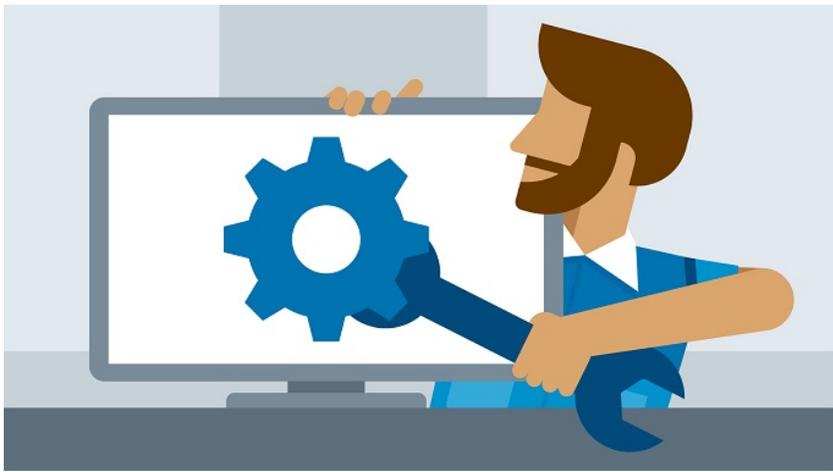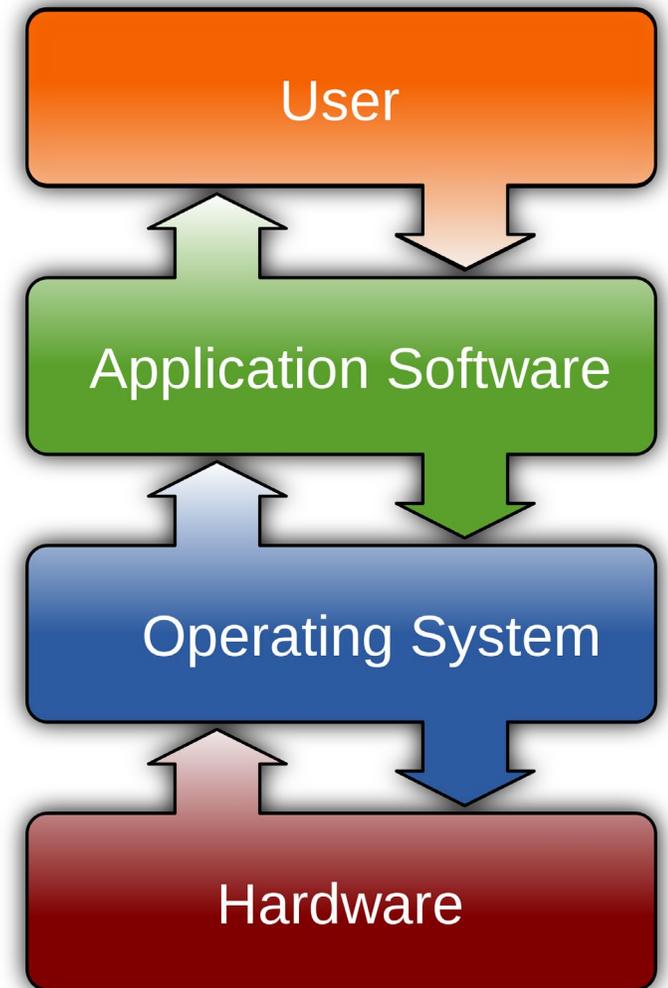# INFORMATION SYSTEM

COMPETENCIES

- Explain the functional view of an organization and describe each function.

- Describe the management levels and the information needs for each level in an organization.

- Discuss how information flows within an organization.

