



Information Systems

Chapter 11

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.



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.

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



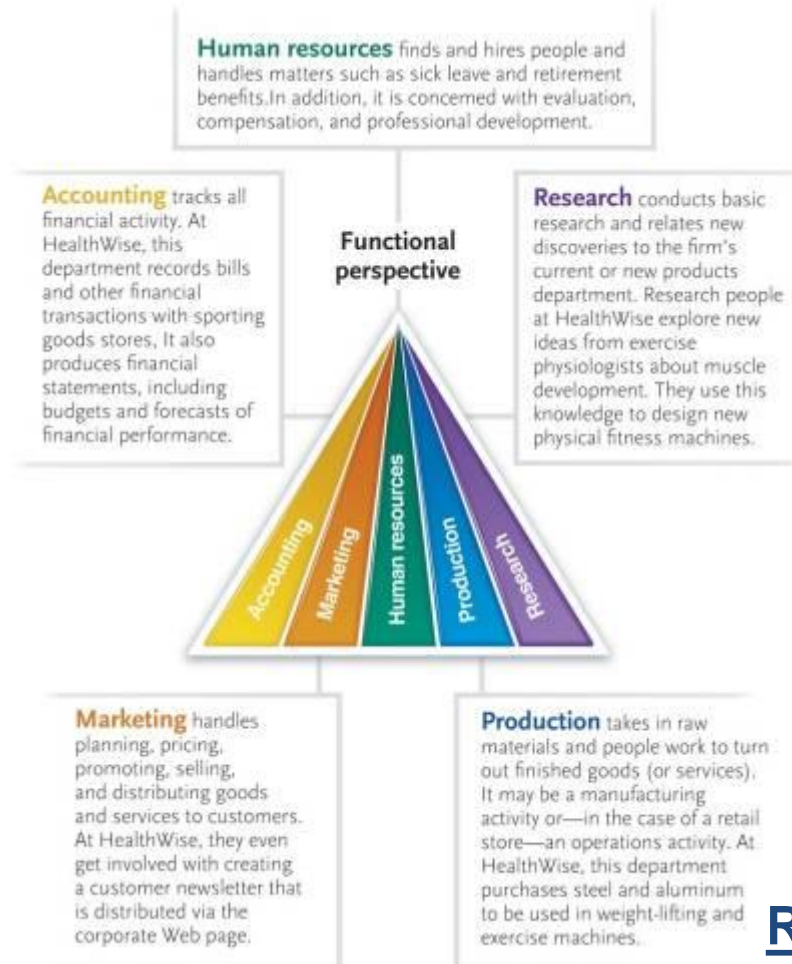
Organizational Information Flow

- 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



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**



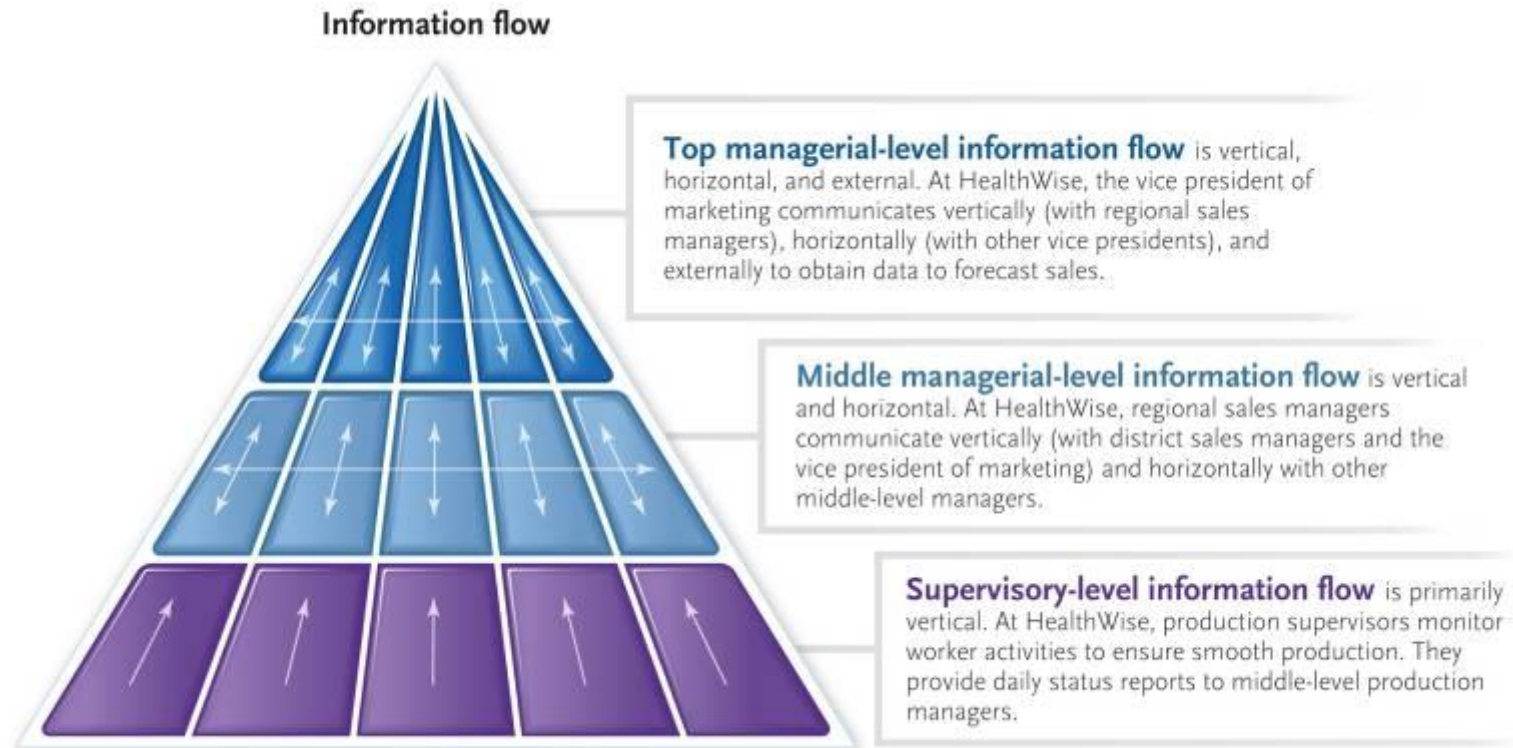
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Information Flow (Page 1 of 2)

