



DATA PROCESSING DEFN.

- Refers to the use of computer algorithms, software, and hardware to manipulate, analyze, and transform data into useful information

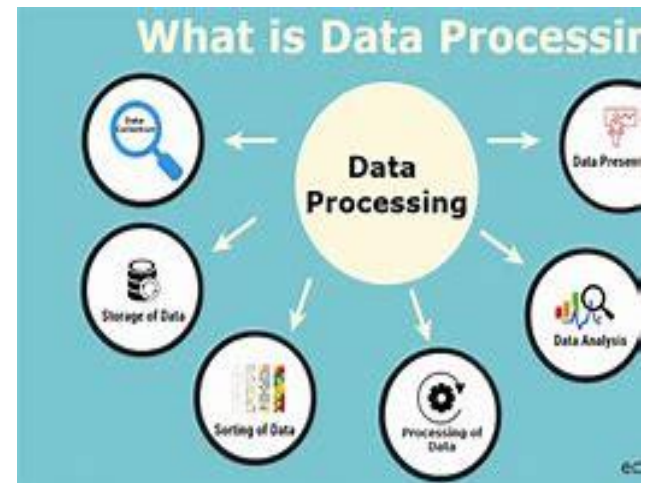


ICT SUSTAINABLE DEVELOPMENT GOALS(ICT4SDGs):

Intro: the sustainable development goals

Cont'd..

- ❑ It involves collecting, organizing, cleaning, storing, and retrieving data from various sources, such as databases, spreadsheets, and files.



IMPORTANCE OF DATA TO A BUSINESS

- ❑ **Improving decision-making;** makes informed decisions. (identify opportunities, spot emerging trends, and gain insights into customer behavior).
- ❑ **Improving customer experience;** gain insights into customer behavior, preferences, and needs. leading to increased customer satisfaction and loyalty.

Cont'd..

- ❑ **Enabling predictive analysis;** predict future trends and outcomes based on historical data.
- ❑ **Improved efficiency and productivity;** reduce the need for manual intervention leading to increased efficiency, reduced errors, and cost savings.
- ❑ **Competitive advantage;** emerging trends and opportunities before their competitors (create new products or services that meet customer needs and exceed their expectations).

DATA PROCESSING METHODS

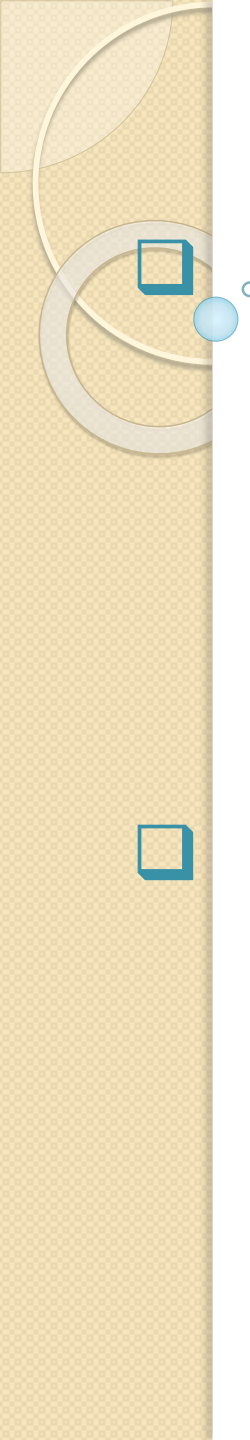
1. **Manual:** In this method data is processed manually. The entire processing task like calculation, sorting and filtering, and logical operations are performed manually without using any tool or electronic devices or automation software. Eg paper writing(LPO), receipts
2. **Mechanical** – In this method data is not processed manually but done with the help of very simple electronic devices and a mechanical device like calculator and typewriters.
3. **Electronic** – This is the fastest method of data processing and also modern technology with the modern required features like highest reliability and accuracy. Eg Banking transactions, stock inventory, Bar code readers

DATA PROCESSING MODES

- ❑ **Batch Processing;** processing a large volume of data at once E.g. payroll processing, billing, and generating reports.
- ❑ **Real-time Processing;** processing data as soon as it is received, without any delay. E.g. Online transactions(Bank ATMs, safe boda)
- ❑ **Stream Processing;** processing data in real-time as it is generated, before it is stored. such as social media sites like Amazon.

