2: Information Systems for Organizations and Globalization

IT1106 - Information Systems

Level I - Semester 1

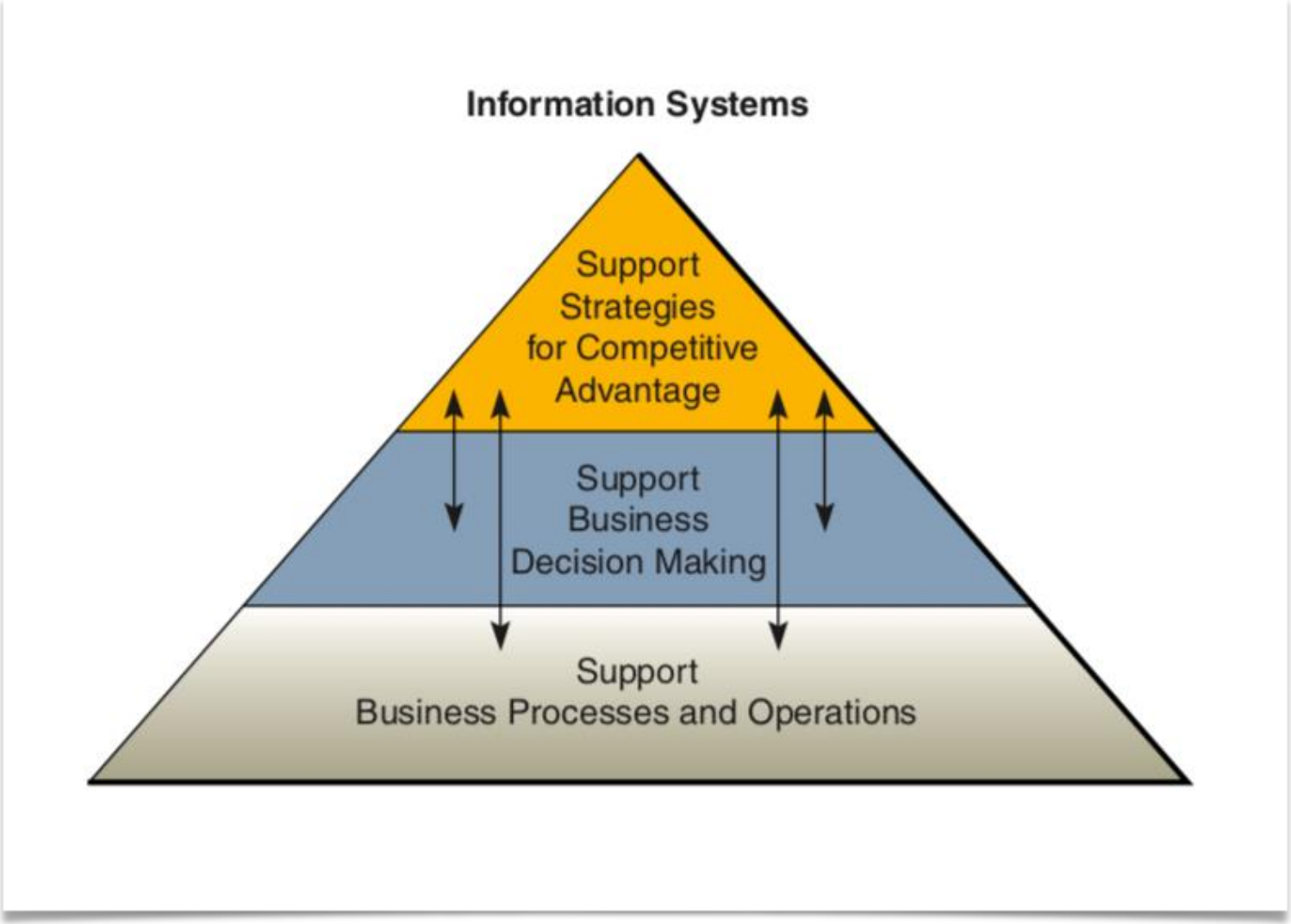
2. Information Systems for Organizations and Globalization

2.1. Organizations and Information Systems
- 2.1.1. The Role of Information Systems in Business
- 2.1.2. Strategic Use of IT
- 2.1.3. Business Information Value Chain
- 2.1.4. Information Technology for Strategic Advantage
- 2.1.5. Careers in Information Systems

2.2. Information Technology Investments in Organizations
- 2.2.1. Return on Investment
- 2.2.2. Complementary Assets
- 2.2.3. Challenges and Ethics of IT Investments

2.3. Global Information Systems Strategies
- 2.3.1. Globalization and Global IT Management
- 2.3.2. Digital divide
- 2.3.3. Cultural, Ethnic, and Political Challenges
- 2.3.4. Global Business/IT Strategies, Applications and Platforms

2.1.1. The Role of Information Systems in Business



2.1.1. The Role of Information Systems in Business Cont..

- Support of Business Processes and Operations.

  Keep track of inventory, pay employees, buy new merchandise, and evaluate sales trends.

