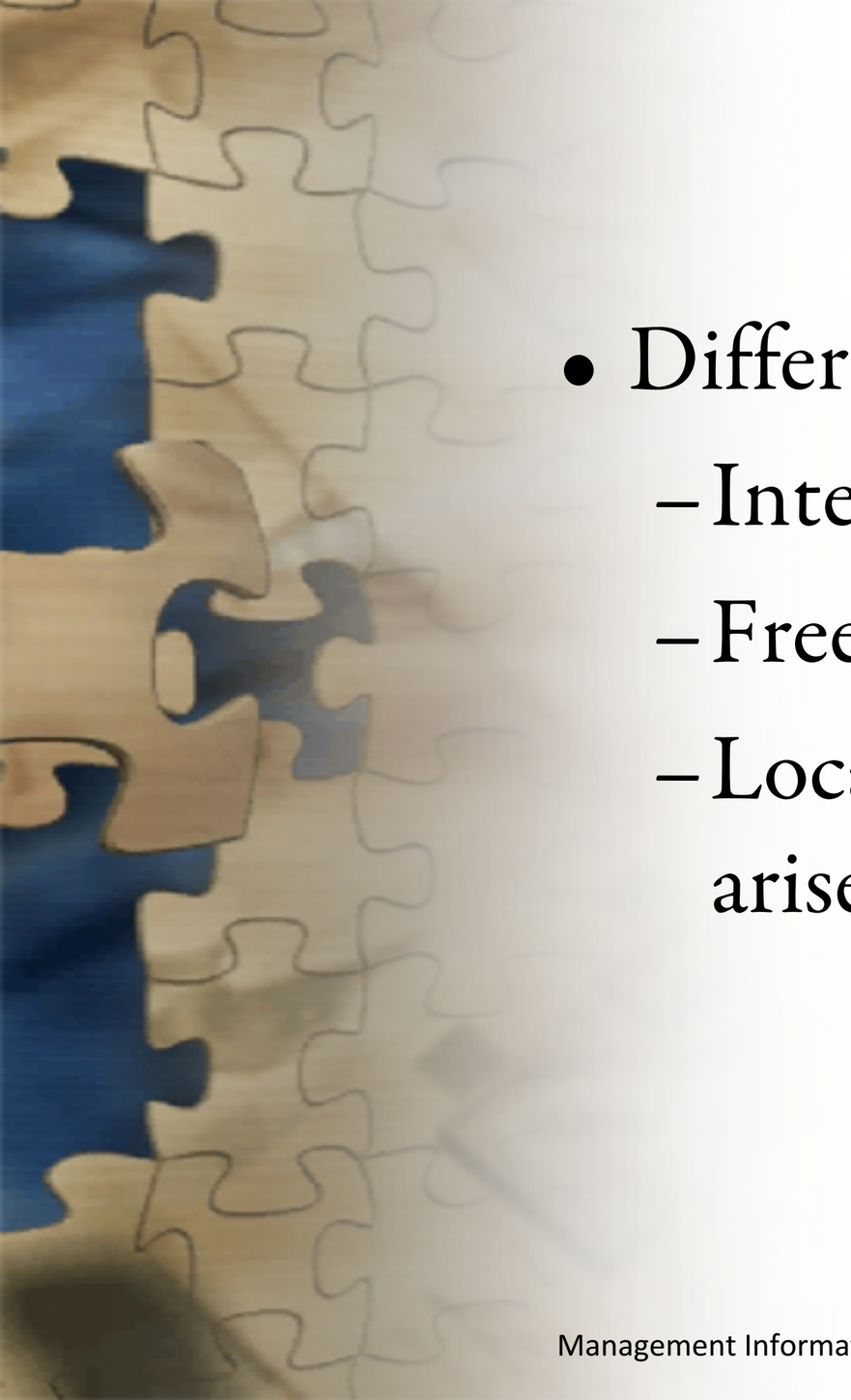


Different Standards

- Differences in standards must be considered when integrating ISs internationally
  - Different formats for date, time, temperature, address, among others

Different Standards

- Companies must adapt their ISs to changing formal or de facto standards
  - European Article Number (EAM)
  - Universal Product Code (UPC)
  - Global Trade Item Numbers (GTIN)



Legal Barriers

- Differing laws pose challenges to:
  - International transfer of data
  - Free speech
  - Location of legal proceedings when disputes arise

