

# BA4106 Information Management

*Master of Business Administration*  
*Semester - I*



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## **COURSE OBJECTIVES**

- To understand the importance of information in business
- To know about the recent information systems and technologies

## **COURSE OUTCOMES:**

1. Learn the basics of data and information system.
2. Understand the system development methodologies.
3. Understand database management system and its types.
4. Learn the various technologies in information system and its security.
5. Gains knowledge on effective applications of information systems in business.

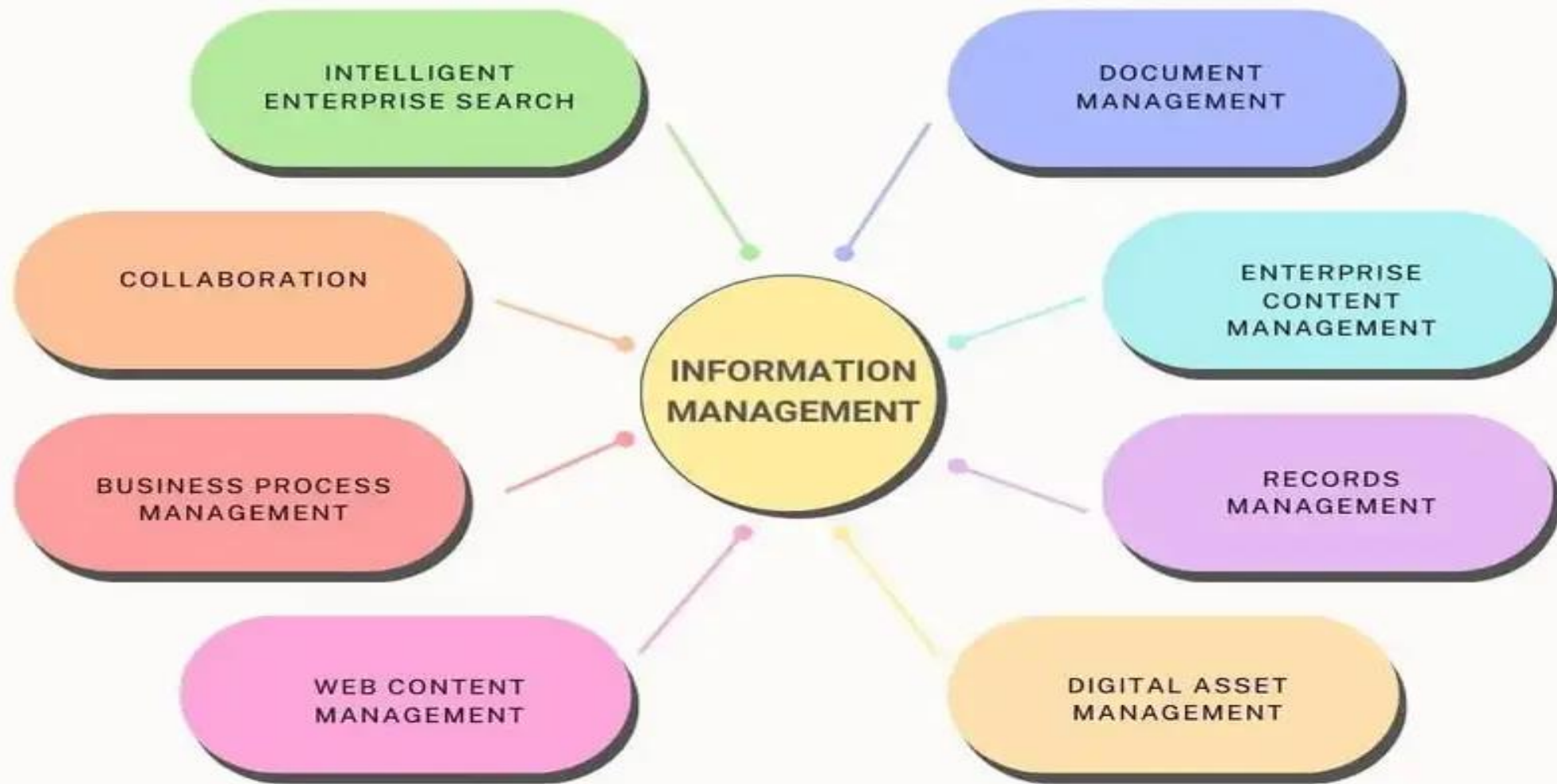
# Information Management

“Information management involves planning, monitoring, and controlling the storage, transfer, or processing of information in order to provide resources for learning.”