- Support of Business Decision Making

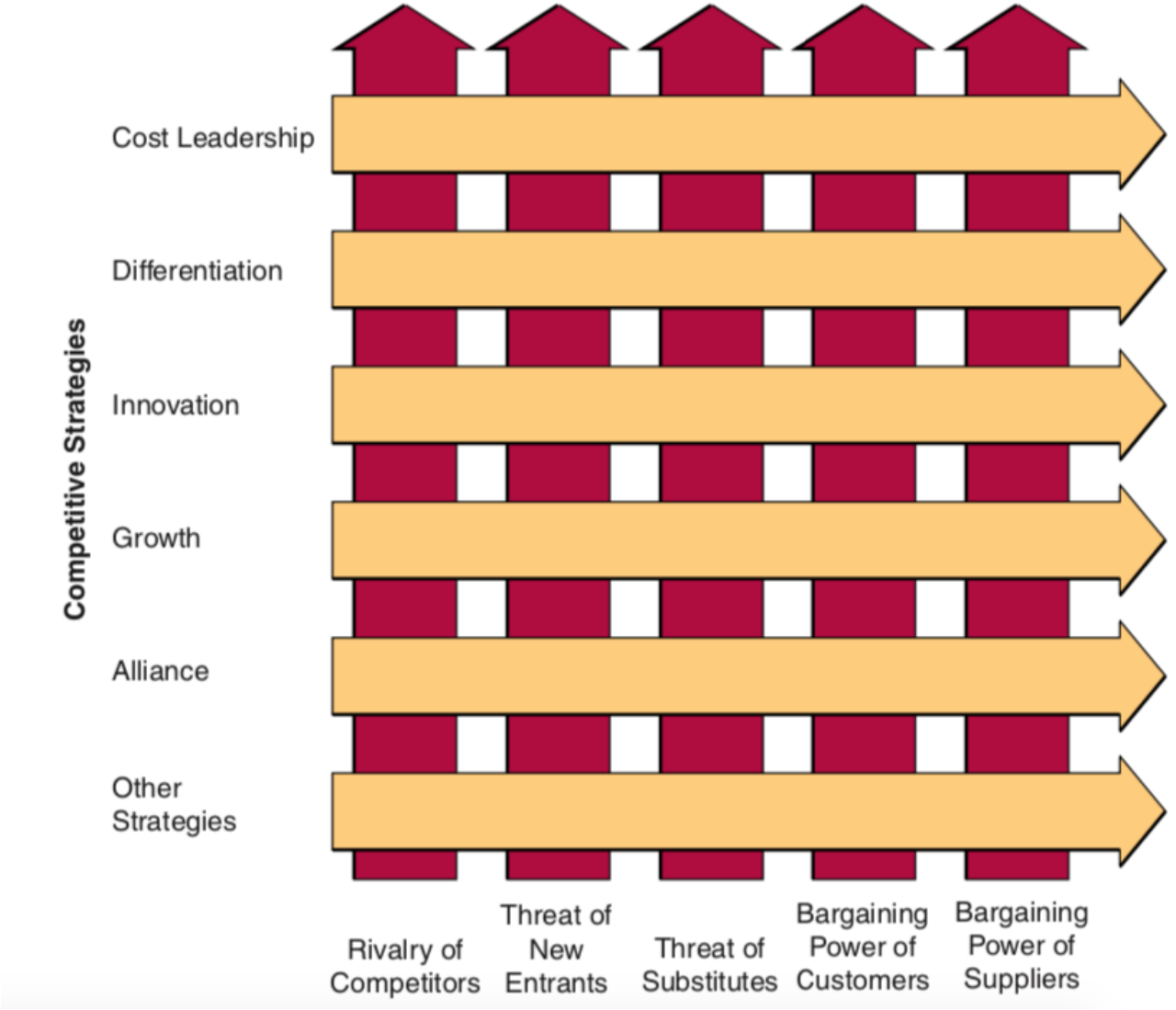
  Decisions about what lines of merchandise need to be added or discontinued and what kind of investments they require are typically made after an analysis .

- Support of Strategies for Competitive Advantage.

  Store management might make a decision to install touch-screen kiosks in all stores, with links to the e-commerce Web site for online shopping.

2.1.2. Strategic Use of IT

- Porter's Five Forces are considered the basic foundation for understanding business strategy .



2.1.2. Strategic Use of IT cont..

Other Strategic Initiatives

Basic Strategies in the Business Use of Information Technology
Lower Costs • Use IT to substantially reduce the cost of business processes. • Use IT to lower the costs of customers or suppliers.
Differentiate • Develop new IT features to differentiate products and services. • Use IT features to reduce the differentiation advantages of competitors. • Use IT features to focus products and services at selected market niches.
Innovate • Create new products and services that include IT components. • Develop unique new markets or market niches with the help of IT. • Make radical changes to business processes with IT that dramatically cut costs; improve quality, efficiency, or customer service; or shorten time to market.
Promote Growth • Use IT to manage regional and global business expansion. • Use IT to diversify and integrate into other products and services.
Develop Alliances • Use IT to create virtual organizations of business partners. • Develop interenterprise information systems linked by the Internet and extranets that support strategic business relationships with customers, suppliers, subcontractors, and others.