- Discuss computer-based information systems.
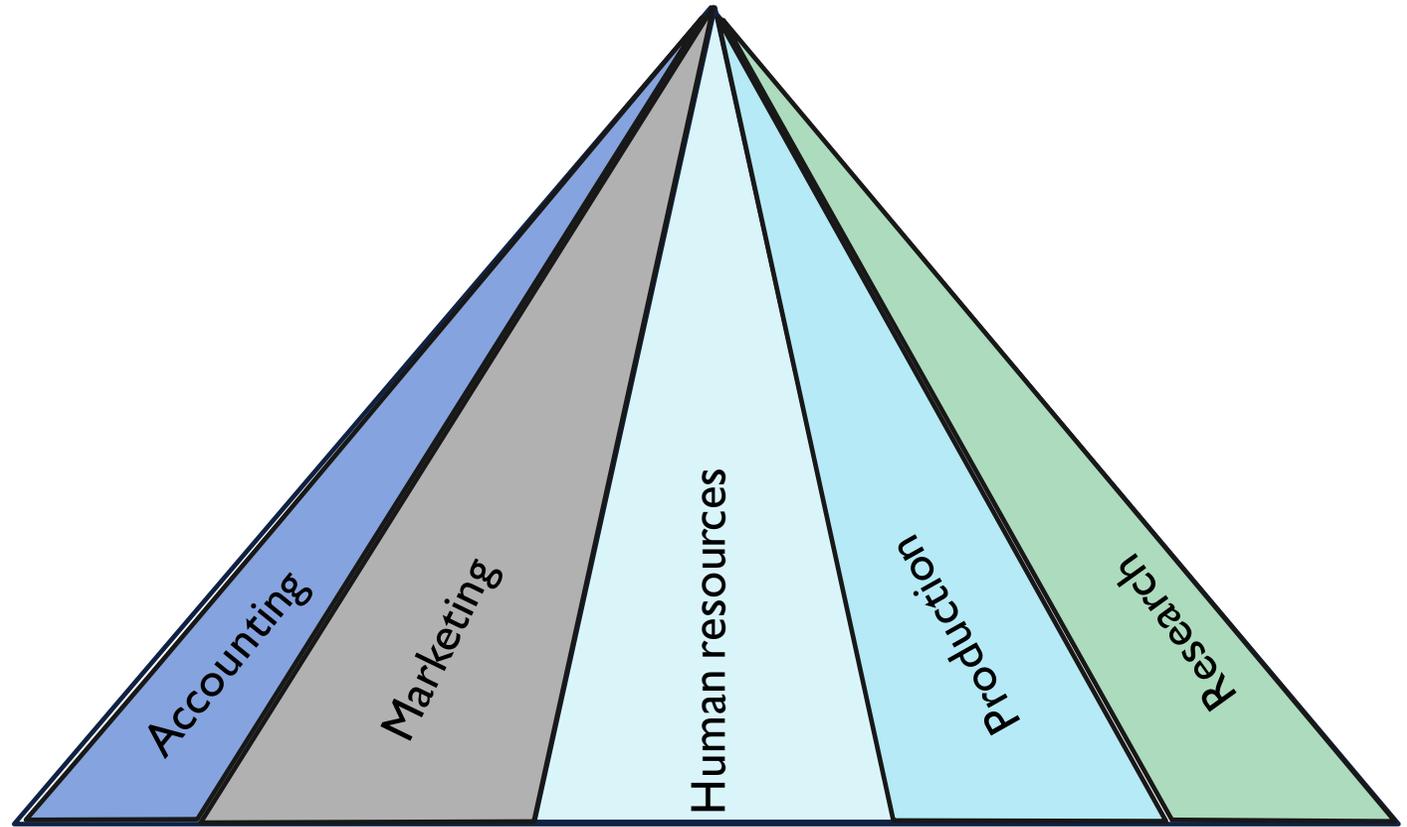
- Distinguish among TPS, MIS, DSS and ESS.

WHAT IS INFORMATION SYSTEM?

- 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.

User

Application Software

Operating System

Hardware

FUNCTIONS OF AN ORGANIZATION

- There five functions of an organization

- 1. Accounting

- 2. Marketing

- 3. Human Resources

- 4. Productions

- 5. Research

ACCOUNTING

- Tracks all financial activity. at Healthwise department records bills and other financial transactions with sporting goods stores. It also produces financial statement, including budget and forecasts of financial performance.

MARKETING

- Marketing handles planning, pricing, selling and distributing goods and services to customers at Healthwise. They even get involved with creating a customer newsletter that is distributed via the corporate web page.

HUMAN RESOURCES

Human resources finds and hires people and handles matters such as sick leave and retirement benefits. In addition, it is concerned with evaluation, compensation and professional development.

