The Modern Organization in the Global, Web-Based Environment

LEARNING OBJECTIVES

1. Differentiate among data, information, and knowledge.
2. Differentiate between information technology architecture and information technology infrastructure.
3. Describe the global business environment and the new information technology infrastructure.
4. Discuss the relationships among business pressures, organizational responses, and information systems.

INFORMATION SYSTEM (IS) & INFORMATION TECHNOLOGY (IT)

- *IS or Management information systems (MIS)* deal with the planning for—and the development, management, and use of—information technology tools to help people perform all the tasks related to information processing and management.
- *Information technology (IT)* relates to any computer-based tool that people use to work with information and to support the information and information processing needs of an organization.

GOALS OF IS

- to economically process data into information and knowledge.
- to get the right information to the right people at the right time in the right amount and in the right format.

DATA, INFORMATION, AND KNOWLEDGE

- *Data items* → an elementary description of things, events, activities, and transactions that are recorded, classified, and stored but are not organized to convey any specific meaning.
- *Information* → data that have been organized so that they have meaning and value to the recipient.
- *Knowledge* → consists of data and/or information that have been organized and processed to convey understanding, experience, accumulated learning, and expertise as they apply to a current business problems.

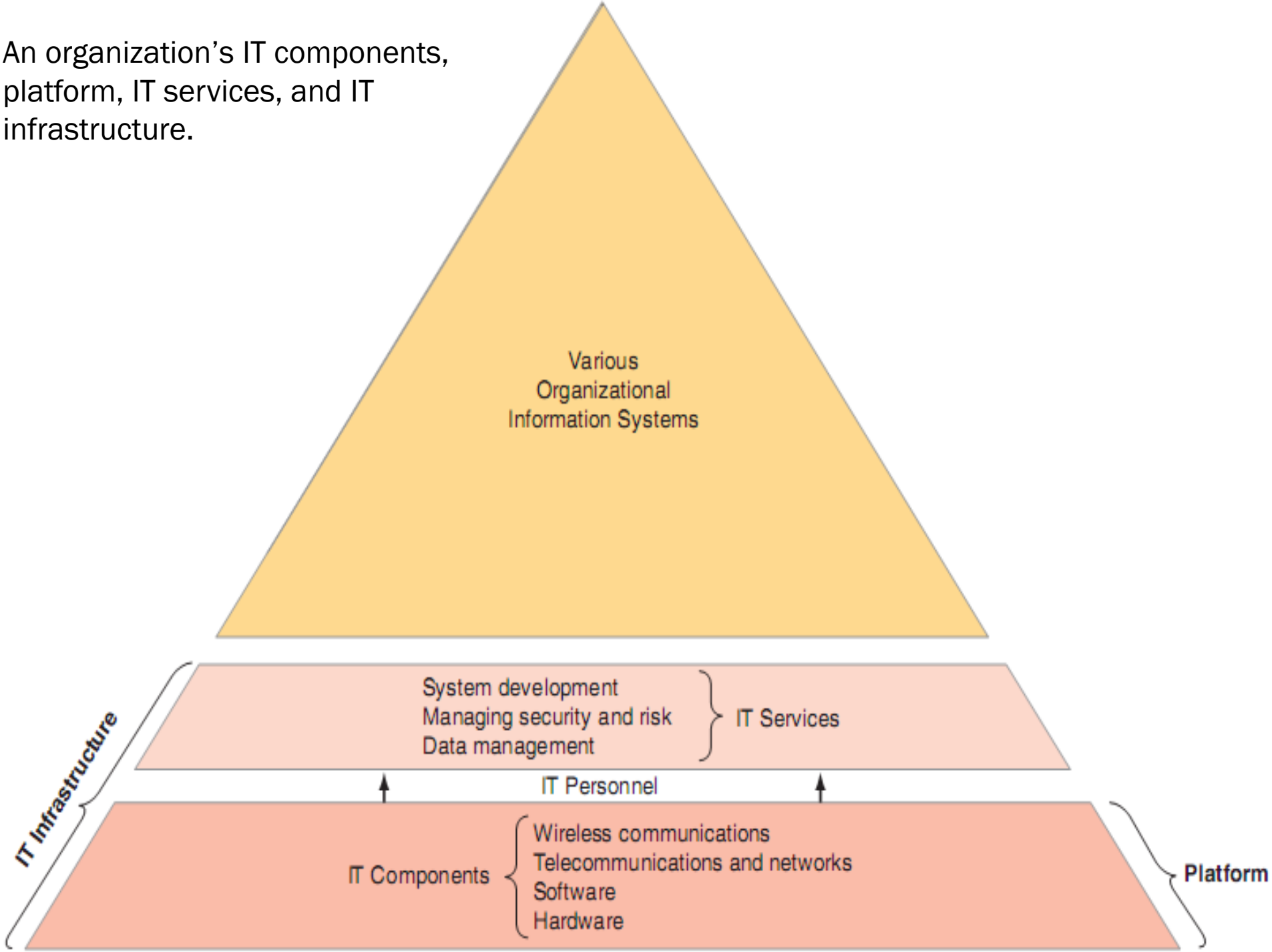
INFORMATION TECHNOLOGY ARCHITECTURE

- A high-level map or plan of the information assets in an organization.
- A guide for current operations and a blueprint for future directions.
- Integrates the entire organization's business needs for information, the IT infrastructure, and all applications.
- Shows how all aspects of information technology in an organization fit together.

