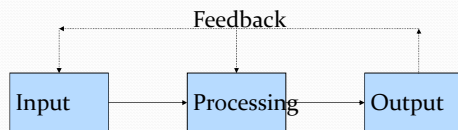## Information System (IS)

- Introduction
- Manual vs. Computerized Systems
- Parts of a CBIS

Introduction

- Definition
  - A set of interrelated elements or components that collect (input), manipulate (process), and disseminate (output) data and information and
  - provide a feedback mechanism to meet an objective

Introduction

- Schematic model of an information system

Feedback

Input → Processing → Output
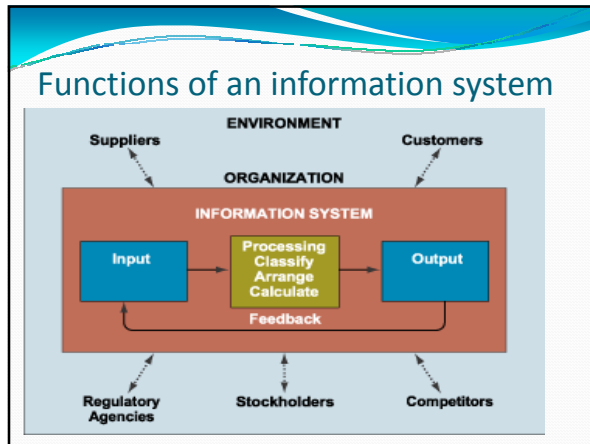
Input, Processing, Output,

- Input
  - The activity of gathering and capturing data
  - Whatever goes into the computer
- Processing
  - Converting or transforming data into useful outputs

Input, Processing, Output

- Output
  - Useful information, usually in the form of documents and/or reports
  - Anything that comes out of a computer
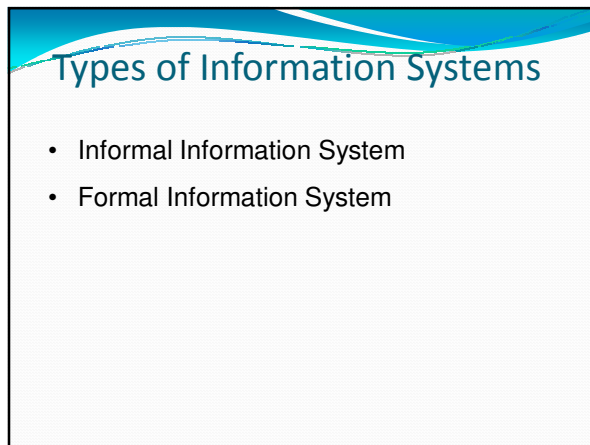
Feedback

- Feedback
  - Output that is used to make changes to input or processing activities
- Forecasting
  - A proactive approach to feedback
  - Use for estimating future sales or inventory needs
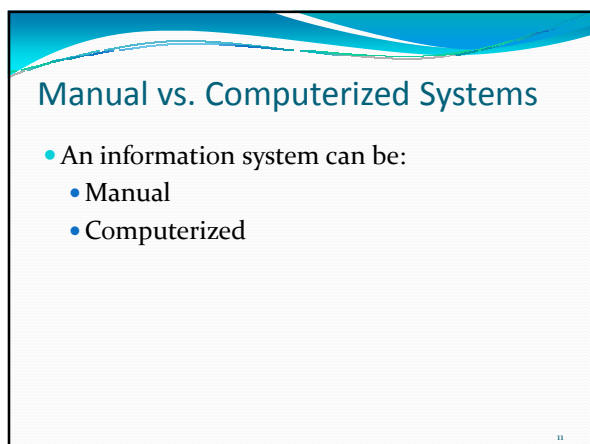
Functions of an information system

Functions of an information system

- An information system contains information about an organization and its surrounding environment.
- Environmental factors such as customers, suppliers, competitors, stockholders, and regulatory agencies interact with the organization and its information systems

Types of Information Systems

- Informal Information System
- Formal Information System

Formal Information systems

- They rest on accepted and fixed definitions of data and procedures for collecting, storing, processing, disseminating, and using these data.
- Informal information systems (such as office gossip networks) rely, by contrast, on unstated rules of behavior.
- There is no agreement on what is information, or on how it will be stored and processed.

Manual vs. Computerized Systems

- An information system can be:
  - Manual
  - Computerized

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Manual vs. Computerized Systems

- Manual systems are still widely used
  - E.g., some investment analysts manual draw charts and trend lines to assist them in making investment decisions

Computer-based Information Systems

- A CBIS is composed of...
  - Hardware
  - Software
  - Databases
  - Telecommunications
  - People
  - Procedures
- Together they are...
  - Configured to collect, manipulate, store, and process data into information

Technology Infrastructure

- Another term for CBIS
- Consists of the shared information system (IS) resources that form the foundation of the information system

Figure 1.6
The Components of a Computer-Based Information System.
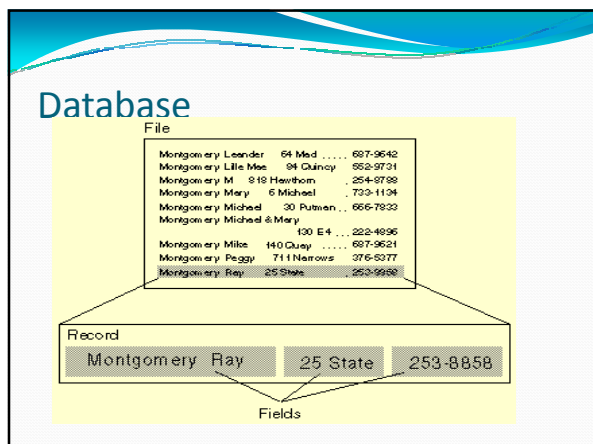
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Hardware

- Hardware
  - Computer equipment used to perform input, processing, and output activities
  - The objects that you can actually touch, like disks, disk drives, display screens, keyboards, printers, boards, and chips.

Software

- Software
  - Computer programs that govern/determine/control the operation of the computer
  - Computer instructions or data

Database

- Database
  - An organized collection of facts and information
  - A collection of information organized in such a way that a computer program can quickly select desired pieces of data

Database

Telecommunications

- Telecommunications
  - The electronic transmission of signals for communications; enables organizations to link computer systems into effective networks
  - Refers to all types of data transmission, from voice to video
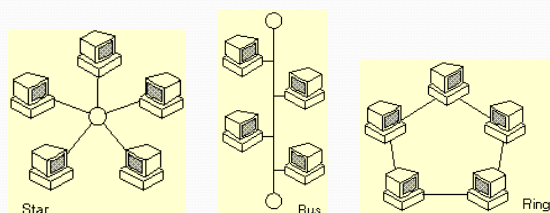
Networks

- Network
  - Used to connect computers and computer equipment in a building, around the country, across the world, to enable electronic communications
  - A group of two or more computer systems linked together

Network

There are many types of computer networks, including:

local-area networks (LANs) : The computers are geographically close together (that is, in the same building).

wide-area networks (WANs) : The computers are farther apart and are connected by telephone lines or radio waves.

Network

Internet and Intranet

- Internet
  - The world's largest telecommunications network
  - A network of networks
  - Free exchange of information
  - A global network connecting millions of computers

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Internet and Intranet

- Intranet
  - A network that uses Internet technology <u>within an organization</u>
  - A network belonging to an organization

People and Procedures

- People
  - The most important element in most computer-based information systems
  - Includes people who manage, run, program, and maintain the system
  - E.g., IT professionals (you!)
- Procedures
  - Includes the strategies, policies, methods, and rules for using the CBIS