2.1.2. Strategic Use of IT Cont..

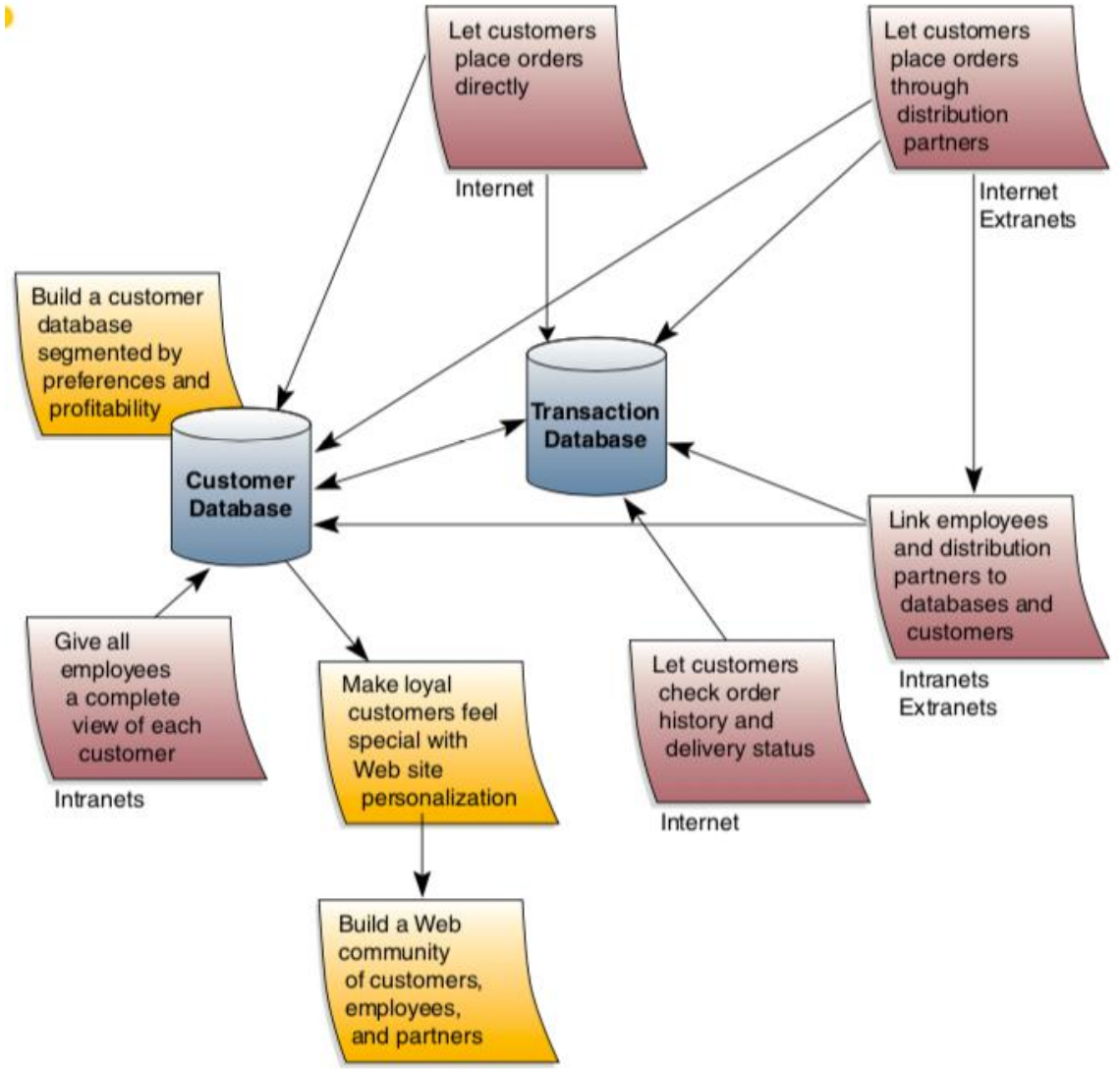
Strategy	Company	Strategic Use of Information Technology	Business Benefit
Cost Leadership	Dell Computer	Online build to order	Lowest-cost producer
	Priceline.com	Online seller bidding	Buyer-set pricing
	eBay.com	Online auctions	Auction-set prices
Differentiation	AVNET Marshall	Customer/supplier of e-commerce	Increase in market share
	Moen Inc.	Online customer design	Increase in market share
	Consolidated Freightways	Customer online shipment tracking	Increase in market share
Innovation	Charles Schwab & Co.	Online discount stock trading	Market leadership
	Federal Express	Online package tracking and flight management	Market leadership
	Amazon.com	Online full-service customer systems	Market leadership
Growth	Citicorp	Global intranet	Increase in global market
	Walmart	Merchandise ordering by global satellite network	Market leadership
	Toys 'R' Us Inc.	POS inventory tracking	Market leadership
Alliance	Walmart/Procter & Gamble	Automatic inventory replenishment by supplier	Reduced inventory cost/ increased sales
	Cisco Systems	Virtual manufacturing alliances	Agile market leadership
	Staples Inc. and Partners	Online one-stop shopping with partners	Increase in market share

2.1.2. Strategic Use of IT Cont..

Other Strategic Uses of Information Technology
• Develop interenterprise information systems whose convenience and efficiency create switching costs that lock in customers or suppliers.
• Make major investments in advanced IT applications that build barriers to entry against industry competitors or outsiders.
• Include IT components in products and services to make substitution of competing products or services more difficult.
• Leverage investment in IS people, hardware, software, databases, and networks from operational uses into strategic applications.

2.1.2. Strategic Use of IT Cont..

- How a customer-focused business builds customer value and loyalty using Internet technologies.



Activity

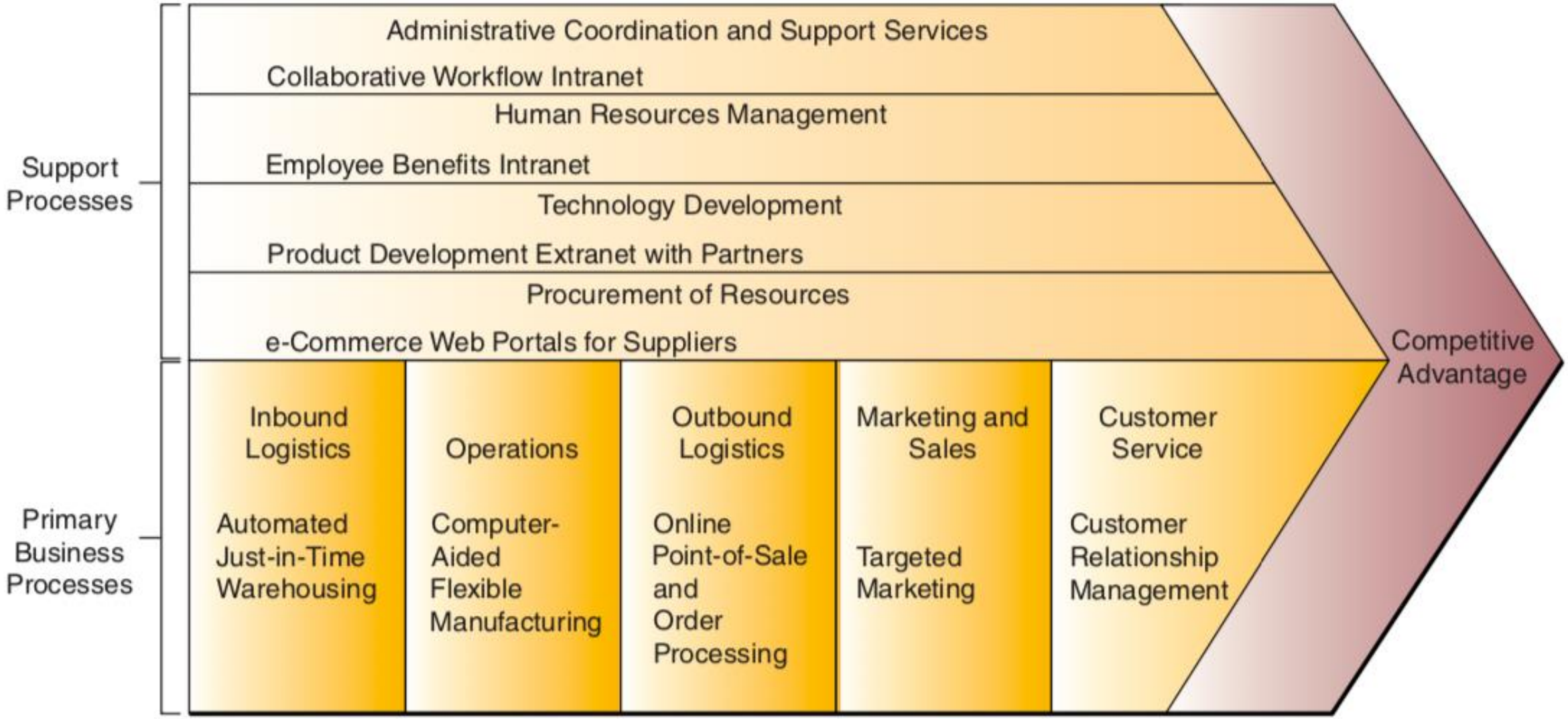
- Match suitable strategy with corresponding company.