# Process of Information Management







# 5 Key Areas of Information Management

## Collection

how the business collects information, whether it is created internally or externally, electronically or as paper documents, verbally, written, audio, or video.

## Storage

Paper documents should be stored and arranged in physical cabinets with fire-resistance measures in place. Electronic information, on the other hand, might be kept in databases, document management systems

## Distribution

This step entails deciding how different types of information should be distributed, in what format, to whom, how frequently, and through what media, among other things

## Archiving

process of securely storing inactive information in any format (both digital and paper)

## Destruction

According to various rules and regulations, such as GDPR, HIPAA, and others, information should not be maintained or preserved for longer than necessary,

GDPR - General Data Protection Regulation

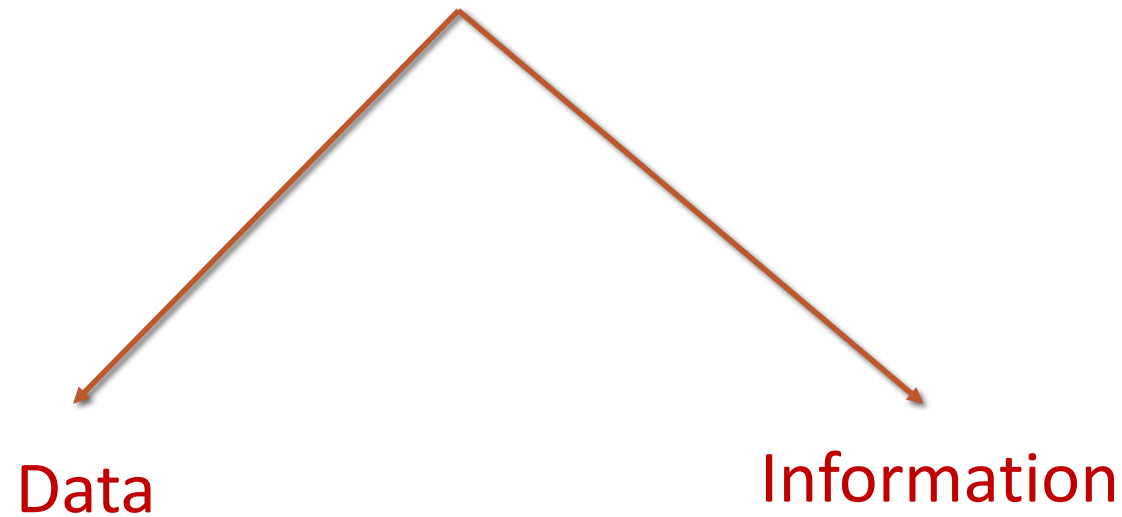
Health Insurance Portability and Accountability Act (HIPAA)



## UNIT I - INTRODUCTION

- Data
- Information
- Information System
- Evolution
- Types based on Functions and Hierarchy
- Enterprise and Functional Information Systems

# Information System Concepts



Collection of facts, collected as outcome of experiment, experience or process in a computer

- ✓ Potential function of data
- ✓ Very helpful to solve a problem
- ✓ Also Known as Processed Data





## Data:

- Word “Data” – derived from Latin Plural word “Datum”
- Any fact or figure –collected by experience, experiment or observation within a computer system
- Data contains numbers, statements, and characters in a raw form.
- According to Davis,  
Data, raw material for information, is defined as group of non-random symbols, which represents quantities, actions and objects.
- Meaningful information can be generated after processing the data.



**Information:** When data is processed and presented in meaningful manner in the desired context, it is defined as information.



According to Davis and Olson,

“Information is **data** that has been **processed into** a form that is **meaningful to the recipient** and is of real or perceived value in current or prospective actions or decisions”

- Value of information in decision making
- Effective tool for building motivation
- Improving perception – influences future decision
- Reuse information in future , if stored
- Processed Information delivers the Knowledge





### 1. Identification:

Important to identify right information so that correct decision can be made.

Ex:, Customers, finished goods, raw material, plant and machinery, people, cash, etc...

### 2. Collection:

It is necessary to collect the information – identified for proper management of the business

### 3. Controlling:

To impose control mechanism on the information to maintain relevance and quality

### 4. Measuring:

Business performance must be measured to ensure its success.

Example : Sales data must be collected to measure sales.