PRODUCTION

- Production takes in raw materials and people work to turn out finished goods or services. It may be a manufacturing activity or in case of a retail store an operations activity. At Healthwise, this department purchases steel and aluminum to be used in weightlifting and exercise machines.
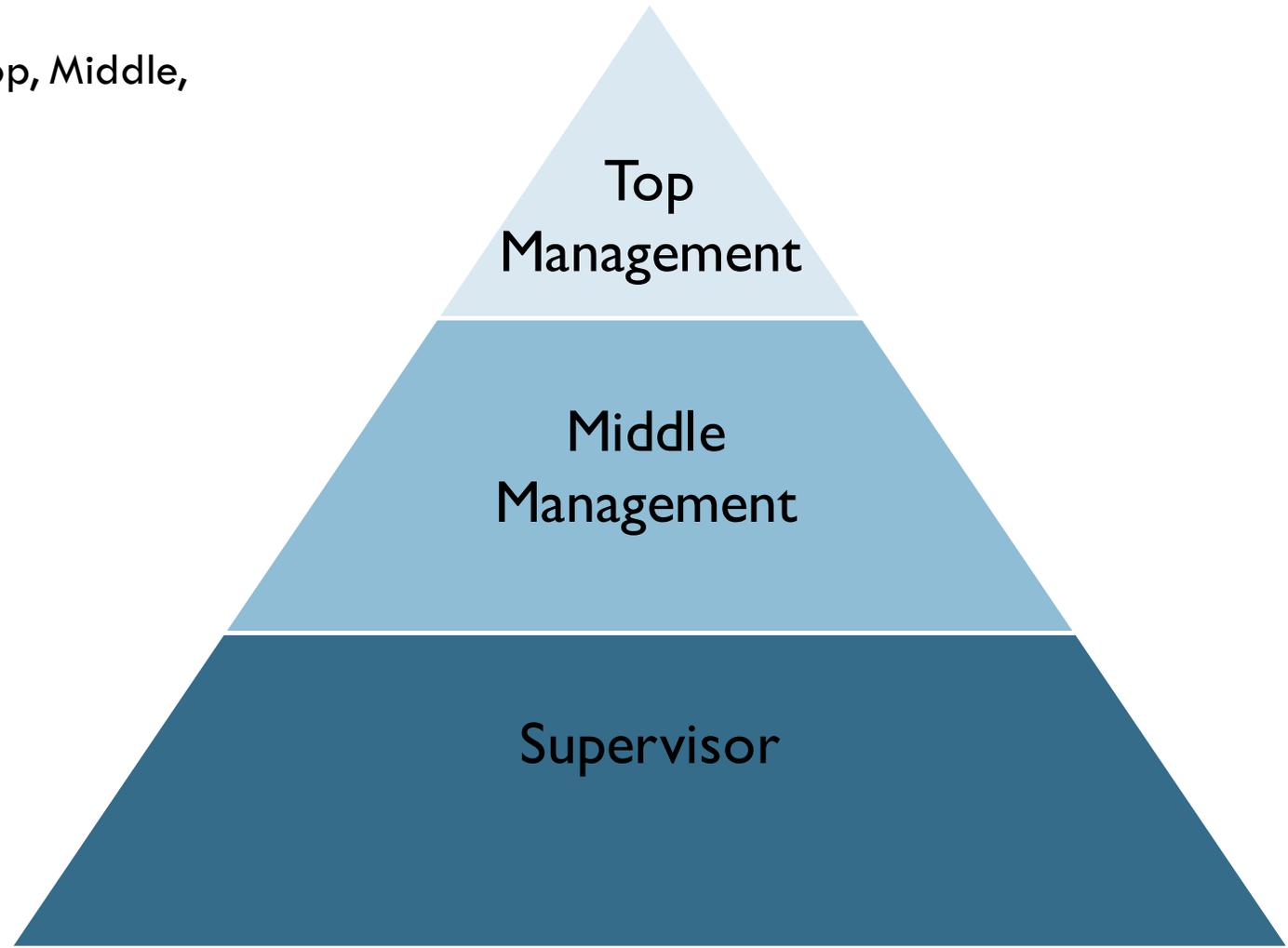
RESEARCH

Research conducts basic research and relates newly discover to the firm's current or new products department. Research people at Healthwise explore new ideas from exercise physiologists about muscle development. They use this knowledge to design new physical fitness machines.

MANAGEMENT LEVELS

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

Top Management

Middle Management

Supervisor

TOP MANAGEMENT

- Top managers are responsible for long-range planning at Healthwise, the vice president of marketing develops long-term marketing strategies to introduce newly developed products.

Top Managers
- Set objectives
- Scan environment
- Plan and make decisions

MIDDLE MANAGEMENT

Middle managers are responsible for tactical planning. At Healthwise, regional sales managers set sales, goals, monitor progress to meet goals, and initiate corrective action as needed.