Alliance

Growth

Cost Leadership

2.1.3. Business Information Value Chain



2.1.3. Business Information Value Chain Cont…

How and where information technologies can be applied to basic business processes using the value chain framework?

- Intranets can increase the communications and collaboration required to improve administrative coordination and support services.
- Human resources management function provide employees with easy, self-service access to their benefits information.
- Extranets enable a company and its global business partners to use the Web to design products and processes jointly.
- e-commerce Web portals can improve procurement of resources by providing online marketplaces for a firm's suppliers.
- Automated just-in-time warehousing systems to support inbound logistic processes.
- Online point-of-sale and order processing systems to improve the outbound logistics processes.
- Customer relationship management system can dramatically improve customer service.

2.1.4. Information Technology for Strategic Advantage

- Business process reengineering (BPR)
  - Reengineering is a fundamental rethinking and radical redesign of business processes to achieve dramatic improvements in cost, quality, speed, and service.
  - Used cross-functional enterprise resource planning (ERP) software to reengineer, automate, and integrate their manufacturing, distribution, finance, and human resource business processes .

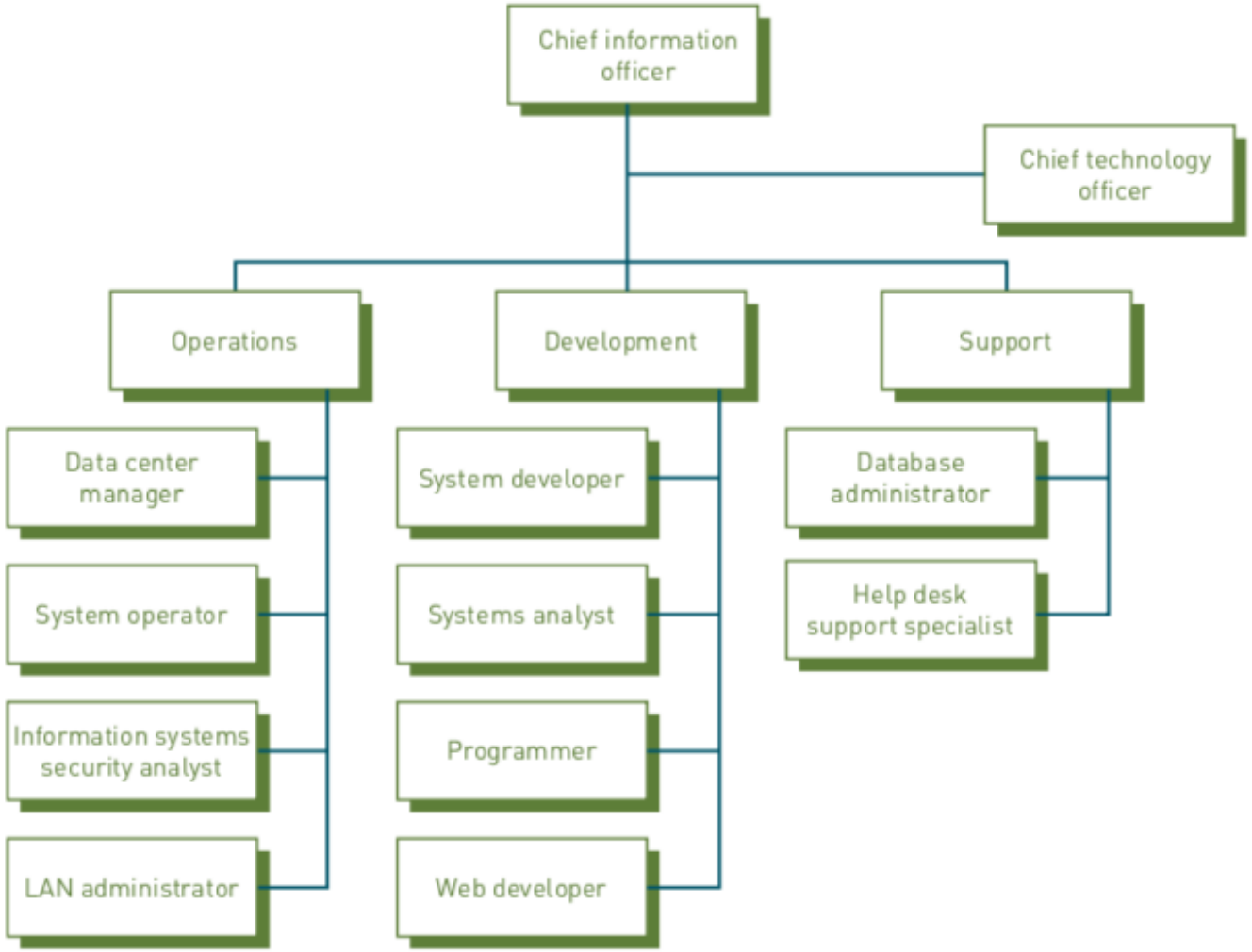
SOURCE: © The McGraw-Hill Companies Inc./John Flournoy.

2.1.4. Information Technology for Strategic Advantage

	Business Improvement	Business Process Reengineering
Level of Change	Incremental	Radical
Process Change	Improved new version of process	Brand-new process
Starting Point	Existing processes	Clean slate
Frequency of Change	One-time or continuous	Periodic one-time change
Time Required	Short	Long
Typical Scope	Narrow, within functions	Broad, cross- functional
Horizon	Past and present	Future
Participation	Bottom-up	Top-down
Pathto Execution	Cultural	Cultural,structural
Primary Enabler	Statistical control	Information technology
Risk	Moderate	High

SOURCE: Howard Smith and Peter Fingar, *Business Process Management: The Third Wave* (Tampa, FL: Meghan-Kiffer Press, 2003), p. 118.