Legal Barriers

- Privacy laws
  - Respect for privacy in international business is an unresolved challenge
  - The majority of democratic nations try to protect individual privacy
  - Laws reflect a difference in approach to issue of privacy

Legal Barriers

European Union	USA
Personal data may be collected only for specified purposes	Businesses collect data from people without having to tell how data will be used
Personal data cannot be processed without the unambiguous consent of the subject	Private organizations are allowed to process personal data without the subject's consent, for any purpose
Collecting organizations must identify themselves	Organizations purchase personal data from 3rd parties and never notify the subject

Legal Barriers

European Union	USA
Subjects have the right to know to whom their data is disclosed	Not mandated in any US law
Subjects have the right to object to processing of their personal data	Companies use personal data especially for direct marketing, never tell subjects that they obtain data about them from 3rd parties, and rarely offer the right to object to disclosure of such data to other parties

Legal Barriers

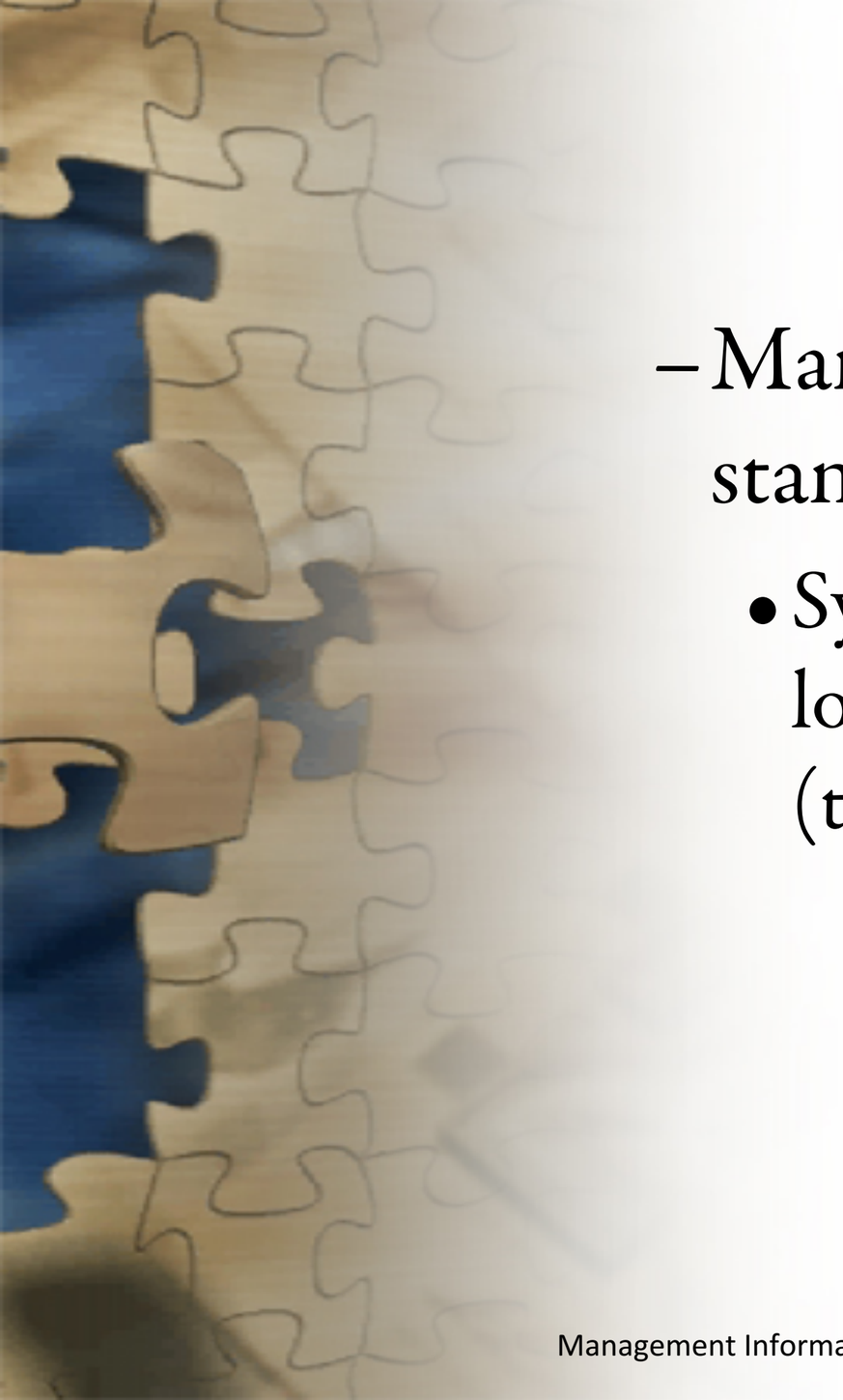
- Discrepancy between the European and American approaches prevents unrestricted flow of information
- Safe Harbor (www.export.gov/safeharbor): arrangement for U.S. companies that have agreed to comply with the EU Directive
- Privacy laws regarding employees are also different in the U.S. and EU

