



# Applications of Information and Communication Technology(ICT)

## Lecture 3

Mr. Noor Ul Arfeen



# Lecture Outline

- Data
- RAID
- Office automation system
- Transmission processing system
- Management information system
- Accounting information system



# Data

- **Introduction to Data:** **Data** is a value or set of values.

**OR**

**Data** are facts that concern with people, person, place, event, objects etc.

- **Data Item:** A single unit of value in data is called data item e.g. Name, Address, Roll No. etc.
- **Group data item:** The data Item divided into sub item is called group data item. E.g.: name is divided into sub First Name, Middle Name, Last Name so the name is a group data item.



# Data (Conti.)

## ➤ **Elementary Data Item:**

- The data item that are not divided into sub items are called Elementary Data Item. E.g. Roll number which are not sub divided, so, roll number is an elementary item.



# RAID (Redundant Array of Independent Disks)

- **Definition of RAID:** RAID stands for Redundant Array of Independent Disks.
- **Purpose:** Enhance data storage performance, reliability, and capacity.
- **Origin:** Developed by David Patterson, Garth A. Gibson, and Randy Katz at the University of California, Berkeley in 1987.
- A method of mirroring or striping data on clusters of low-end disk drives; data is copied onto multiple drives for faster throughput, error correction, fault tolerance and improved mean time between failures.



# RAID (Conti.)

## ➤ RAID 0 (Striping)

- Distributing data across multiple disks for improved performance.
- No redundancy; if one disk fails, data is lost.
- Commonly used for high-performance applications like video editing.

## ➤ RAID 1 (Mirroring)

- Data is duplicated on two or more disks.
- Provides fault tolerance; if one disk fails, data remains accessible.
- Slower write performance compared to RAID 0 but faster read performance.



# Office Automation System

## ➤ Overview:

- Definition: Integration of computer hardware and software to facilitate routine office tasks and streamline workflow.
- Aims to enhance productivity, collaboration, and communication within an organization.

## ➤ Key Components:

- Word Processing: Creation and editing of documents.
- Spreadsheet Software: Numerical data analysis and manipulation.
- Communication Tools: Email, calendars, and messaging applications.
- Database Management: Storage and retrieval of structured data.



# Office Automation System (Conti.)

## ➤ Advantages:

- Streamlined document creation and collaboration.
- Enhanced communication and information sharing.
- Increased efficiency in routine office tasks.

## ➤ Applications:

- Document creation and collaboration.
- Email and calendar management.
- Data analysis and reporting.





# Transaction Processing System

## ➤ Overview:

- Foundation for operational processes, capturing and processing day-to-day transactions in real-time.
- Crucial for maintaining data integrity and ensuring reliable business operations.

## ➤ Key Characteristics:

- High Volume: Handles a large number of transactions efficiently.
- Reliability: Ensures accuracy and consistency in transaction processing.
- Speed: Processes transactions in real-time.



# Transaction Processing System (Conti.)

## ➤ **Examples:**

- Point of Sale (POS) systems.
- Online banking transactions.
- Inventory management systems.

## ➤ **Applications:**

- Retail sales and transactions.
- Financial transactions.
- Inventory and supply chain management.



# Management Information System

- **Overview:**
  - Focuses on providing information to support managerial decision-making.
  - Integrates data from various sources into comprehensive reports and dashboards.
- **Key Components:**
  - **Data Collection:** Gathers data from different departments and sources.
  - **Data Processing:** Analyzes and transforms raw data into meaningful information.
  - **Information Delivery:** Presents information to support strategic decision-making.



# Management Information System (Conti. )

## ➤ **Advantages:**

- Improved decision-making at various organizational levels.
- Enhanced efficiency through streamlined information flow.
- Better strategic planning and resource allocation.

## ➤ **Applications:**

- Financial reporting and analysis.
- Sales and marketing analysis.
- Human resources planning and performance management.



# Accounting Information System

## ➤ Overview:

- Focuses on collecting, storing, processing, and reporting financial information.
- Integrates accounting principles with technology to support financial management.

## ➤ Key Functions:

- General Ledger: Central repository for financial data.
- Accounts Payable/Receivable: Tracks money owed and money due.
- Financial Reporting: Generates financial statements for decision-making.



# Accounting Information System (Conti.)

## ➤ **Advantages:**

- Improved accuracy and efficiency in financial transactions.
- Enhanced financial reporting and compliance.
- Facilitates audit and control processes.

## ➤ **Applications:**

- Financial statement preparation.
- Budgeting and forecasting.
- Auditing and compliance.



# Conclusion

- In conclusion, the integration and effective utilization of Office Automation, Transaction Processing, Management Information, and Accounting Information Systems are pivotal for the success of modern businesses. Understanding the nuances of each system and their integration can empower organizations to make informed decisions, streamline operations, and maintain a competitive edge in today's dynamic business environment.



# Note for the Students

- Note: Dear Students you can Download Books/Lectures and other helping material form the given link.
- Link: <https://cslearnerr.com/applications-of-information-and-communication-technologyict/>