2.1.5. Careers in Information Systems



Activity

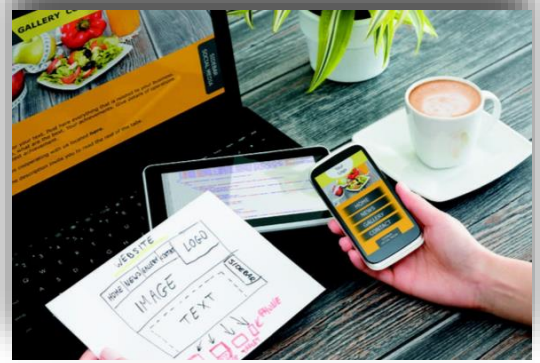
Fill the blanks with the appropriate word given in the list below.

Innovation, Porter's Five Forces, Growth, Strategies , IT Applications, interenterprise information, Existing

1. …… are considered the basic foundation for understanding business strategy .
2. Amazon.com follow …….. Strategy to get market leadership.
3. Walmart follow …….. Strategy to obtain market leadership.
4. Make major investments in advanced …… that build barriers to entry against industry competitors or outsiders.
5. Develop …… systems linked by the Internet and extranets that support strategic business relationships with customers, suppliers, subcontractors, and others.

2.1.5. Careers in Information Systems Cont..

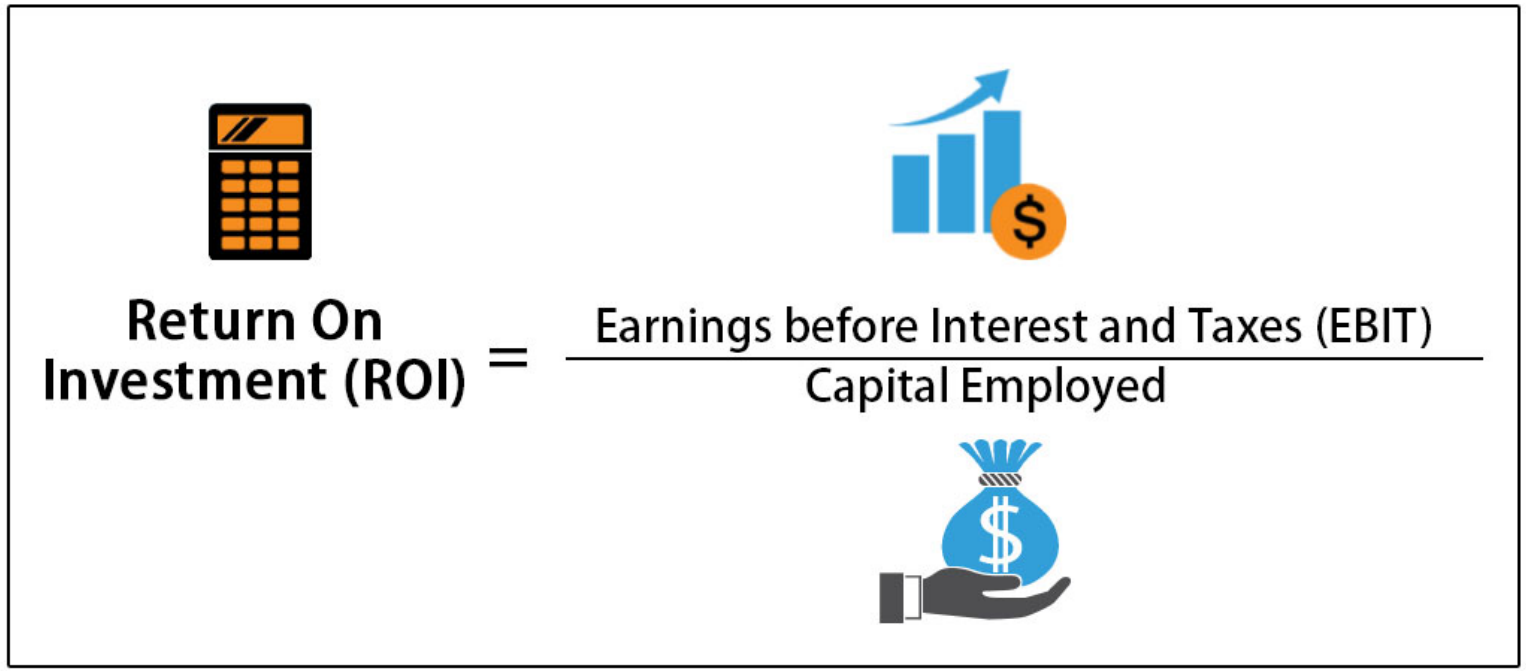
Typical IS Titles and Functions



- Chief Information Officer
- Senior IS Managers
- *Operations Roles*
  - Data center manager
  - System operator
  - Information systems security analyst
  - LAN administrator
- *Development Roles*
  - Software developer.
  - Systems analyst.
  - Programmer
  - Web developers.
- *Support*
  - Database administrator.
  - System support specialist.

2.2.1. Return on Investment

- Return on Investment (ROI) is a performance measure used to evaluate the efficiency of an investment or compare the efficiency of a number of different investments.