Legal Barriers

- Applicable Law:
  - Free speech
  - What can or cannot be displayed online
  - Gambling
  - Auctioning
  - Sale of alcoholic beverages and drugs

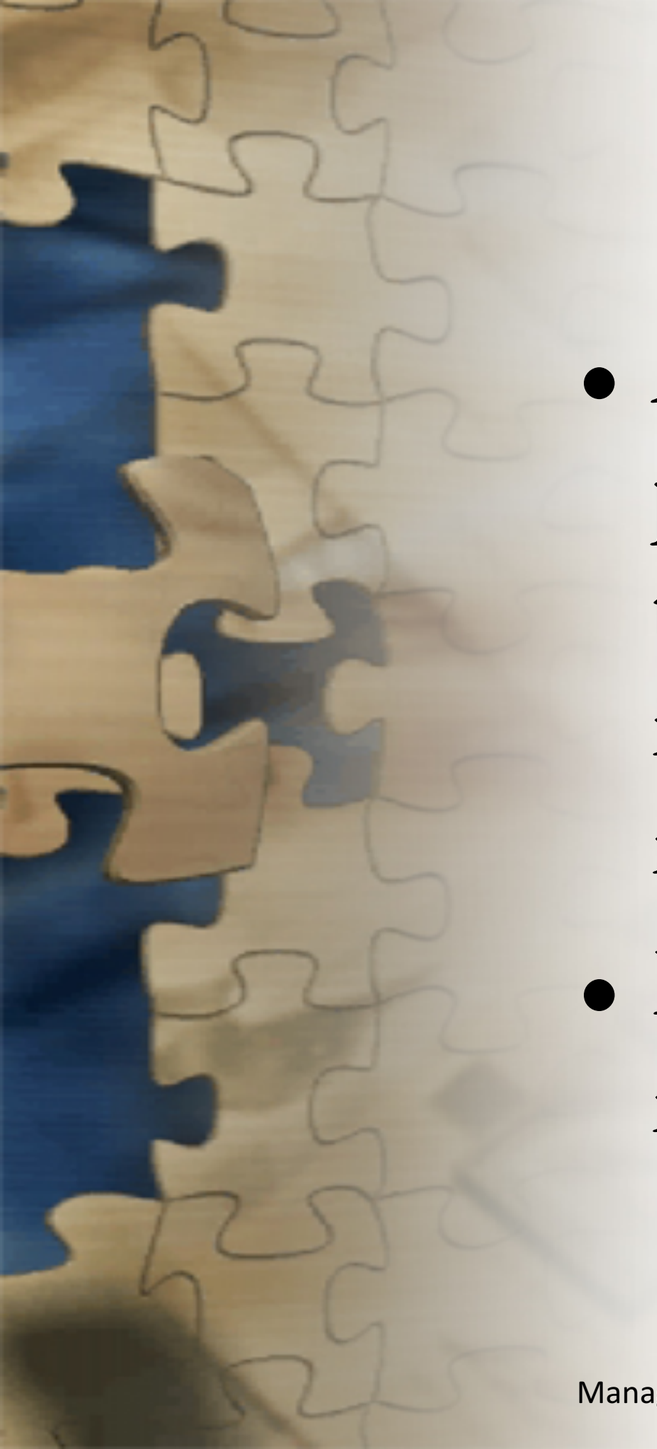
Different Time Zones

- Different global regions require policies for work and information systems
  - Teleconferencing systems must be available most of the day, sometimes 24 hours per day
  - Teams in support centers may work shifts to accommodate clients worldwide



