Lesson 1

Field projects for Information Systems

Principles and Learning Objectives

- Distinguish data from information
- Describe the characteristics
- Identify the basic types of business information systems
- Discuss who uses the types
- Identify the major steps
- State the goal
- Identify the value-added processes
- Identify some of the strategies
- Define the term competitive advantage
- Define the types of roles, functions, and careers

Why Learn About Information Systems in Organizations?

Information systems used by:

- Sales representatives
- Managers
- Financial advisors

Information systems:

- Irreplicable tools to help you reach your career goals
- Businesses can use information systems to increase revenues and reduce
- costs

Information Concepts

Information system:

- A set of interrelated components that collect, manipulate, and disseminate data and information and provide feedback to meet an objective

Information:

- One of an organization’s most valuable resources
- Often confused with the term data

The Role of Information Systems in Business Today

- New products, services, and business models
- Customer and supplier intimacy
- Improved decision making
- Operational excellence
- Competitive advantage

Data, Information, and Knowledge

- Data
- Information
- Process
- Knowledge

Data	Represented by
Alphanumeric data	Numbers, letters, and other characters
Image data	Graphic images and pictures
Audio data	Sound, noise, or tones
Video data	Moving images or pictures

The Characteristics of Valuable Information

- If an organization's information is not accurate or complete
- Depending on the type of data you need

Characteristics	Definitions
Accessible	Information should be easily accessible by authorized users so they can obtain it in the right format and at the right time to meet their needs.
Accurate	Accurate information is error free. In some cases, inaccurate information is generated because inaccurate data is fed into the transformation process. [This is commonly called garbage in, garbage out [GIGO].]
Complete	Complete information contains all the important facts. For example, an investment report that does not include all important costs is not complete.
Economical	Information should also be relatively economical to produce. Decision makers must always balance the value of information with the cost of producing it.
Flexible	Flexible information can be used for a variety of purposes. For example, information on how much inventory is on hand for a particular part can be used by a sales representative in closing a sale, by a production manager to determine whether more inventory is needed, and by a financial executive to determine the total value the company has invested in inventory.

The Characteristics of Valuable Information (cont.)

Characteristics	Definitions
Relevant	Relevant information is important to the decision maker. Information showing that lumber prices might drop might not be relevant to a computer chip manufacturer.
Reliable	Reliable information can be trusted by users. In many cases, the reliability of the information depends on the reliability of the data-collection method. In other instances, reliability depends on the source of the information. A rumor from an unknown source that oil prices might go up might not be reliable.
Secure	Information should be secure from access by unauthorized users.
Simple	Information should be simple, not overly complex. Sophisticated and detailed information might not be needed. In fact, too much information can cause information overload, whereby a decision maker has too much information and is unable to determine what is really important.
Timely	Timely information is delivered when it is needed. Knowing last week's weather conditions will not help when trying to decide what coat to wear today.
Verifiable	Information should be verifiable. This means that you can check it to make sure it is correct, perhaps by checking many sources for the same information.

The Value of Information

- How it helps to make a decision
- Valuable information

What is an Information System?

Information system (IS) is a set of interrelated elements

- Input:
  Activity of gathering and capturing raw data
- Processing:
  Converting data into useful outputs
- Output:
  Production of useful information, usually in the form of documents and reports
- Feedback:
  Information from the system that is used to make changes to input or processing activities

Computer Information Systems - Component Groups

- **Application** Components
- **Technical** Components
- **Organizational** Components

Manual and Computer-based Information Systems

- Manual or computerized

- Computer-based Information Systems (CBIS) or Management
- Information Systems (MIS)

Information Systems - Elements

- Hardware
- Software
- Database
- Telecommunication, Networks, and the Internet
- People
- Procedures

Components of a Computer-based Information System (CBIS)

- Single set of hardware, software, databases, telecommunications, people, and procedures

Three Fundamental Types of Information Systems

Information systems can be divided into three types:

- **Personal IS**
- **Group IS**
- **Enterprise IS**

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Q&A