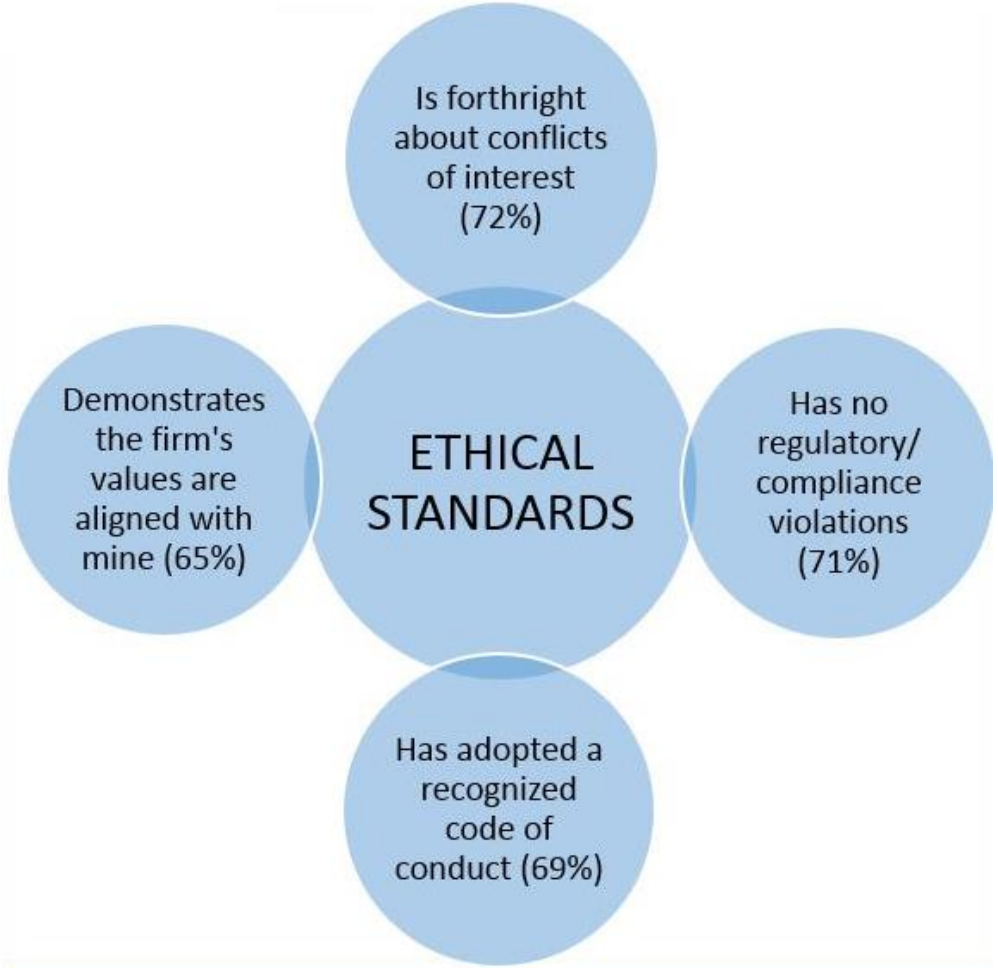


2.2.2. Complementary Assets

- Assets required to derive value from a primary investment .
- Firms must rely on supportive values, structures and behavior patterns to obtain a greater value from their IT investments.
- Complementary assets include:
  - Organizational investments,
    e.g. Appropriate business model, Efficient business processes
  - Managerial investments,
    e.g. Incentives for management innovation , Teamwork and collaborative work environments
  - Social investments,
    e.g. The Internet and telecommunications infrastructure, Technology standards

Source: https://studymoose.com/information-systems-3-essay

2.2.3. Challenges and Ethics of IT Investments



Source: https://blogs.cfainstitute.org/marketintegrity/2016/08/22/demonstrating-ethical-conduct-is-a-priority-throughout-investment-relationship/

Activity

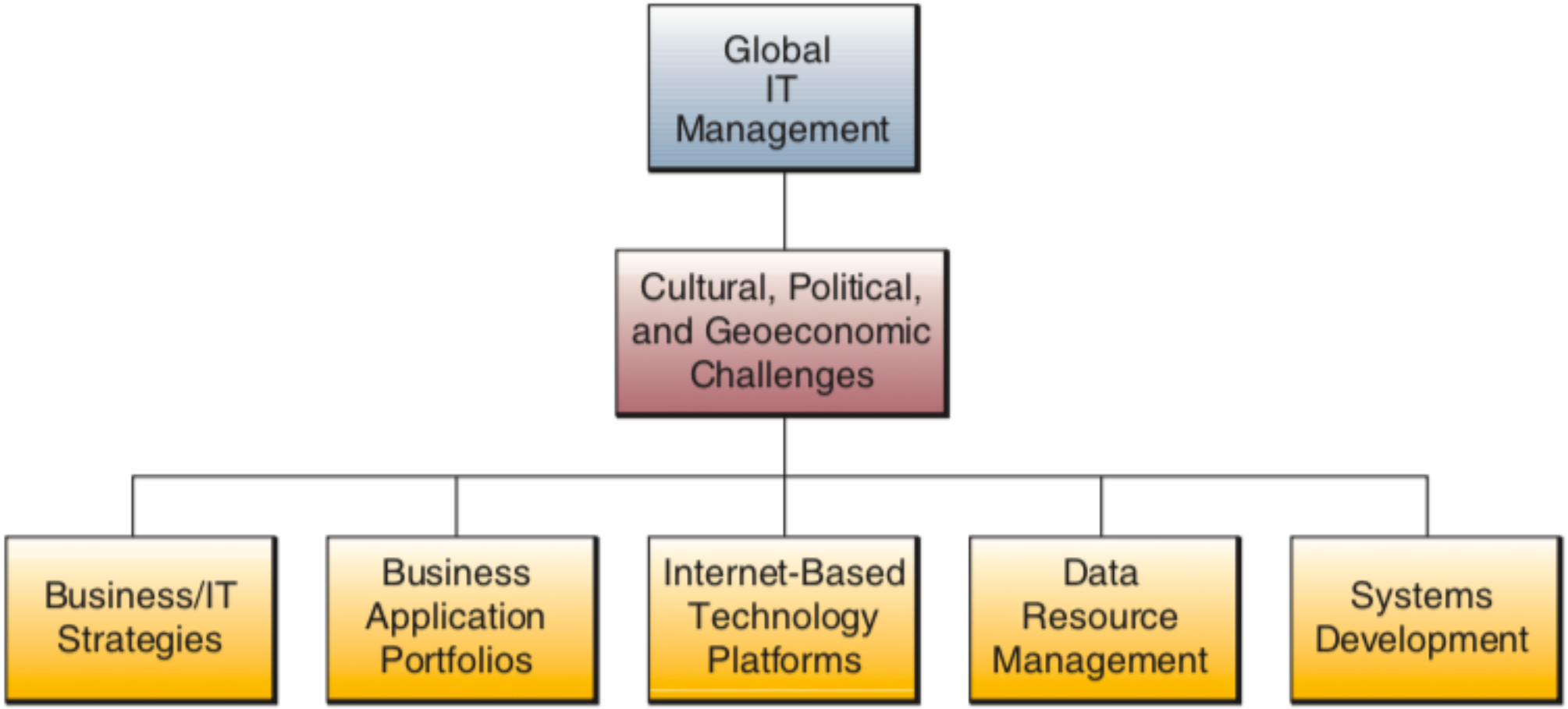
Multiple Choice Questions

1. Which of the following is/are IS career/s?
   a. Financial Manager
   b. Clerk
   c. Database Administrator
   d. System Operator

2. Which of the following is/are not true about Complementary Assets?
   a. Assets required to derive value from a secondary investment
   b. Complementary assets include organizational investment.
   c. The investment on Internet and telecommunications infrastructure is not related with complementary assets.
   d. Teamwork and collaborative work environments is a kind of managerial investment

3. Which of the following is/are business process re-engineering initiative?
   a. Brand-new process
   b. Information Technology is a primary enabler.
   c. Participation is bottom-up.
   d. Risk is moderate.