Middle Managers
• Allocate resources
• Oversee first-line managers
• Report to top management
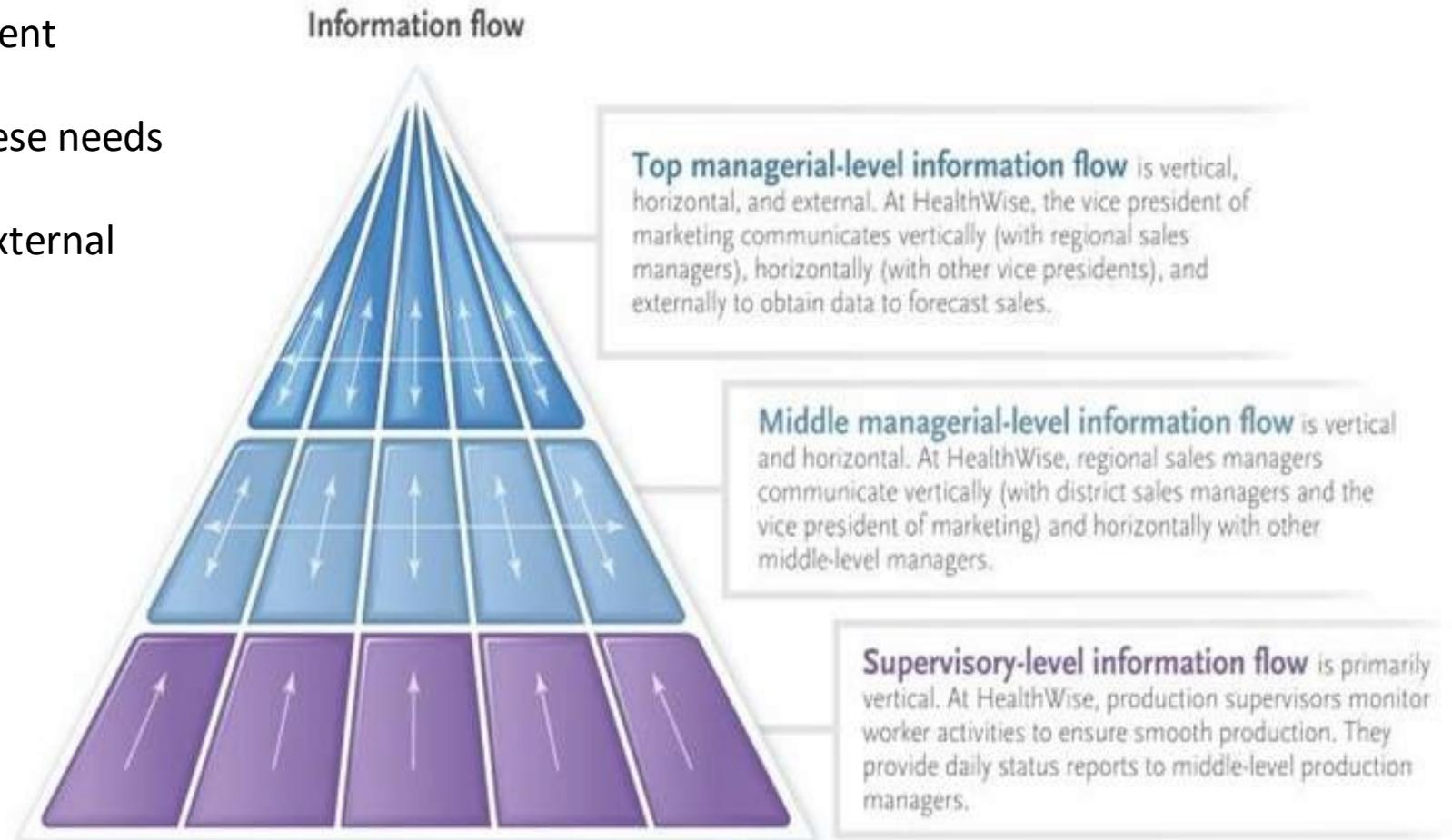• Develop and implement activities

SUPERVISOR

Supervisors are responsible for operational matters. At Healthwise a production supervisor monitors the inventory for parts and reorders when low.

First-line Managers
- Coordinate activities
- Supervise employees
- Report to middle managers
- Involved in day-to-day operations

INFORMATION FLOW

- 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

Top managerial-level information flow is vertical, horizontal, and external. At HealthWise, the vice president of marketing communicates vertically (with regional sales managers), horizontally (with other vice presidents), and externally to obtain data to forecast sales.

