Information Systems

Chapter 11

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Competencies (Page 1 of 2)

- Explain the functional view of an organization and describe each function.
- Describe the management levels and the informational needs for each level in an organization.
- Discuss how information flows within an organization.
- Discuss computer-based information systems.

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Competencies (Page 2 of 2)

- Distinguish among a transaction processing system, a management information system, a decision support system, and an executive support system.
- Distinguish between office automation systems and knowledge work systems.
- Explain the difference between data workers and knowledge workers.

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Introduction

- An information system is a collection of people, procedures, software, hardware, and data
  - They all work together to provide information essential to running an organization
  - Computers are used in organizations to keep records of events
- Competent end users need to understand how the information flows as it moves through an organization

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Organizational Information Flow

- Information flows vertically and horizontally throughout an organization
- Information systems support the natural flow of information within an organization's structure
- 5 Functional Areas
- Management Levels
- Information Flow

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Five Functions of an Organization

- Accounting
- Marketing
- Human Resources
- Production
- Research

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Management Levels

- Management is usually divided into three levels: Top, Middle, and Supervisors

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Information Flow (Page 1 of 2)

- Each level of management has different information needs
- The information flows to support these needs
  - Top management
    - Vertical, horizontal, and external
  - Middle management
    - Vertical and horizontal
  - Supervisor
    - Primarily vertical

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Information Flow (Page 2 of 2)

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Computer-Based Information Systems

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Transaction Processing Systems (TPS)

- Records day-to-day transactions in a database
- Also called data processing systems (DPS)
- One of the most essential uses of a TPS is in Accounting

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TPS for Accounting

- Sales order processing
- Accounts receivable
- Inventory and purchasing

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Management Information Systems (MIS)

- Produces standardized reports to support decision-making by middle managers
- Integrates data and summarizes details from databases in a structured form
- Produces predetermined reports
  - Periodic reports
  - Exception reports
  - Demand reports

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Decision Support Systems (DSS)

- Flexible tool for analyzing data for decision-making purposes
- Enables managers to get answers to unexpected and generally non-recurring problems
  - Reports do not have a fixed format
- Microsoft Access is often used to provide an easy front-end interface for performing SQL decision support queries

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Parts of a DSS

- User
  - A decision-maker, like yourself
- System software
  - Operating system
  - Easy to learn and use
- Data
  - Internal data
  - External data
- Decision models

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DSS Decision Models

- Strategic models
  - Assists top level management in long-range planning
- Tactical models
  - Assists middle-management control the work
  - Financial and sales promotion planning
- Operational models
  - Assists lower-level managers accomplish the daily activities and objectives

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Executive Support Systems (ESS)

- Designed for top management
- Sophisticated software for presenting, summarizing, and analyzing data, but specifically designed to be easy-to-use
- Provides immediate access to a company's key performance indicators

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Other Information Systems

- Information workers
  - Data workers
  - Knowledge workers
- Office automation systems (OASs)
  - Supports data workers
  - Project management programs
  - Videoconferencing systems
- Knowledge work systems (KWSs)
  - Use specialized systems, such as CAD/CAM

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Careers In IT

- Information systems managers oversee the work of programmers, computer specialist, systems analysts, and other computer professionals
- Employers look for individuals with strong technical backgrounds, with a Master's degree
  - Strong leadership and communications skills
- Information systems managers can expect to earn from $79,000 to $129,500 annually

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A Look to the Future

- Information overload
  - May have a negative effect
  - E-mail is one of the major sources of overload

- How to handle e-mail
  - Be selective
  - Remove
  - Protect
  - Be brief
  - Stop spam
  - Don't respond

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Open-Ended Questions (Page 1 of 2)

- Name and discuss the five common functions of most organizations.
- Discuss the roles of the three kinds of management in a corporation.
- What are the four most common computer-based information systems?

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Open-Ended Questions (Page 2 of 2)

- Describe the different reports and their roles in managerial decision making.
- What is the difference between an office automation system and a knowledge work system?

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