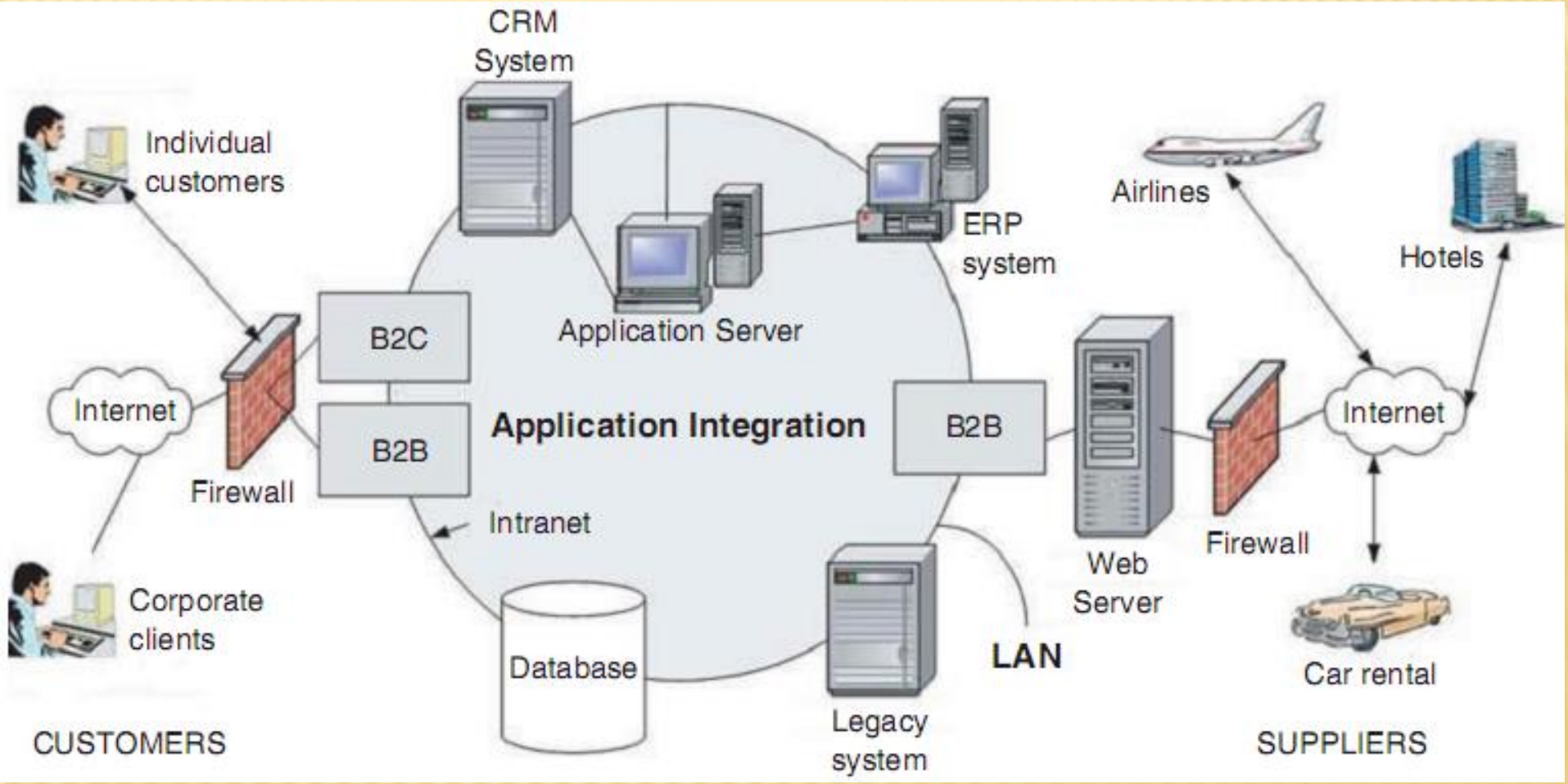
INFORMATION TECHNOLOGY INFRASTRUCTURE

- Consists of the physical facilities, IT components, IT services, and IT personnel that support the entire organization.
- ***IT components*** are the computer hardware, software, and communications technologies that provide the foundation for all of an organization's information systems.
- ***IT personnel*** use IT components to produce ***IT services,*** which include data management, systems development, and security concerns.

An organization's IT components, platform, IT services, and IT infrastructure.



ARCHITECTURE OF AN ONLINE TRAVEL AGENCY.



THE GLOBAL WEB-BASED PLATFORM

enables individuals :

- to connect, compute, communicate, collaborate, and compete everywhere and anywhere, anytime and all the time;
- to access limitless amounts of information, services,and entertainment;
- to exchange knowledge;
- to produce and sell goods and services.

THE GLOBAL WEB-BASED PLATFORM

- Operates without regard to geography, time, distance, and even language barriers.
- Enables globalization.
- *Globalization* is the integration and interdependence of economic, social, cultural, and ecological facets of life, enabled by rapid advances in information technology.

THE THREE STAGES OF GLOBALIZATION

- Thomas Friedman : The World Is Flat, Pulitzer Prize-winning.

1. Globalization 1.0, 1492 to 1800 : the amount of muscle, horse power, wind power, or steam power a country had and could deploy.
2. Globalization 2.0, lasted from 1800 to 2000 : multinational companies.
   - first half : of this period, falling transportation costs, generated by the development of the steam engine and the railroads.
   - second half, globalization was driven by falling telecommunications costs resulting from the telegraph, telephone, computer, satellites, fiber-optic cable, and the Internet and World Wide Web.