### 5. Decision Making:

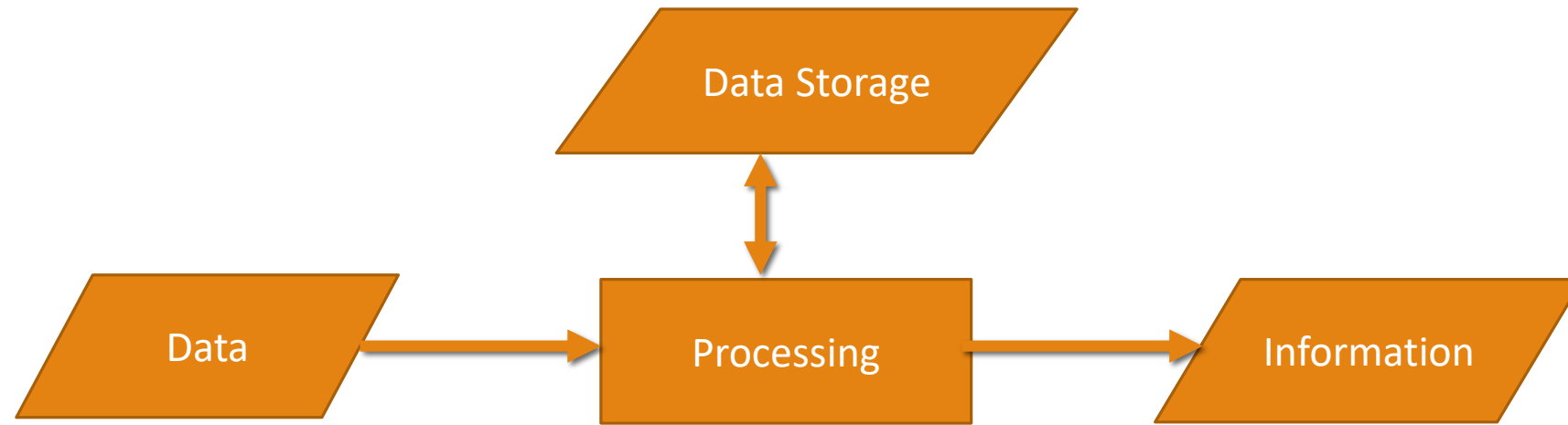
- Decision-making is not possible without information.
- To make decision at every level of the organization.

# Relationship between Data and Information



Data - Raw material

Information - Finished product

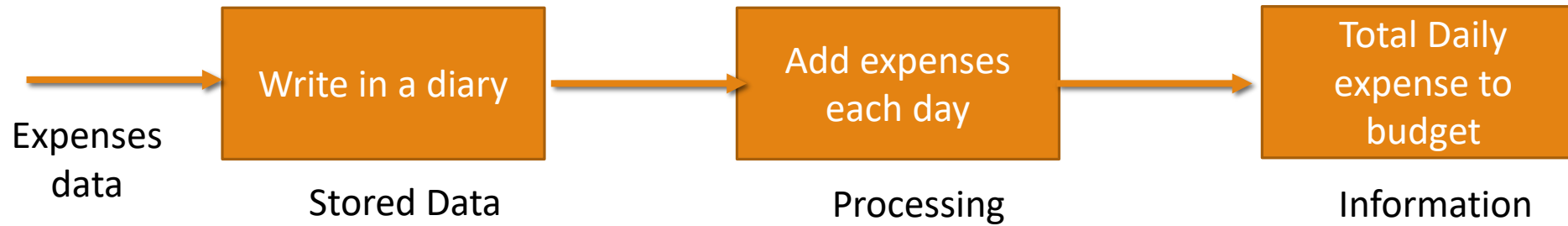


***Transformation of Data into Information***

*Within, particular decision-making context, information has some value. It has value in terms of future decisions.*



Example, a home-maker makes entries in the diary of her expenses on daily provisions with details of money spent on each item.



## Daily Expenses

Date	Vegetables	Milk	Provisions	Miscellaneous	Daily Total
11.09.2023	25.50	20.00	95.00	150.00	290.50
11.09.2023	30.40	20.00	85.40	250.50	386.30
11.09.2023	15.50	25.00	128.00	80.00	248.50
:					
:					
30.09.2023	19.50	20.00	25.00	15.00	79.500
<b>Total</b>	<b>750.50</b>	<b>650.00</b>	<b>2800.00</b>	<b>2852.50</b>	<b>7053.50</b>



For example,



- Data is used by Computer
- Information is utilized by people in their daily life
- Data is always interpreted, by a human or machine, to derive meaning. So, data is meaningless.
- Data contains numbers, statements, and characters in a raw form.

# Difference Between Data and Information



Unprocessed Facts and Figures

Interpreted data is information

Data is raw and useless until it is processed

Information is processed, structured and organized data

Act as input to computer system

Output of computer system

Data is not specific

Information is specific

Data doesn't rely on Information.

While Information relies on Data.

It is low-level knowledge.

