ACS-1803
Introduction to Information Systems

Instructor: Kerry Augustine

Systems that Span Organizational Boundaries

Lecture Outline 7-1

Learning Objectives

To describe the characteristics of six information systems that span the organizational, managerial, and executive levels: Functional Information Systems (Re-cap), Decision Support Systems (DSS), Expert Systems (ES), Office Automation Systems (OAS), Collaboration Technologies, and Global (Geographic) Information Systems

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Office Automation Systems

Systems That Span Organizational Boundaries

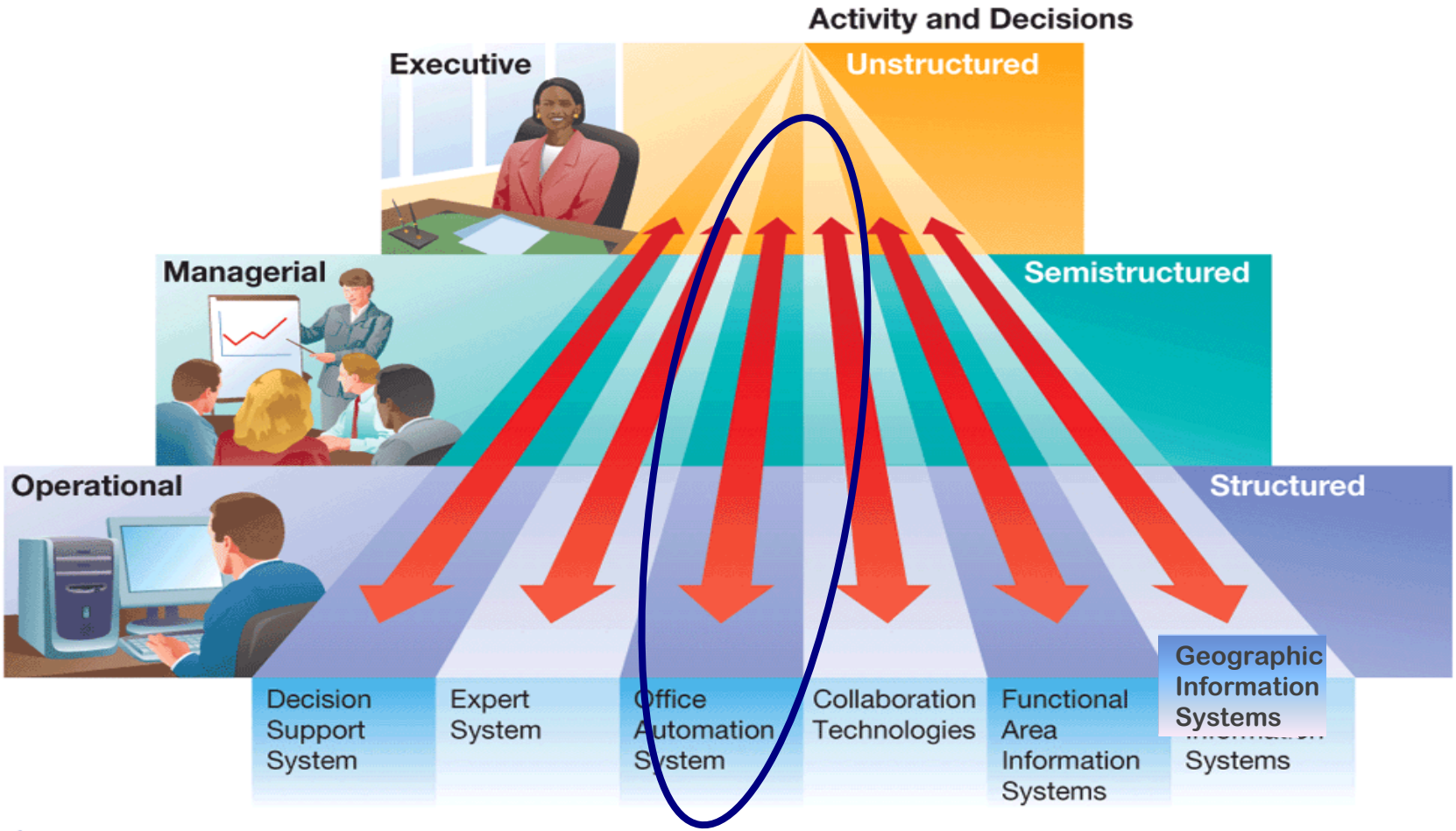

Figure 6.19 Organizational boundary-spanning information systems.