- 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

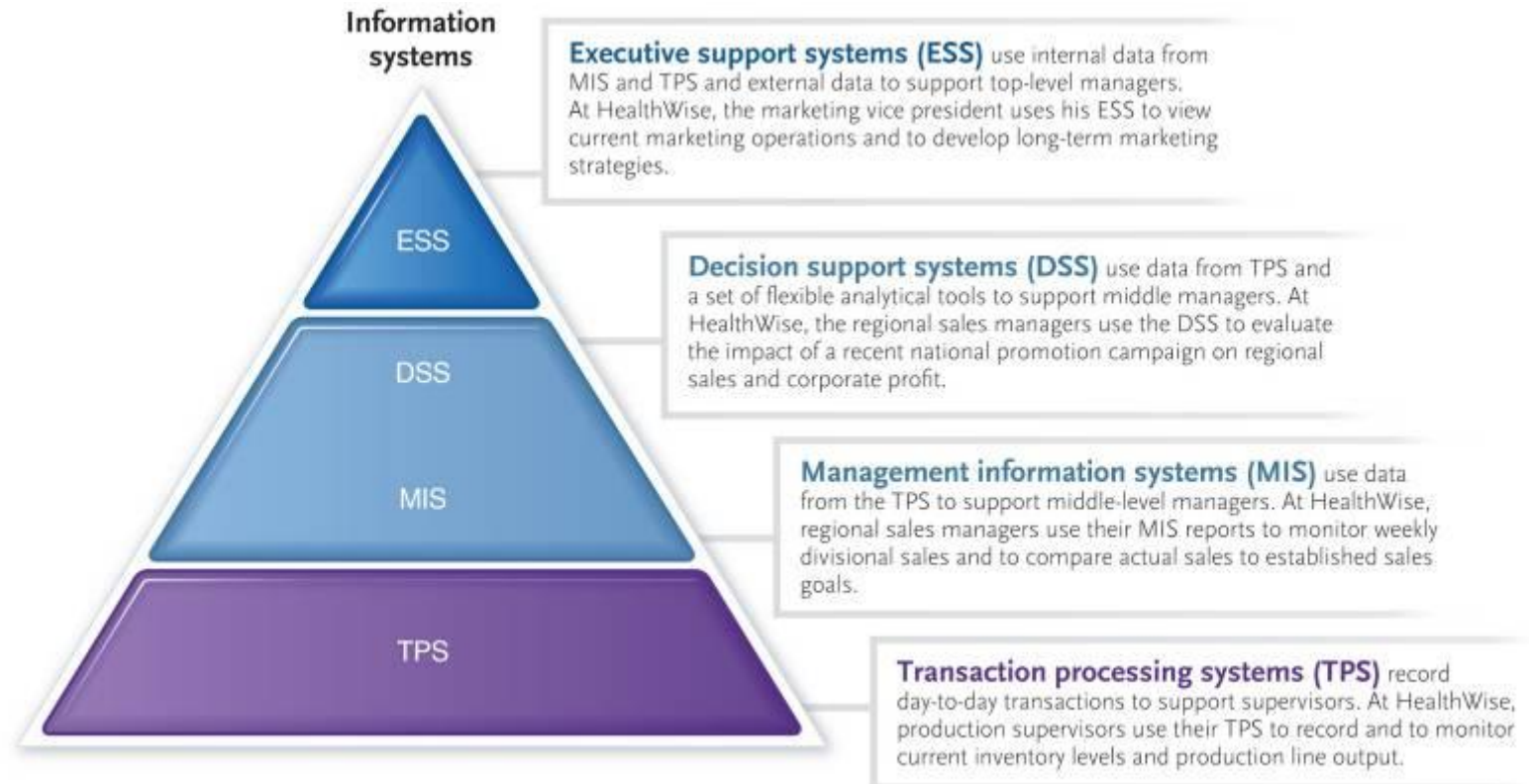


Information Flow (Page 2 of 2)