It is the second level of knowledge.

Example of data is student test score.

Example of information is average score of class that is derived from given data.

# Characteristics/ Attributes of Information



**Timeliness**

**Appropriateness**

**Accuracy**

**Conciseness**

**Understandability**

**Relevant**

**Complete**

**Recent**

**Economical**





### Timeliness

- ✓ User get the information when it is needed,
- ✓ Too early information – by the time of use, it will get obsolete
- ✓ If reaches late - not able to use it in decision-making process.

- ✓ Information must meets *need of the user*
- ✓ Appropriateness is the *measure of quantity of evidence*, that's is its *relevance and reliability*

### Appropriateness

### Accuracy

- ✓ Quality of being true or correct, even in small details.
- ✓ It is not mandatory to get 100% accurate information

- ✓ a lack of extra *or unnecessary information*.
- ✓ Too much detail – information overload

### Conciseness



### Understandability

- ✓ Easy to understand by the user
- ✓ Tables and Graphs can be used

- ✓ Information that applies to problem that helps to **find solution**.
- ✓ Clearly **connects to the situation** or topic
- ✓ Relevant information can influence the **outcome of a decision**.

### Relevant

### Complete

- ✓ Must include all important component
- ✓ **Ex.]** Monthly budget of house – must know expense of milk and fruits.

- ✓ Latest information helps in taking best decisions

### Recent

- ✓ Benefits from information > Cost of gathering it.

### Economical

# Relevance of Information in Decision Making



- ❑ The people organizational **model is developed** on the basis of the information needs of people, processes and functions in an organization.
- ❑ Organizations functioning on **multiple locations**/single location need to access information
- ❑ It is essential to **understand the nature**, value and structure used for using information within an organization.
- ❑ MIS must be able to acknowledge the **problems** associated with collecting data from various sources.
- ❑ Decision Theory Provides methods to take decisions **under certainty, risk and uncertainty**.



❑ **Decision making under Certainty** means a decision can be taken with full knowledge and future conditions about the situation

**Example:** Every farmer has knowledge of the time periods for growing crops. Therefore, they make definite decisions within the relevant time frame

**Decision making under Risk :** As well as risk can be measured and outcome is known. Someone make a decision and he or she knows the outcome of the decision and it could be loss or not.

**Example,** a man lost his job and is unable to pay his rent. Because of this, he makes the choice to steal money from the local store. In this situation, the man gets a risk and he knows the outcome is bad

**Uncertainty means** that implies a situation where future events are not known and can not be measured. It means outcome of the decision is unknown and uncontrollable.

**Example:,** Games or lotteries outcome is uncertain. Horse racing, buying insurance, playing gambles, outcome cannot be measured certainly.

Types of Information needed by decision makers is directly related to the level of management decision making.

<b>Management Level</b>	<b>Accuracy</b>	<b>Time Horizon</b>	<b>Level of Detail</b>	<b>Nature</b>	<b>Source</b>	<b>Focus/Scope</b>
<b>Strategic Level</b>	Low	Long-Term/future	Summary	Qualitative	Mainly external	Wide scope
<b>Tactical Level</b>	↕	↕	↕	↕	↕	↕
<b>Operational Level</b>	High	Immediate/ Present	Highly Detailed	Quantitative	Internal	Narrow focus



### Examples of Short-Term and Long-Term Business Decisions

#### Short-Term Business Decisions

- Accepting a special production order
- Determining the best product mix from current products
- Outsourcing a part or service
- Further processing or refining a current product