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Office Automation Systems

- Computerizing and integrating office tasks through technology
- Use different types of technologies
- Instead of 'number crunching', they may perform 'document crunching'

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Office Automation Systems

- Collection of **software and hardware** used to increase productivity within the office setting through the collection, storage, manipulation of office information needed for accomplishing basic tasks and goals.
- Examples of Activities
  - Generate documents or business forms from data stored in other applications or databases
  - Generate presentations from external data
  - Automatically send emails to customers or groups
  - Create custom data entry mechanisms
  - Maintain and organize data stored in spreadsheets or databases
  - Create stand-alone programs to automate your office environment

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Office Automation Systems

- Other supported Activities
- Scheduling Resources
  - Examples: electronic calendars with resource management (equipment, facilities, etc.)
- Communicating
  - Examples: e-mail, voice mail, videoconferencing and groupware
- Imaging systems:
  - convert photographs and charts to a series of dots and transfer the dots in magnetic form to disk storage

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Attributes of Office Automation

- The rapid growth of office automation systems can be attributed to:
  - Value of information and information explosion
  - Increase in office cost and need to improve office productivity
  - Availability of equipment and skills
  - Large number of organizations are being benefitted by office automation due to the following advantages related to the human resource information system.

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Collaboration Technologies

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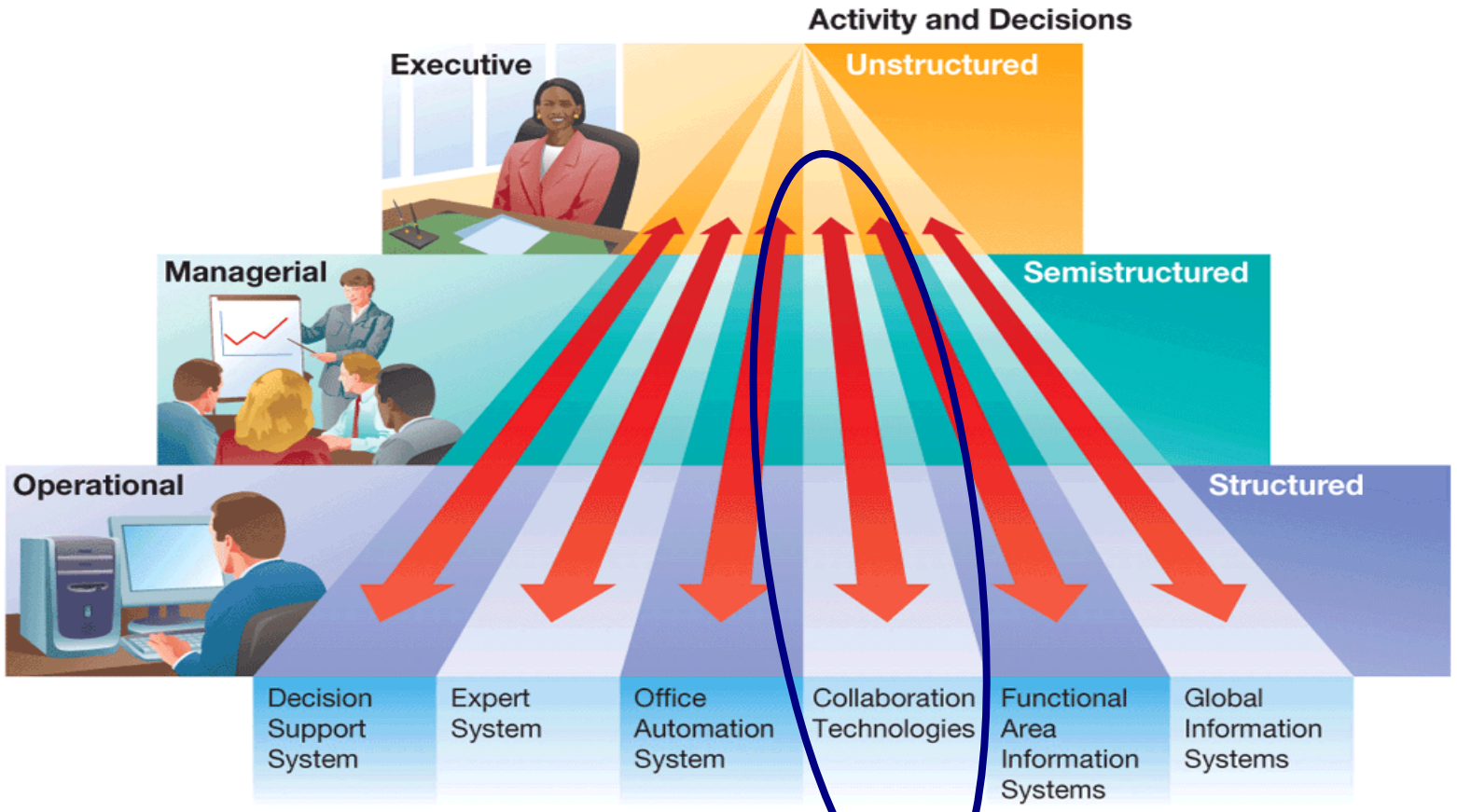

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Collaborative Information Systems

- Systems that allow groups of people achieve a common goal through enhancing and facilitating **communications and knowledge sharing**
- Use networking technologies to include teleconferencing, document sharing, data sharing, information sharing
  - E.g. Each member can submit ideas anonymously; it shows up on big screen to be discussed
- Can include group decision support systems
- Thiws is considered "Green Technology" why?