- Globalization 3.0 : 2000 .... : the emergence of a global, Web-based platform

FRIEDMAN'S TEN FLATTENERS

1. the collapse of the Berlin Wall, took place on November 9, 1989 → collapse of the Soviet Union and the communist governments of Eastern Europe in 1991.
2. ***Netscape*** went public, August 9, 1995.
3. The development of ***workflow software*** → enables computer applications to interoperate, or communicate and work with one another without human intervention.
4. ***Uploading***, means that anyone can create and upload content to the Web → the form of open source software.

FRIEDMAN'S TEN FLATTENERS

5. ***Outsourcing***, involves taking a specific function that the company was doing itself, having another company perform that same function and then integrating their work back into the operation.

   Companies outsource so that they can lower costs and concentrate on their core competencies.

6. ***Offshoring***, occurs when a company moves an entire operation, or certain tasks, to another country.

FRIEDMAN'S TEN FLATTENERS

7. ***Supply chaining***, occurs when companies, their suppliers, and their customers collaborate and share information.
8. ***Insourcing***, delegates operations or jobs within a business to another company, which specializes in those operations.
9. ***Informing***, is the ability to search for information, and it is best illustrated by search engines.
10. ***the steroids*** because they amplify the other flatteners.
    - enable all forms of computing and collaboration to be digital, mobile, and personal.
    - new and dynamic forms of information technologies: computing, insant messaging and file sharing, video conferencing, computer graphics.