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Computer-Based Information Systems



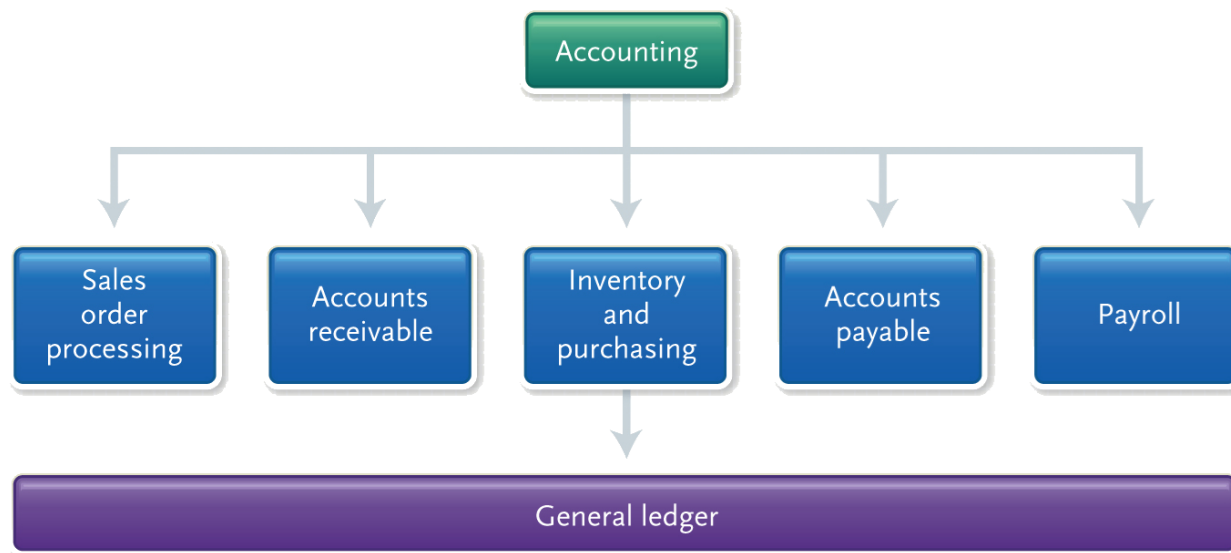
Transaction Processing Systems (TPS)

- 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



TPS for Accounting

- Sales order processing
- Accounts receivable
- Inventory and purchasing



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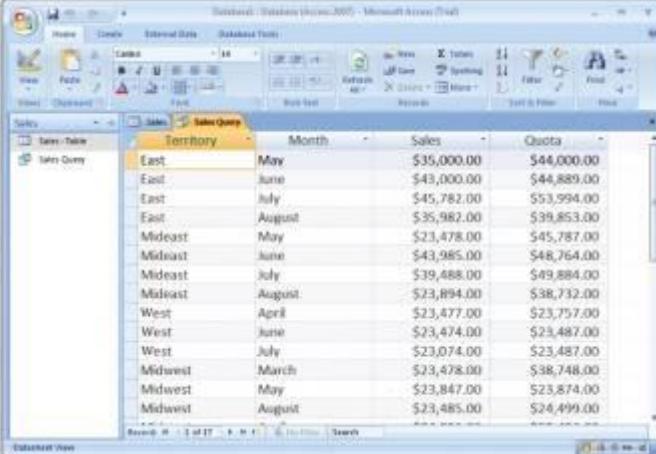
Management Information Systems (MIS)

- 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

Region	Actual Sales	Target	Difference
Central	\$166,430	\$175,000	(\$8,570)
Northern	137,228	130,000	7,228
Southern	137,772	135,000	2,772
Eastern	152,289	155,000	(2,711)
Western	167,017	160,000	7,017

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



The screenshot shows a Microsoft Access window displaying a data table. The table has four columns: Territory, Month, Sales, and Quota. The data is organized by territory and then by month. The Sales and Quota columns contain numerical values with two decimal places.

Territory	Month	Sales	Quota
East	May	\$35,000.00	\$44,000.00
East	June	\$43,000.00	\$44,889.00
East	July	\$45,782.00	\$53,994.00
East	August	\$35,982.00	\$39,853.00
Midwest	May	\$23,478.00	\$45,787.00
Midwest	June	\$43,985.00	\$48,764.00
Midwest	July	\$39,888.00	\$49,884.00
Midwest	August	\$23,894.00	\$38,732.00
West	April	\$23,477.00	\$23,757.00
West	June	\$23,474.00	\$23,487.00
West	July	\$23,074.00	\$23,487.00
Midwest	March	\$23,478.00	\$38,748.00
Midwest	May	\$23,847.00	\$23,874.00
Midwest	August	\$23,485.00	\$24,499.00

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



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

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



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



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



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



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?

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?