2.3.1. Globalization and Global IT Management



2.3.1. Globalization and Global IT Management Cont…

Global Team Management

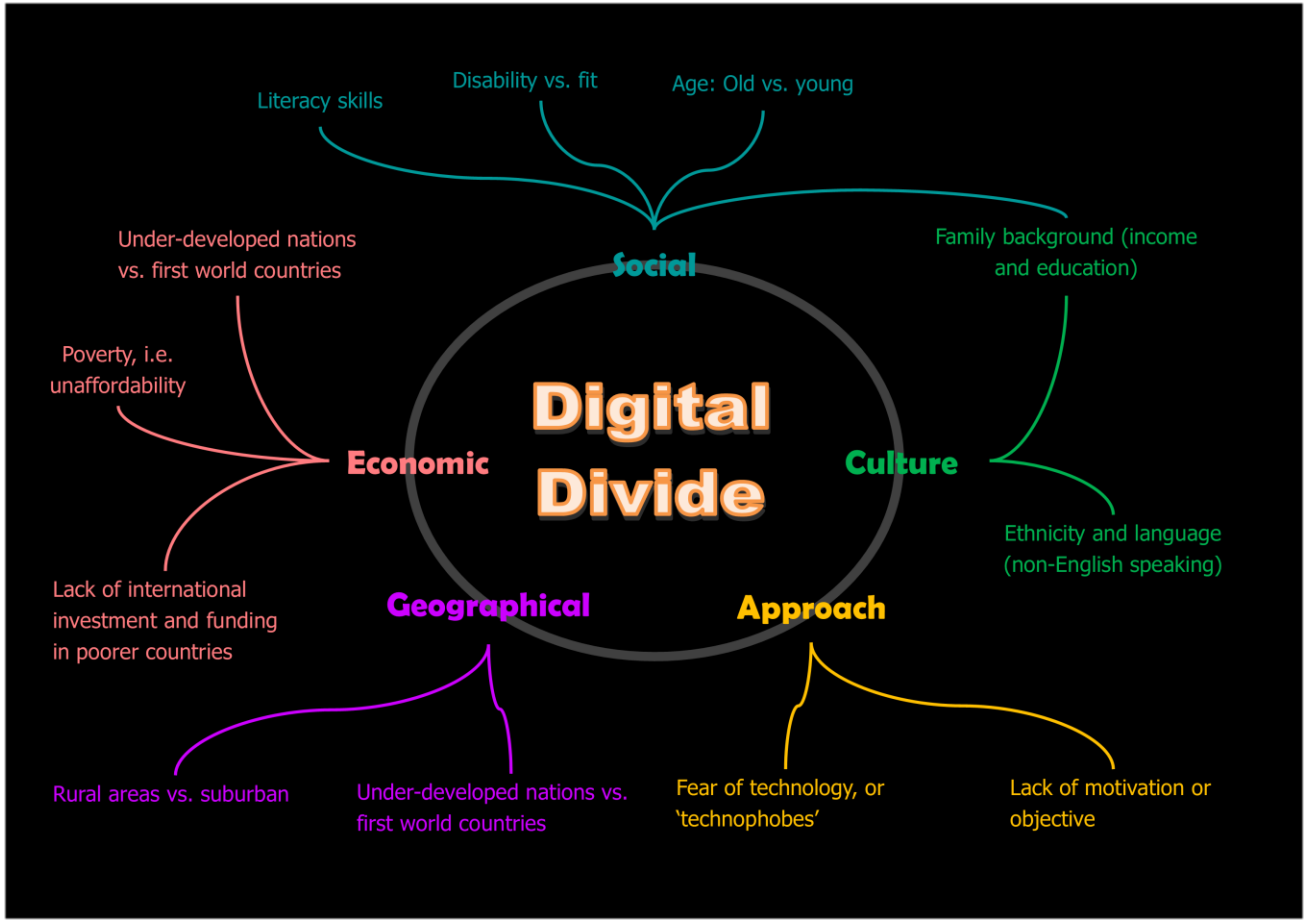
- Obtain local human-resources expertise
- Create job grade consistency across regions
- Manage dispersed staff as portfolio teams
- Make the work meaningful
- Clearly defining the roles of remote groups can also help knit them together
- Bring remote staff to headquarters
- Foster communication across regional boundaries

2.3.2. Digital Divide

A **digital divide** is any uneven distribution in the access to, use of, or impact of Information and Communication Technologies (ICT) between any number of distinct groups.

These groups may be defined based on social, geographical or geopolitical criteria, or otherwise . Because of ICT high cost, its adoption and utilization is highly uneven across the globe.

Source: https://en.wikipedia.org/wiki/Digital_divide



2.3.3. Cultural, Ethnic, and Political Challenges

Political Challenges

- Many countries have rules regulating or prohibiting transfer of data across their national boundaries .
- Some countries have reciprocal trade agreements