- ❑ **Multiprocessing/parallel;** breaks down large data sets into smaller units simultaneously on a network. Eg Banks using one printer
- ❑ **Distributed Processing;** involves distributing data processing tasks across multiple computers or servers. Linked to central unit(web application, data warehousing, and cloud computing).
- ❑ **Time sharing processing;** allocates computer resources and data in time slots to several users simultaneously. (one is used by several users but time allocated to users differs)

INFORMATION DEFINITION



The processed data that has meaning and relevance to the user, and it is used for at decision-making, problem-solving, communication, and innovation.



Information is the result of processing raw data to reveal meaningful patterns

INFORMATION DEFN CONT'D..

AREAS

- ◻ **Strategic decision-making;** identify trends, opportunities, and threats, and make strategic decisions.
- ◻ **Market research:** to understand customer needs, preferences, and behaviors.
- ◻ **Financial management:** Financial statements, budgets, and cash flow projections are all based on information gathered from various sources.

Cont'd..

-  **Supply chain management:** By tracking inventory levels, shipping times, and supplier performance
-  **Employee management:** tracking performance, managing schedules, and providing training and development opportunities.

TYPES OF INFORMATION IN BUSINESS

- **Financial Information;** transactions such as income, expenses, investments, taxes, and profits.
- **Operational Information:** day-to-day operations such as inventory levels, production processes, and supply chain management.
- **Strategic Information:** information about the long-term goals of the business, and the strategies that the business will use to achieve those goals.

Other category of information

- **Environmental Information:** such as the impact of the business on the environment, and the environmental regulations that the business must comply with.
- **Customer Information:** such as demographics, preferences, buying behavior, and feedback.

Cont'd..

- ❑ **Sales Information:** such as the number of units sold, revenue generated, and customer satisfaction.
- ❑ **Marketing Information:** about the market, competitors, and marketing strategies

CONT'D



Human Resources Information:

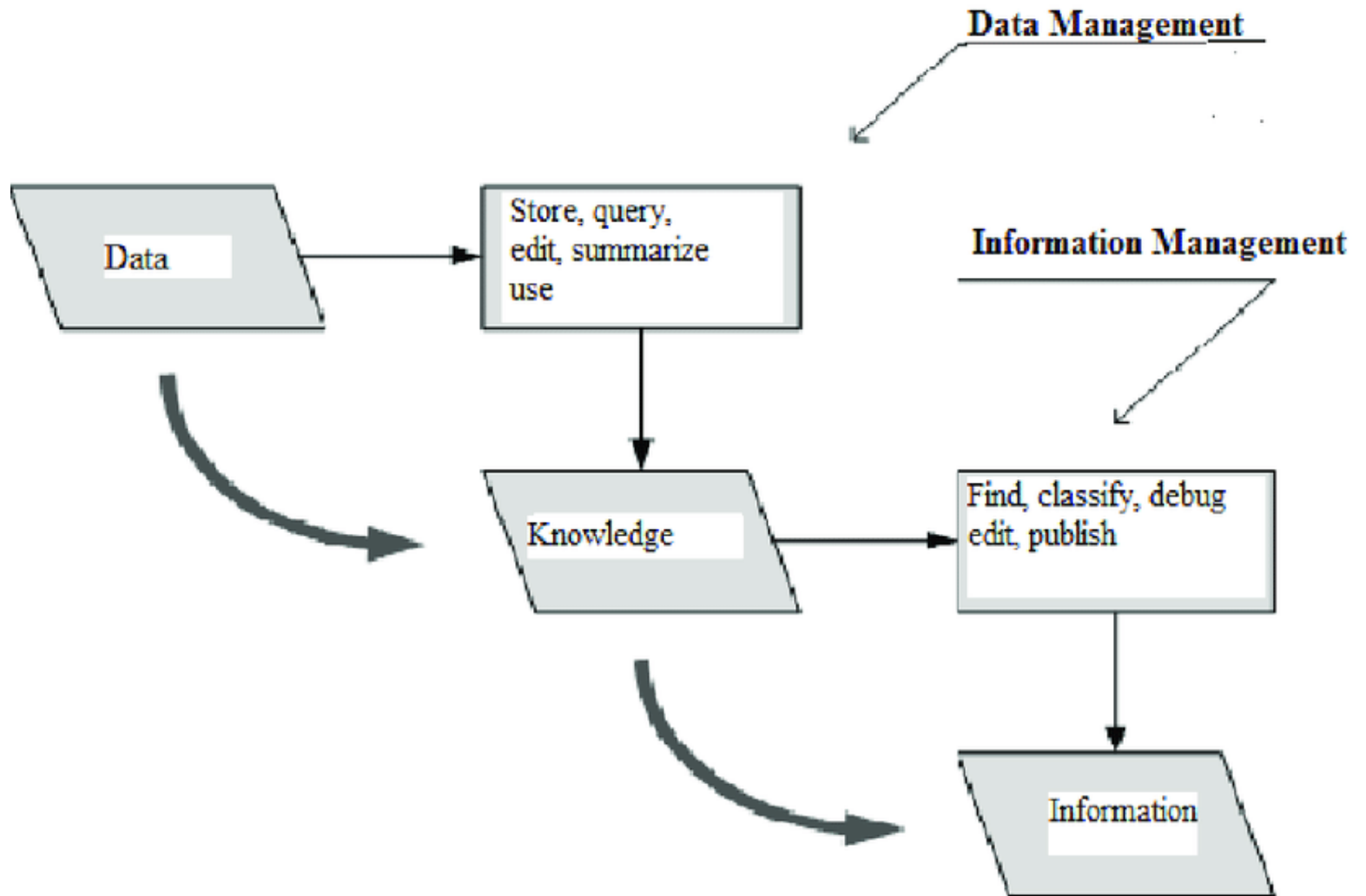
such as their skills, performance, attendance, and compensation.