EXERCISE

1. What are the characteristics of the modern business environment?
2. Describe the Web-based, global platform.
3. Describe the platform used by Google, Amazon, and other companies.

BUSINESS PRESSURES

- The ***business environment*** is the combination of social, legal, economic, physical, and political factors that affect business activities.
- three types of business pressures:
  1. market,
  2. technology,
  3. societal .

1. MARKET PRESSURES

- Market pressures are generated by:

1. the global economy and strong competition
   - facilitated by the emergence of the global, Web-based platform.
   - Global competition, *Cost of labors*.
2. the changing nature of the workforce : IT is also enabling people to work from home > minorities, dissabilities
3. powerful customers : CRM >become more knowledgeable about the availability and quality of products and services.

2. TECHNOLOGY PRESSURES

- Technological Innovation and Obsolescence. >New and improved technologies rapidly create or support substitutes for products, alternative service options, and superb quality.
- Information Overload

3. SOCIETAL/POLITICAL/LEGAL PRESSURES

- Social Responsibility.
  - One social problem that affects modern business is the ***digital divide***
- Compliance with Government Regulations and Deregulation
  - health, safety, environmental control, and equal opportunity
- Protection against Terrorist Attacks.
- ***Ethical Issues.***

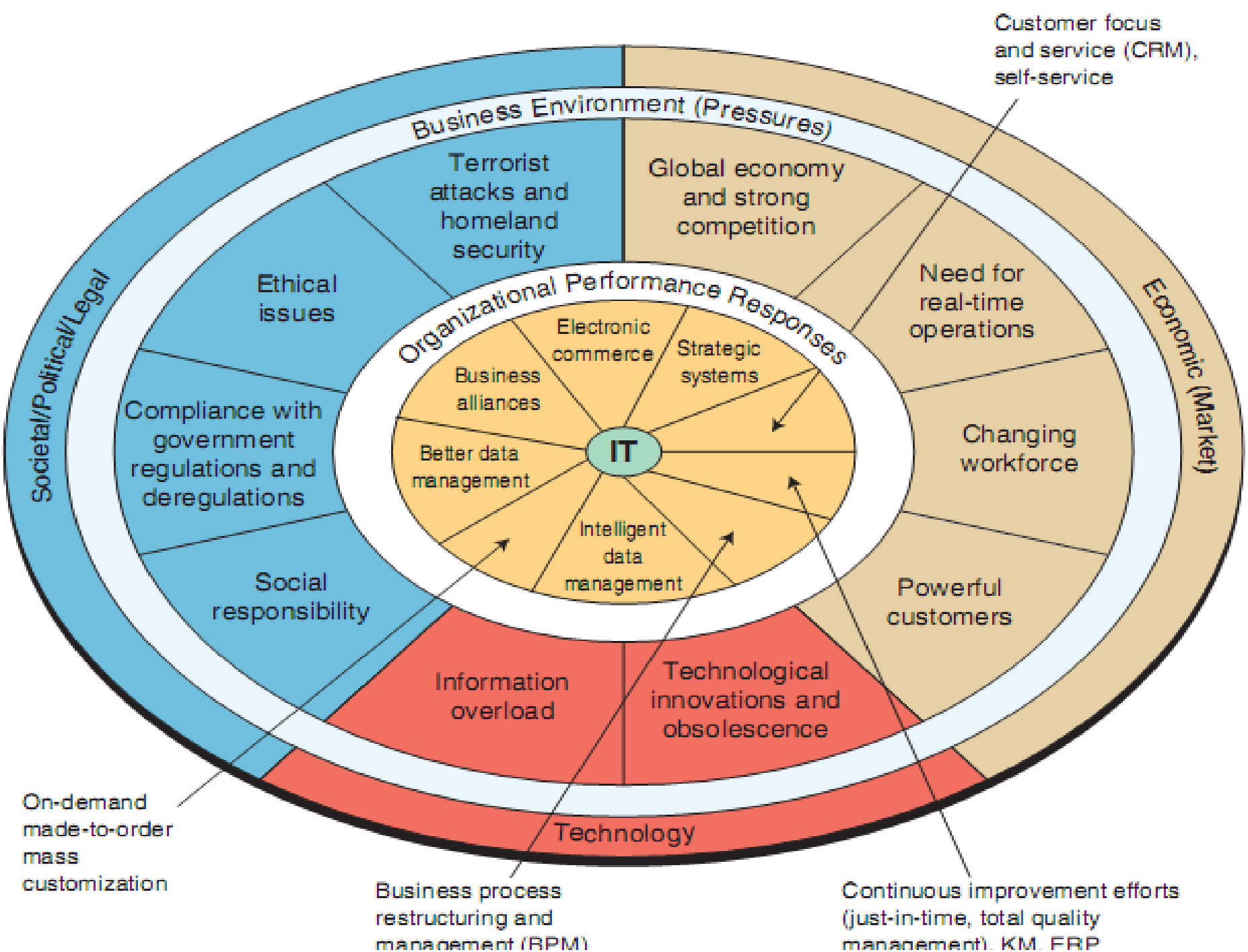
ORGANIZATIONAL RESPONSES

- Organizations are responding to these pressures by implementing IT such as:

1. Strategic systems
2. Customer focus
3. Make-to-order and mass customization
4. E-business and E-commerce

STRATEGIC SYSTEMS

- Provide organizations with advantages that enable them:
  - To increase their market share and/or profits,
  - To better negotiate with suppliers,
  - To prevent competitors from entering their markets.


Customer focus and service (CRM), self-service
Business Environment (Pressures)
Terrorist attacks and homeland security
Global economy and strong competition
Societal/Political/Legal
Economic (Market)
Ethical issues
Need for real-time operations
Organizational Performance Responses
Electronic commerce
Strategic systems
Business alliances
Compliance with government regulations and deregulations
Changing workforce
Better data management
IT
Intelligent data management
Social responsibility
Powerful customers
Information overload
Technological innovations and obsolescence
Technology