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Collaborative Technology (Groupware)

Groupware/ Group Support Systems (GSS)

Software that enables people to work together more effectively

Supported Activities

These systems come in two types:

- **Asynchronous Groupware** – Systems that do not require users to be on the system working at the same time, including: e-mail, newsgroups, workflow automation, group calendars, and collaborative writing tools
- **Synchronous Groupware** – Systems that allow and support simultaneous group interactions including shared whiteboards, electronic meeting support systems, video communication systems

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Collaborative Information Systems

- e.g., ThinkTank™
  - business collaboration tool (group decision support)
  - brainstorming, organizing, prioritizing, evaluating, identifying and documenting your innovation process.
  - Can document presented ideas
  - Groups can be in one room or distributed over long distances

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Examples – Collaborative Technology

- Service applications such as:
  - Professional Services - The Future Office (Microsoft)
  - Retail – The Future of Shopping (Cisco)
  - Banking – The Future of Banking (Microsoft)
  - Healthcare – The Future of Healthcare (Microsoft)
  - OPENPediatrics (IBM) – Hospitals Without Walls
  - Engineering Design – A Vision for the Future

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Geographic Information Systems (GIS)

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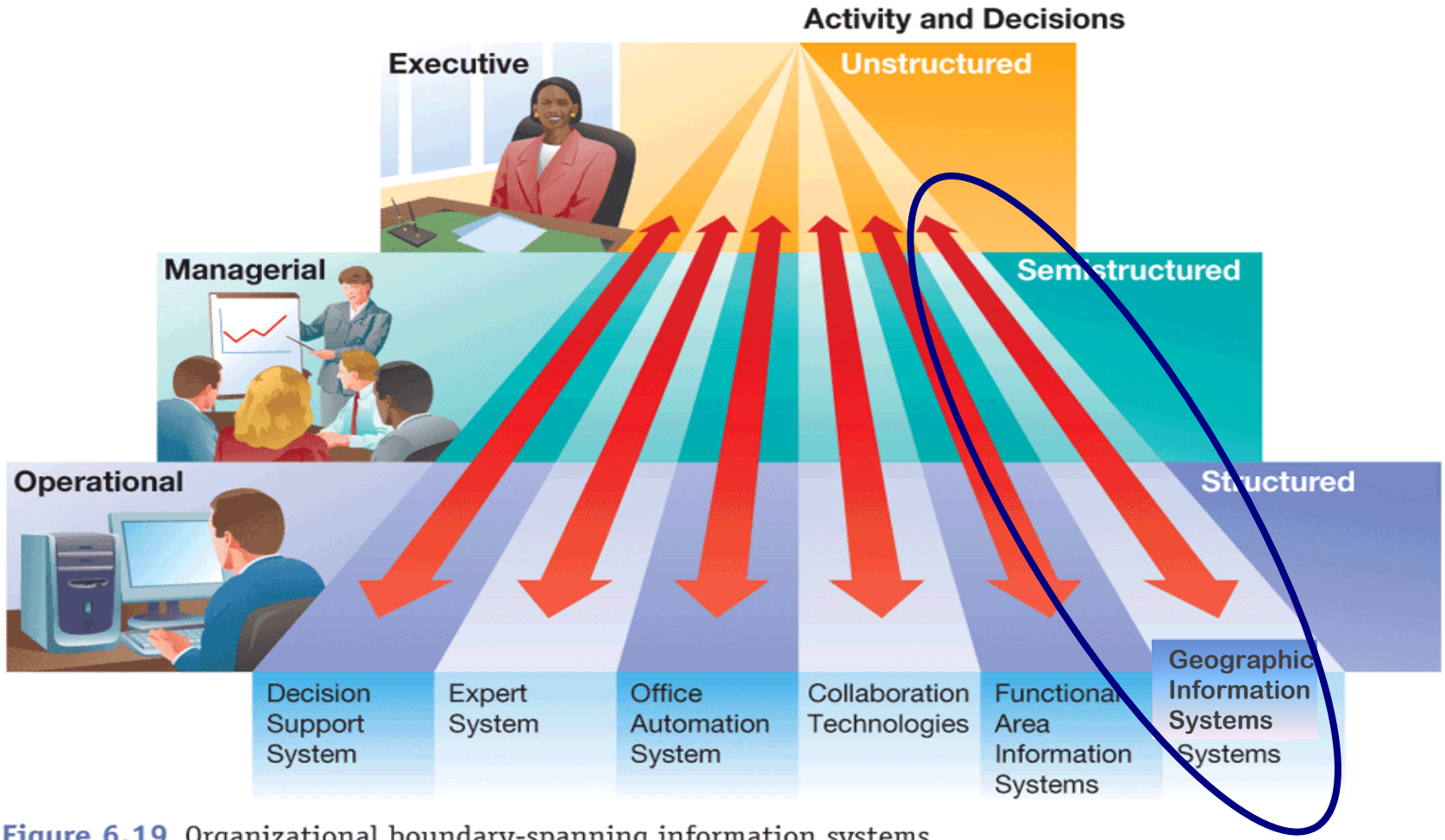

