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(( علوم الحاسوب ))

### Stage 2

المحاضرة الاولى

## Information Technology

By

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## **1. Information Technology**

**1.1 Information Technology (IT)** this is a general term which relates to the use of computers as an aid to creating and maintaining data, i.e. information. IT is related to all aspects of managing and processing information, especially within a large organization.

**Information technology plays a major role in reengineering business processes, the speed, information processing power, and ease-of-use of modern computer hardware, software, and networks can dramatically increase the efficiency of business processes, and communications among its people.**

Information technologies and business systems that use IT allow us to work more intelligently, they also often change how we structure and manage our organization and processes-that is, how we work and how interact. IT is a facilitator of organization activities and processes. Therefore it is very important for every manager and professional staff member to learn about IT from the stand point of his or her specialized field.

**Every manager and staff member should know how to build, use, and Manage successful systems based on IT.**

### **In sales and Marketing, managers use IT to:**

1. develop new goods and services (product analysis)
2. -determine the best Location for production and distribution facilities (site analysis).
3. determine the best advertising and sales total revenues promotion analysis.
4. Set product prices to get the highest total revenues (price analysis).
5. Marketing managers also use IT to manage customer relationship.

**IT:** are the individuals components that are typically organized into computer –based information systems (IS). The two terms IT & IS are not precisely synonymous, but are used interchangeably in common practice.

A **computer** is programmable, multiuse that accepts data- raw facts and figures and processes, or manipulates, it into information that can use, such as summaries or totals. Its purpose is to speed up problem solving and increase productivity.

**Communications or telecommunications, technology** consists of electromagnetic devices and systems for communicating over long distances.

Computers may seem like incredibly complicated devices, but their underlying principle is simple. When you open up a personal computer, what you see is mainly electronic circuitry. And what is the most basic statement that can be made about electricity. It can be either turned on or turned off, or switched between high voltage and low voltage. Because computers are based on /off or other two state conditions, they use binary system, which consists of two digits 0 and 1.

## 1.2 Information System

Information systems (IS) collects, processes, stores, analyzes, and disseminates information for a specific purposes, like any other system ,**an information system include inputs(data, instructions)and outputs(reports, calculations).**

It processes the inputs and produces outputs that are sent to the user or other system. It is important to note the differences between data, information.

**Data**: are raw facts or elementary descriptions of things, events, activities, and transactions that are captured, recorded, stored, and classified but not organized to convey any specific meaning.

Examples of data would include grade point averages, bank balances, or the number of hours employees worked in a pay period.

**Information**: is collection of facts (data) organized in some manner so that they are meaningful to a recipient, for example, if we include student name with grade point



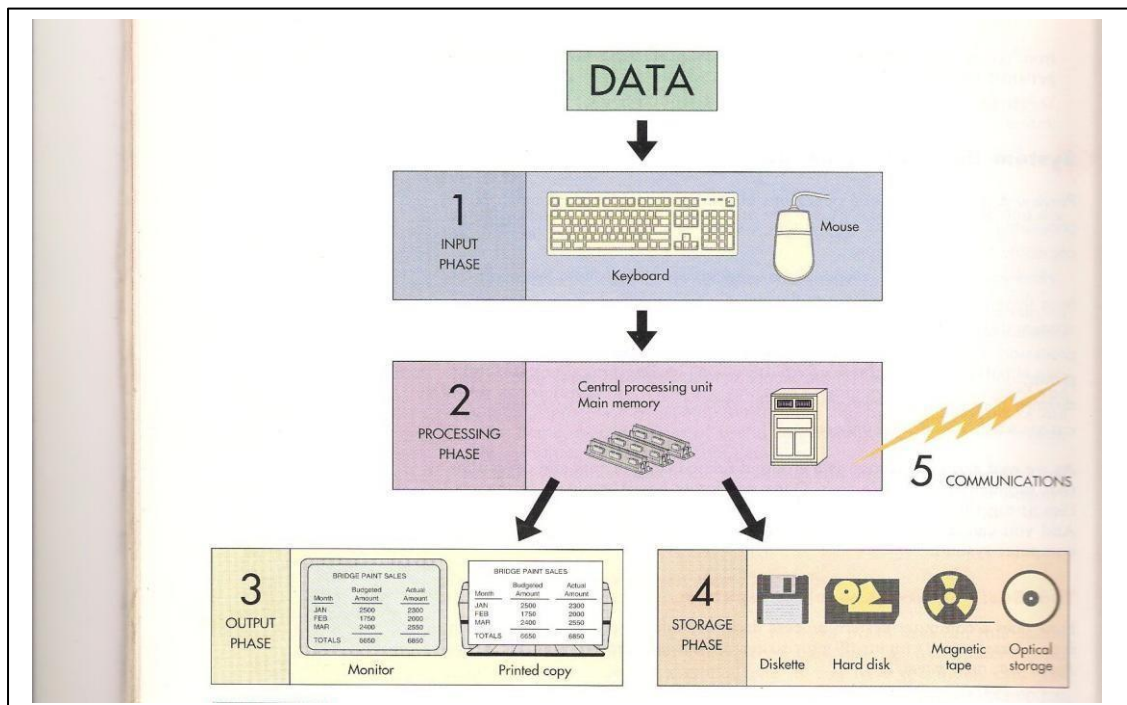
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averages, customer names with bank balances, and employees' wages with hours worked, we would have useful information.

**-A computer goes through four operations when it process data into information. 1- Input, 2- processing, 3- output and 4- storage.**

- 1- Input operation: data is entered or otherwise captured electronically and is converted to a form that can be processed by the computer. The means for capturing data (raw, unsorted facts) is input hardware, such as keyboard.
- 2- Processing operation: the data is manipulated to process or transform into information for example numbers may be added or subtracted.
- 3- Output operation: the information which has been processed from the data is produced in form usable by people. Examples of output are printed text, sound, and charts and graphs displayed on computer screen.
- 4- Secondary storage operation: the information and programs are stored in computer -processable form.





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### 1.3 Computer –Based Information System

Computer –based information system (SBIS) is an information system that uses computer and often telecommunications technology to perform some or all of its intended tasks.

An information technology is a particular component of a system, like a personal computer, printer, or network.

The basic components of information systems are the following:

1-**hardware**: a set of devices such as processor, monitor, keyboard, and Printer that accepts data and information processes them and displays them.

2-**software**: a set of computer programs that enables the hardware to process data.

3-**database**: an organized collections of related files, records, etc, that stores data and the associations among them

4-**network**: a connecting system that permits the sharing of resources among different computers.

5-**procedures**: the strategies, policies, methods, and rules for using the information systems.

6-**people**: the most important element in IS: include those persons who work with the information system or use its output.