On-demand made-to-order mass customization
Business process restructuring and management (BPM)
Continuous improvement efforts (just-in-time, total quality management), KM, ERP

Why Are Information Systems Important to You?

IT OFFERS CAREER OPPORTUNITIES

Chief Information Officer	Highest-ranking IS manager; responsible for strategic planning in the organization
IS Director	Responsible for managing all systems throughout the organization and day-to-day operations of the entire IS organization
Information Center Manager	Manages IS services such as help desks, hot lines, training, and consulting
Applications Development Manager	Coordinates and manages new systems development projects
Project Manager	Manages a particular new systems development project
Systems Manager	Manages a particular existing system

IT OFFERS CAREER OPPORTUNITIES

Operations Manager	Supervises the day-to-day operations of the data and/or computer center
Programming Manager	Coordinates all applications programming efforts
Systems Analyst	Interfaces between users and programmers; determines information requirements and technical specifications for new applications
Business Analyst	Focuses on designing solutions for business problems; interfaces closely with users to show how IT can be used innovatively
Systems Programmer	Writes the computer code for developing new systems software or maintaining existing systems software

IT OFFERS CAREER OPPORTUNITIES

Applications Programmer	Writes the computer code for developing new applications or maintaining existing applications
Emerging Technologies Manager	Forecasts technology trends and evaluates and experiments with new technologies
Network Manager	Coordinates and manages the organization's voice and data networks
Database Administrator	Manages the organization's databases and oversees the use of database management software
Auditing or Computer Security Manager	Manages ethical and legal use of information systems
Webmaster	Manages the organization's World Wide Web site
Web Designer	Creates World Wide Web sites and pages

IT Is Used by All Departments

TASK :

Review the newspapers for the last three months to find stories about the use of Web-based technologies in organizations. Each group will prepare a report describing five applications. The reports should emphasize the role of the Web and its benefit to the organizations. Cover issues described in this chapter, such as productivity, competitive strategies, and globalization. Present and discuss your work.