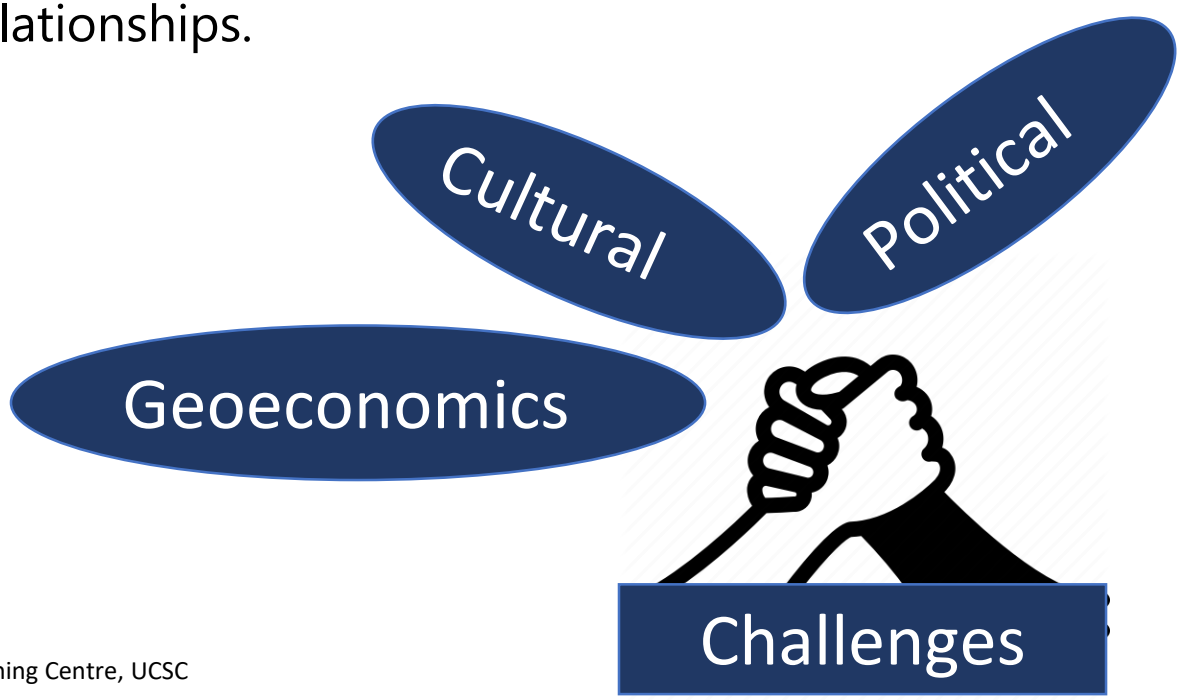
Geoeconomics Challenges

- Physical distances .
- Difficult to communicate in real time across the world's 24 time zones.
- Difficult to get good-quality telephone and telecommunications service in many countries.
- Difficult to find enticing specialists from other countries to live and work there.
- Great differences in the cost of living and labor costs in various countries.

2.3.3. Cultural, Ethnic, and Political Challenges Cont..

Cultural challenges

- Differences in languages, cultural interests, religions, customs, social attitudes, and political philosophies.
- Differences in work styles and business relationships.



2.3.4. Global Business/IT Strategies

Comparing Global Business/IT Strategies		
International	**Global**	**Transnational**
• Autonomous operations • Region specific • Vertical integration • Specific customers • Captive manufacturing • Customer segmentation and dedication by region and plant	• Global sourcing • Multiregional • Horizontal integration • Some transparency of customers and production • Some cross-regionalization	• Virtual business operations via global alliances • World markets and mass customization • Global e-commerce and customer service • Transparent manufacturing • Global supply chain and logistics • Dynamic resource management
Information Technology Characteristics		
• Stand-alone systems • Decentralized/no standards • Heavy reliance on interfaces • Multiple systems, high redundancy, and duplication of services and operations • Lack of common systems and data	• Regional decentralization • Interface dependent • Some consolidation of applications and use of common systems • Reduced duplication of operations • Some worldwide IT standards	• Logically consolidated, physically distributed, Internet connected • Common global data resources • Integrated global enterprise systems • Internet, intranet, extranet, and Web-based applications • Transnational IT policies and standards

2.3.4. Global Business/IT Strategies Cont...

Tactic	Global Alliances	Global Sourcing and Logistics	Global Customer Service
Examples	British Airways/ American Delta/ Air France	Benetton	American Express
IT Environment	Global network (online reservation system).	Global network, EPOS terminals in 4,000 stores, CAD/CAM in central manufacturing, robots and laser scanner in automated warehouse.	Global network linked from local branches and local merchants to the customer database and medical or legal referrals database.
Results	• Coordination of schedules • Code sharing • Coordination of flights • Co-ownership	• Produce 2,000 sweaters per hour using CAD/CAM • Quick response (in stores in 10 days) • Reduced inventories (just-in-time)	• Worldwide access to funds • "Global Assist" hotline • Emergency credit card replacement • 24-hour customer service

Activity

Fill the blanks with the appropriate word given in the list below.

Digital divide, Political, Transnational, Cultural , International

1. Differences in languages, cultural interests, religions, customs, social attitudes, and political philosophies is a …….. Challenge.
2. Some countries have reciprocal trade agreements is a …… challenge.
3. A ……. is any uneven distribution in the access to, use of, or impact of Information and Communication Technologies (ICT) between any number of distinct groups.
4. Virtual business operations via global alliances is …….. IT strategy.
5. Captive Manufacturing is ……. IT strategy.

2.3.4. Global Business/IT Applications

Business Drivers of Global IT
• **Global Customers.** Customers are people who may travel anywhere or companies with global operations. Global IT can help provide fast, convenient service.
• **Global Products.** Products are the same throughout the world or are assembled by subsidiaries throughout the world. Global IT can help manage worldwide marketing and quality control.
• **Global Operations.** Parts of a production or assembly process are assigned to subsidiaries based on changing economic or other conditions. Only global IT can support such geographic flexibility.
• **Global Resources.** The use and cost of common equipment, facilities, and people are shared by subsidiaries of a global company. Global IT can keep track of such shared resources.
• **Global Collaboration.** The knowledge and expertise of colleagues in a global company can be quickly accessed, shared, and organized to support individual or group efforts. Only global IT can support such enterprise collaboration.

2.3.4. Global Business/IT Platforms

- Global Business/IT Platforms means managing the hardware, software, data resources, telecommunications networks, and computing facilities that support global business operations .
    - The management of a global IT platform not only is technically complex but also has major political and cultural implications. Such as,
    - Hardware choices are difficult in some countries
    - Software packages developed in Europe may be incompatible with American or Asian versions
    - Difficult to managing international data communications networks .
    - Establishing computing facilities internationally is another global challenge .

2.3.4. Global Business/IT Platforms Cont…

International Data Communications Issues
Network Management Issues • Improving the operational efficiency of networks • Dealing with different networks • Controlling data communication security • Burgeoning growth of data
Regulatory Issues • Dealing with transborder data flow restrictions • Managing international telecommunication regulations • Handling international politics • User auditability
Technology Issues • Managing network infrastructure across countries • Managing international integration of technologies • Limits on scalability of data management platforms • The need for 24/7 data and application recovery services
Country-Oriented Issues • Reconciling national differences • Dealing with international tariff structures • Lack of qualified people • Data security and transborder data regulations

Activity

Post your answers for the following questions to a forum and discuss with other students.

1. What effect does the Internet have on the transnational business strategy of a global business?
2. How might cultural, political, or geo-economics challenges affect a global company's use of the Internet? Give several examples.