Middle managerial-level information flow is vertical and horizontal. At HealthWise, regional sales managers communicate vertically (with district sales managers and the vice president of marketing) and horizontally with other middle-level managers.

Supervisory-level information flow is primarily vertical. At HealthWise, production supervisors monitor worker activities to ensure smooth production. They provide daily status reports to middle-level production managers.

COMPUTER BASED INFORMATION SYSTEM

ESS

An Executive Support System (ESS) is software that allows users to transform enterprise data into quickly accessible and executive-level reports, such as those used by billing, accounting and staffing departments. An ESS enhances decision making for executives.

DSS

A decision support system (DSS) is supports business or organizational decision-making activities.
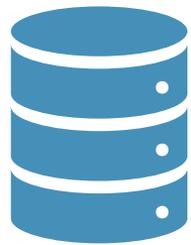
MIS

A management information system (MIS) is a computer system consisting of hardware and software that serves as the backbone of an organization's operations.
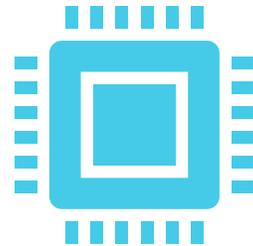
TPS

A Transaction Processing System (TPS) is a set of information which processes the data transaction in database system that monitors transaction programs.

TRANSACTION PROCESSING SYSTEM (TPS)

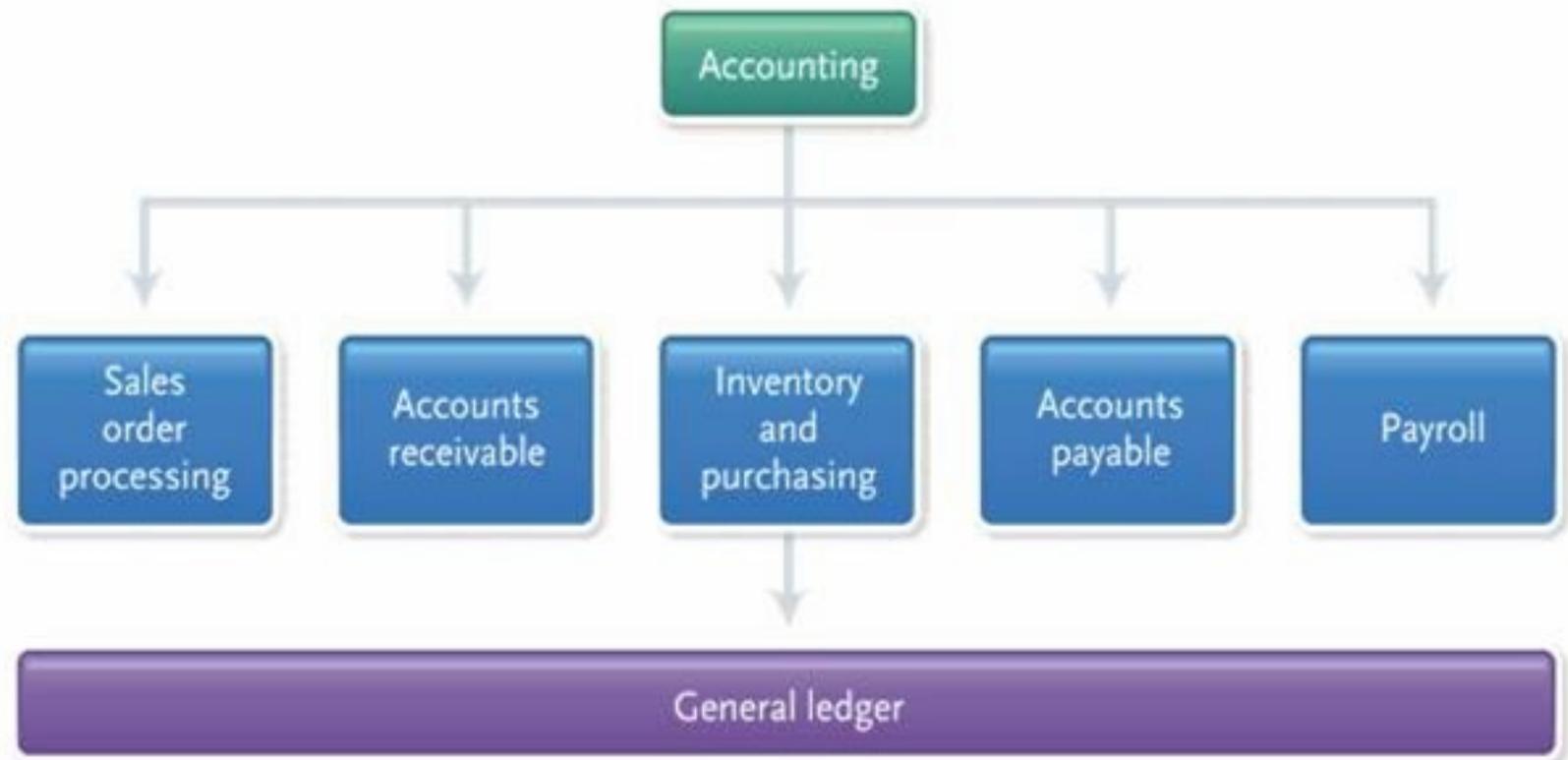Records day-to-day transactions in a database.

