

Chapter 1: Introduction to Information Systems

Chapter Overview:

- What is an Information System?
- What is a Computer Information System?
- Why does information have to be managed?
- What roles do people play in an information environment?

1. Information System.

Definition of Information System: is a set of interrelated component that collect (or retrieve), process, store and distribute information to support decision making and control in an organization.

Information system can be computer-based or manual. Manual systems use paper and pencil technology. Computer based information system rely on computer hardware and software technology to process and disseminate information.

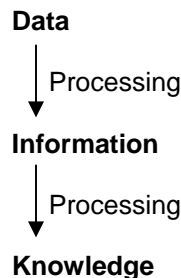
- For example: accounting system of a company can be on paper (i.e. manual) or it can be computerized and automatically processed by computer (i.e. computer-based).

Information system process information and data so that they become more useful for the information users.

Data are unprocessed, raw facts, figures, statistics, concepts or instruction. To be useful, they must be converted into information.

Information is processed data. Information is essential for decision making.

Data processing is the process of manipulation, organization, analysis, classification, summarization ...that is used to convert data into information.



2. Characteristics of information

In order to process data effectively, you must understand the purpose in which the information is used. Depending on the context in which the information is to be used, you will be able to decide which characteristics of information need to be paid more attention than others.

Characteristics of information:

- **Quantity:** The amount of information provided should be adequate (i.e. neither too much nor too little) for the purpose in which the information is used.
 - o For example, in order to study most effectively you must be given an appropriate amount of information from various sources (lectures, text books, reference books, etc.) Too much information will be impossible for you to handle, too little information will not use your time most efficiently.
- **Suitability:** Information should be appropriate to the skills and competence of the users.
 - o For example: You are not given advanced text book, otherwise you will not be able to understand the information given in the advanced text book.
- **Scope:** The breath of information supplied must be appropriate to the purpose for which it is to be used.
 - o For example: For forecasting population purpose you must be given appropriate amount of information of the past population.

- **Relevance:** The subject matter covered by the information is directly related to the problem areas need to be solved.
 - o For example: In order to calculate Profit/Loss of an accounting period, you must be given information on expenses and income of the company. Other information such as information on the industry, information on the market are not directly related to Profit/Loss calculation and therefore should be provided.
- **Accuracy:** Information need to be accurate so that decision made from information provided would be correct.
 - o For example: In order to trade shares successfully you need accurate information on the company performance.
- **Timeliness:** Information should be available when required so that it can support decision making.
 - o For example: You need most updated information on share price in order to trade shares.
- **Compatibility:** Information is based upon standards which also apply to other information systems.
 - o For example: Accounting Standards are set so that accounting information can be comparable from one period to the next.
- **Presentation:** Information should be presented in appropriate style to improve the usefulness of the information.
 - o For example: Children text books and university student text books are presented differently so as to be appropriate to each user's style.

The relative importance of each characteristic depends upon circumstances in which the information is used.

- For example: Annual report (accounting): Accuracy, timeliness, comparability
Newspaper: timeliness, accuracy, relevance.

3. Why information has to be managed

- **Abundance of information** i.e. there is too much information
The amount of information available today is much more than it used to be in the past. Without an effective information management system, users will not be able to receive information that is accurate, relevant or suitable ... to them. Especially with the introduction of the Internet, more books, more newspaper, TV programs etc, information needs to be managed to avoid "information overloading".
 - o For example: Library information system to manage a large amount of information and data on the books.
 - o For example: Accounting Information System is designed to manage the large amount of financial information of a company.
- **Information provides competitive advantage:**
Competition level is a lot higher today than it used to be in the past, especially, when competition has risen to the global level. Companies need information so that it can compete successfully in the global context.
 - o For example: Multi-national companies need information on the market around the world so that they can compete globally
- **Information is a valuable asset of organization**
Information is essential to the services industry and the services industry has become a very important part of the economy. Information can be traded and can be expensive.
 - o For example: services industry such as banking, legal, insurance are important parts of the British economy.
- **Information facilitates decision making:**
Managers can not make correct decision without good information. Information management is important to provide good information (i.e. accurate, relevant, ...) to the managers.

4. Roles of people in an information environment.

- Stakeholders v.s. Clients
- Developers v.s. Direct users