Figure 6.19 Organizational boundary-spanning information systems.

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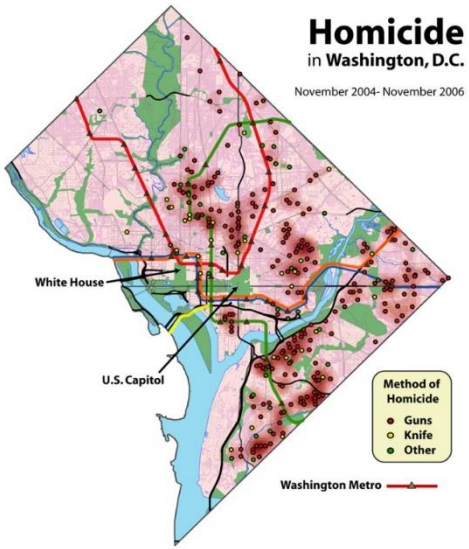
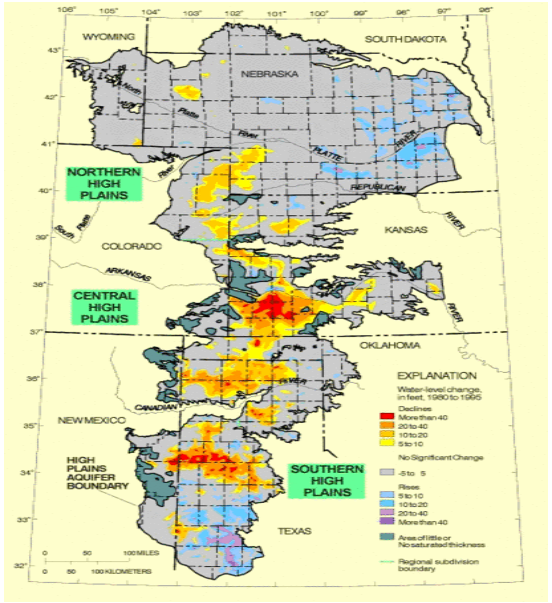
Geographic Information Systems

- **Geographic information system**: ties data to physical locations
- Represents data on a map in different formats
- May reflect demographic information in addition to geographic
- May use information from GPS satellites





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Geographic Information Systems

- Geographic information systems support organizations with answering the "Where" questions
  - delivery manager may want to know the shortest distance a truck can travel to deliver ordered goods
  - efficient routes for bussing school children
  - where to locate police stations
  - where to drill for oil
  - sales territories

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GIS for Decisions

- Supermarket chain gets a system that shows population by age and income groups on map of city
  - Management can decide where to build their next store
- Police may have maps showing incidents of specific crimes in areas of City
  - Can decide how many police cars to deploy to different areas
- Government requires to identify where rainfall is located.
  - Comparing the rainfall information with other information, such as the location of marshes across the landscape, may show that certain marshes receive little rainfall. This fact may indicate that these marshes are likely to dry up, and this inference can help in making the most appropriate decisions about how to legislate about interactions with the marsh

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GIS for Decisions

What is GIS?

A geographic information system (GIS) lets us visualize, question, analyze, interpret, and understand data to reveal relationships, patterns, and trends. Learn more.

Getting Started

- Top Five Benefits of GIS
- What Can I Do with GIS?
- The Geographic Approach
- Glossaries & Publications

Try GIS

Virtual Globe

Use ArcGIS Explorer (free) to combine your spatial data with free map services.

Superstorm Sandy Impacts

View areas impacted by Superstorm Sandy and associated demographic information. More Story Maps

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