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
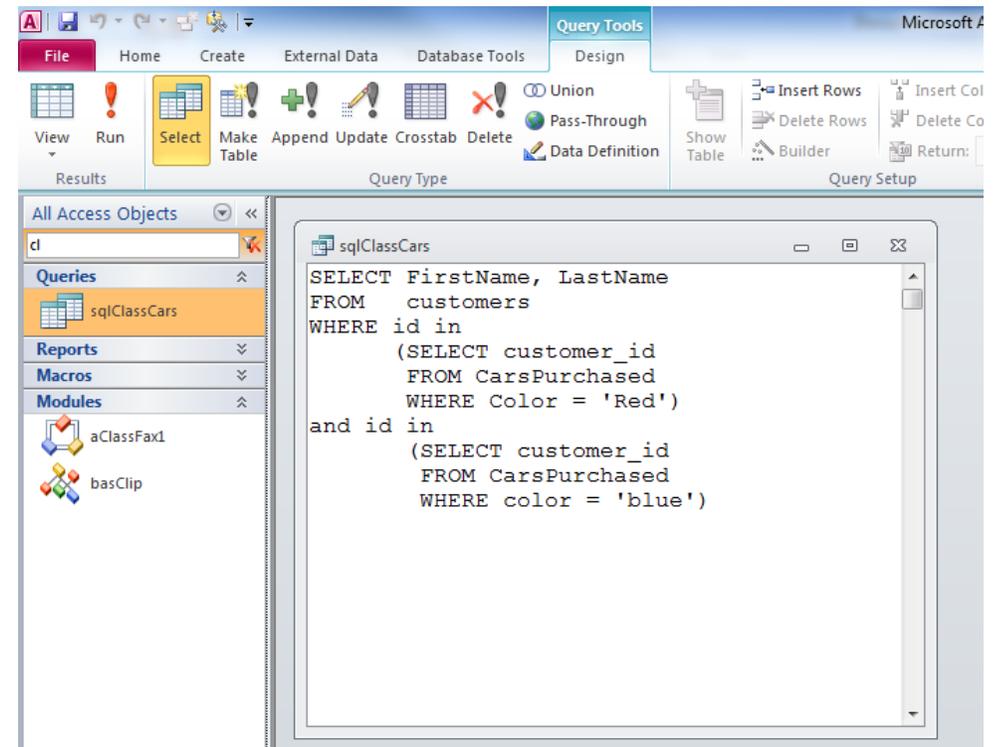- Inventory and purchasing

MANAGEMENT INFORMATION SYSTEM (MIS)

HealthWise Group
Regional Sales Report

Region	Actual Sales	Target	Difference
Central	$166,430	$175,000	($8,570)
Northern	137,229	130,000	7,229
Southern	137,772	135,000	2,772
Eastern	152,289	155,000	(2,711)
Western	167,017	160,000	7,017

- 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

DECISION SUPPORT SYSTEM (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.

PARTS OS DECISION SUPPORT SYSTEM (DSS)

User
A decision-maker, like yourself

System software
1. Operating system
2. Easy to learn and use

Data
1. Internal data
2. External data

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.

DSS DECISION MODELS

EXECUTIVE SUPPORT SYSTEM (ESS)

Designed for top management

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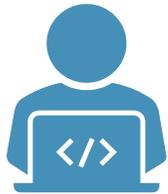
Provides immediate access to a company's key performance indicators

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.

THANK YOU