- ❑ **Legal Information:** laws, regulations, contracts, and legal disputes.
- ❑ **Technology Information:** ie technology systems, software, hardware, and cybersecurity.

RELATIONSHIP BETWEEN DATA AND INFORMATION

- ❑ Data refers to raw input that when processed or arranged makes meaningful output information.
- ❑ When data is processed into information, it becomes interpretable and gives meaning.
ie it becomes useful for businesses to make decisions.

ILLUSTRATION



COMPARISON BETWEEN DATA AND INFORMATION

| DATA | INFORMATION |
|--|---|
| Data can be in various forms, such as numbers, words, or images, texts | information is typically presented in a structured and organized format, such as a report or a chart.(Refined Data) |
| Data is not necessarily useful on its own | can be highly useful in decision-making and problem-solving. |
| Data by itself has no meaning or context, raw | Processed, organized, structured and presented in a context to make it useful |
| Data does not depend on information | Without data, information cannot be processed |
| Data refers to a collection of facts or figures | information is the result of analyzing and interpreting that data. |
| unorganized | organized |

QUALITIES OF GOOD INFORMATION

□ Time Dimension;

- ❖ **Timeliness** (information should be provided when needed)
- ❖ **Currency**(should be up to date when provided)
- ❖ **Frequency**(should be provided as often as needed)

QUALITIES OF GOOD INFORMATION CONT'D..

Content Dimension

- ❖ **Accuracy** (Information should be free from errors)
- ❖ **Relevance** (should be related to the information required)
- ❖ **Completeness** (should be complete and provided as a whole)

Cont'd..

- ❖ **Conciseness** (only required information should be provided)
- ❖ **Performance** (Activities should be measured to monitor performance progress)

QUALITIES OF GOOD INFORMATION CONT'D..



Form Dimension;

- ❖ **Clarity**-information should be easy to understand.
- ❖ **Detail**-information should be in detail or summary form e.g. charts
- ❖ **Order**-can be presented in a predetermined sequence.

Cont'd..

- ❖ **Presentation**-it can be presented in narrative, graphics, numeric etc.
- ❖ **Media**-can be provided on printed paper, documents, videos etc.



The End