Business information technology -

Hardware and Software

Lecture 3

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Objectives

- **To understand the functional components of a computer in BIS**

- **To understand Input devices, media, and data capture methods**

- **Define applications packages and programs**

❏ A computer system for BIS (Business Information Systems) typically consists of the following functional components:

1. **Hardware:** This refers to the physical components of a computer system, including the central processing unit (CPU), memory, storage devices, input/output devices (keyboard, mouse, monitor, printer, etc.), and other devices.

➢ **Importance of Hardware in BIS**

- Data Processing: Hardware components, such as CPUs, RAM, and storage devices, are necessary for processing and storing data.
- Communication: Networking equipment is essential for enabling communication between different devices and facilitating data transmission.
- Security: Hardware components, such as firewalls and intrusion detection systems, are critical for protecting business data from external threats.
- Scalability: Hardware components can be upgraded or expanded to meet the growing needs of a business, enabling it to scale its operations as required.

2. **Operating system:** This is the software that manages the computer's hardware resources and provides a platform for other software applications to run on. Examples of operating systems used in BIS include Windows, macOS, and Linux.

3. **Database management system (DBMS):** This is the software that manages the storage, organization, retrieval, and manipulation of data in a database. DBMS is essential for BIS as it is used to store and manage vast amounts of data generated by businesses.

4. **Application software:** This includes the software applications that are used to perform specific tasks in a business. Examples of application software used in BIS such as accounting software.

5. **Network:** The communication infrastructure that allows different computers and devices to connect and share data. In BIS, networks are used to facilitate communication between employees, customers, and suppliers, as well as to provide access to remote data and applications.

6. **Security:** This includes the hardware and software components used to protect the computer system from unauthorized access, data breaches, and other security threats.

❑ Input devices, media, and data capture methods are important components of any Business Information System (BIS) that is designed to capture, store, process, and transmit business data. Some common examples of input devices, media, and data capture methods for BIS include:

• Keyboard and Mouse: The keyboard and mouse are the most common input devices used for BIS. They allow users to enter data into the system quickly and easily.

• Scanners: Scanners are used to convert paper documents into digital form. They are often used to capture data such as invoices, receipts, and other documents.

• Barcode scanners: Barcode scanners are used to capture data from barcodes printed on products or packages. This data can be used for inventory management, tracking shipments, and other purposes.

• Cameras: Cameras are used to capture images and videos, which can be used as input data for BIS. For example, images of products can be used in online catalogs, or videos of customer interactions can be used for training purposes.

- Microphones: Microphones are used to capture audio data. This can be used for recording customer interactions, meetings, or other important conversations.

- RFID readers: RFID (Radio Frequency Identification) readers are used to capture data from RFID tags, which are used in inventory management, tracking shipments, and other purposes.

- Optical character recognition (OCR): OCR technology is used to capture data from printed documents. This technology can be used to digitize large volumes of data quickly and accurately.

- Digital forms: Digital forms are used to capture data directly into the BIS. They can be designed to capture specific data fields, such as customer information or order details.

➢ Software plays a critical role in any Business Information System (BIS) as it provides the tools and applications necessary to capture, store, process, and analyze business data.

➢ The type of software used in a BIS can vary depending on the specific needs of the business. For example, accounting software may be used to manage financial transactions, while customer relationship management (CRM) software may be used to manage customer interactions and sales data. Supply chain management software may be used to manage inventory and supply chain operations, while human resources management software may be used to manage employee data. Business Intelligence (BI) software is used in Business Information Systems (BIS) to analyze and present complex data in a user-friendly format.

❑ **Software applications come in two types:** packaged applications and commissioned software.

❑ Packaged applications are pre-built software programs that are created by software houses or companies that specialize in creating software products for a wide range of users.

❑ These applications are usually designed to meet common business or personal needs, and are sold to customers as-is, with little or no customization available (e.g. Microsoft Office, QuickBooks, Salesforce).

❑ Commissioned software refers to software that is specifically designed and built for a single client or organization.

❑ This type of software can be created either in-house by the client's own software development team or outsourced to a third-party software house.

❑ Examples of commissioned software include Enterprise resource planning (ERP), Customer relationship management (CRM), Electronic medical record (EMR), financial trading, and supply chain management systems.

❑ These systems are tailored to meet specific business needs, such as managing inventory, customer relationships, or medical records

Benefits and Limitations

- Applications packages are convenient, readily available, and require minimal customization, but may not fully meet an organization's unique needs.

- Specially commissioned software provides tailored solutions, but can be expensive and time-consuming to develop.

- When making a decision about whether to commission software or purchase an applications package, organizations should consider their specific needs, budget, and available resources.

1. What are the advantages of using application packages?

2. Why might specially commissioned software be a better choice for organizations?

3. What is an operating system, and why is it important in business information systems?

4. What is the role of a database management system in a business information system?