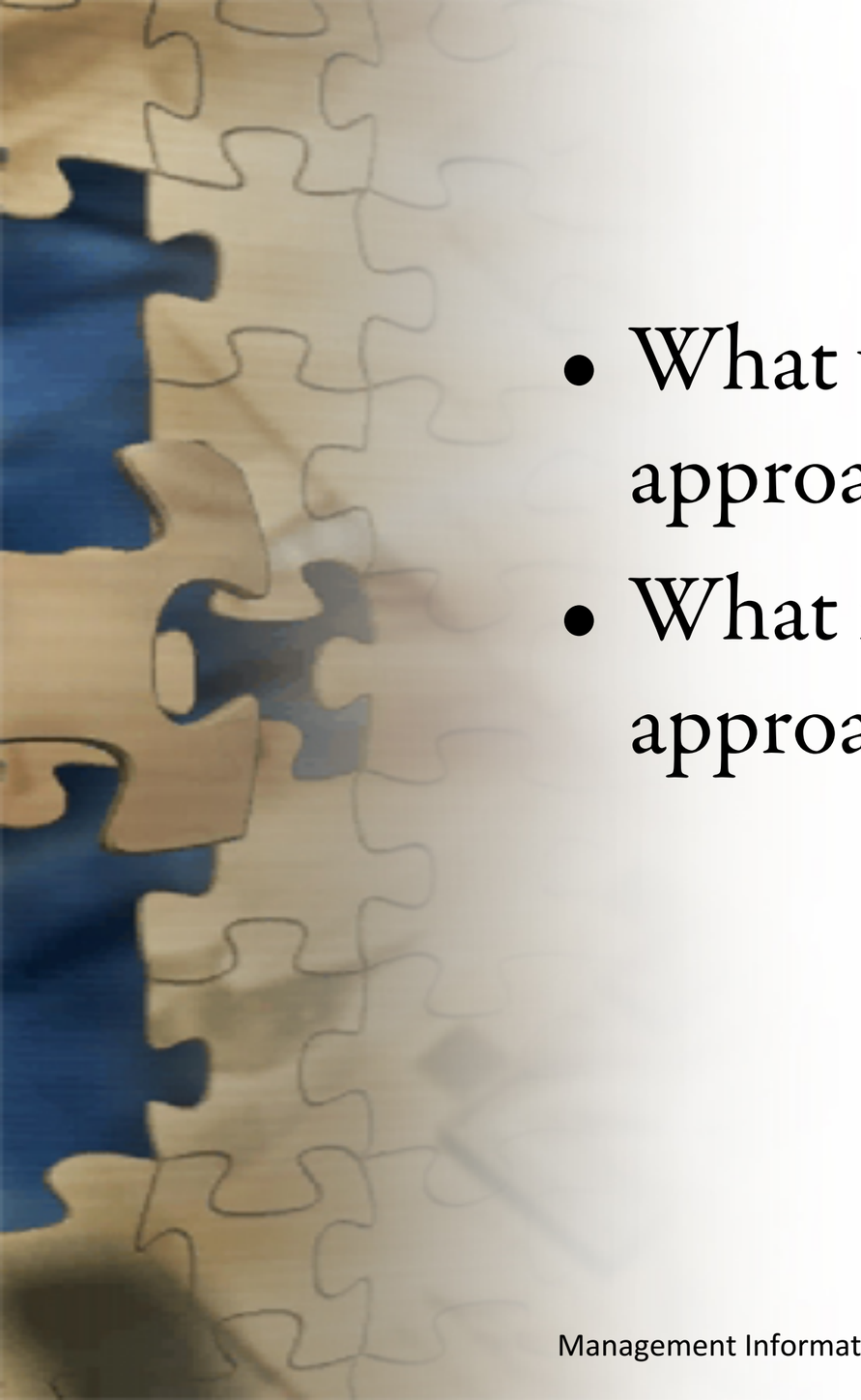
Different Time Zones

- Managers must be aware of incorrect time stamping in different locales
  - Systems at both locations can be designed to record local times of both locations, or record a single time (that of the company headquarters)



Applying Concepts

- Although Apple Computer Inc. introduced a personal computer and software that was superior to those produced by IBM and other companies, it failed to capture the lion's share of the PC market.
- However, it did capture a large share of the digital music player market.



Applying Concepts

- What was the difference in the company's approach to the two types of products?
- What is your conclusion regarding the the proper approach when developing a new digital product?