#### Long-Term Business Decisions

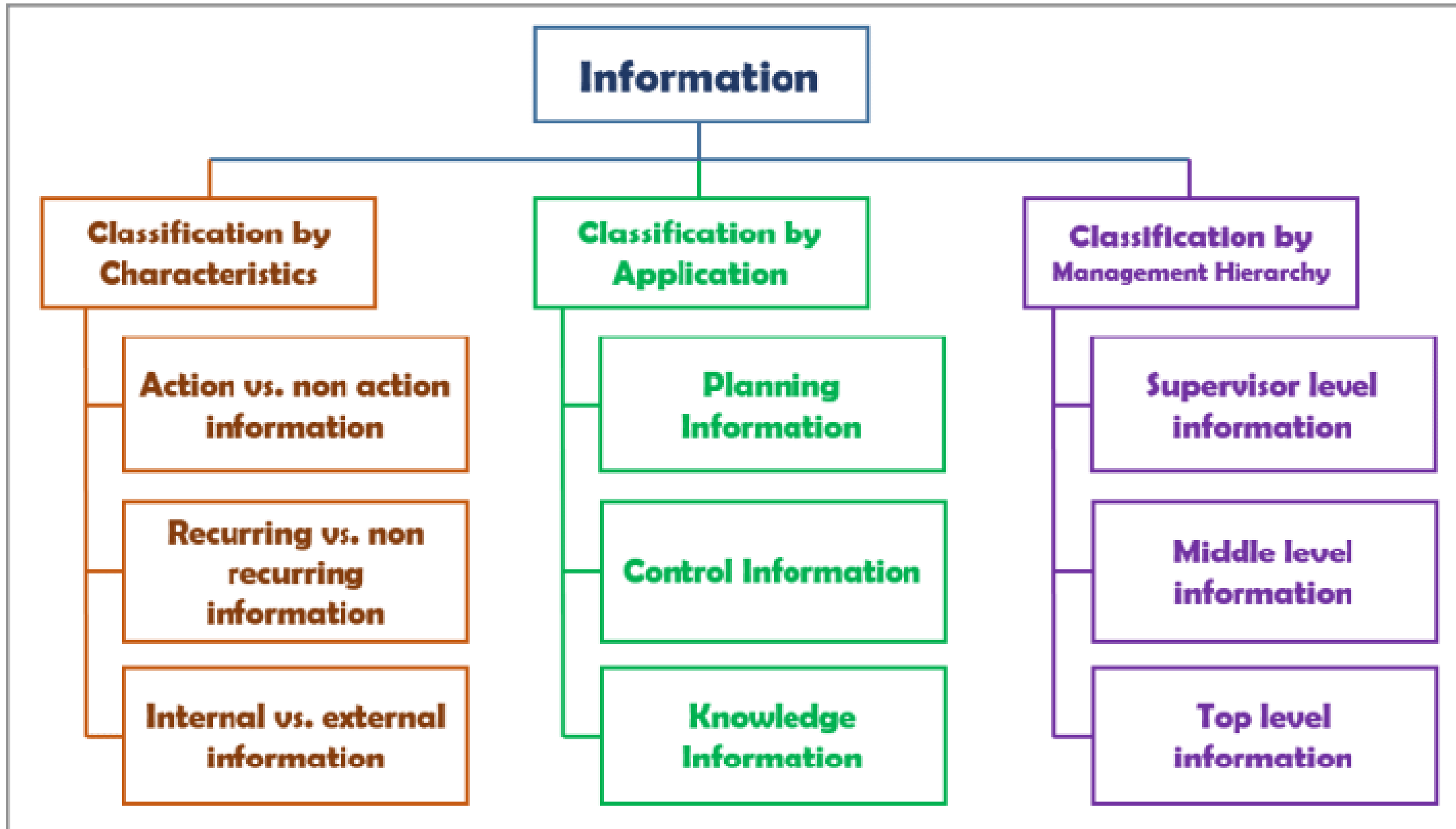
- Buying new equipment versus remodeling old equipment
- Choosing which products to manufacture
- Expanding into a new area or country
- Diversifying by buying another business

# Types of information

Classification by Characteristics

Classification by Application

Classification by Management Hierarchy







## Types of information ... Cont'd...

### Classification by Characteristics

**Action information** is active information that causes an activity or operation( Based on which some action is taken)

**No-Action Information** is that which notifies status of a situation only, without any operation.

**Example**, a **stock ledger** which stores the stock balances and shows the transactions carried out in the store is **no-action information**

**'No-Stock'** report that helps in taking purchase decision is an **action information**



**2. Recurring vs. non recurring information:** The information that is generated in regular intervals is called **recurring information**. Example: Monthly sales report

Whereas non-repetitive in nature is called **non-recurring information**.

Example: the market study research report or financial analysis

**3. Internal vs. external information:** all information that produced from internal sources of any organization is called **internal information**.

Though all information that produced from external sources (Industrial Surveys, Government Report) of any organization is called **external information**.



### Classification by Application

**Planning information**: this kind of information is used to set up rules and norms/standards for the strategic, tactical and operational planning of the organization activities.

Example, Design standards, operational standards, time standards

**Control information**: this status of the activity is reported with the help of feedback mechanism; it is termed as control information. A decision/ control action is taken, if deviation from actual goal.



## Types of information ... Cont'd...

### Classification by Application ...Cont'd ...

- ❑ **Knowledge information**: When information is collected from research studies or library reports in order to enhance one's knowledge to process further decision. But it will not have any direct effect on decision making.
  
- ❑ It increases the strength of the Organization



### Classification by Management Hierarchy

**Strategic information**: used for long-term planning and deciding the course of the business. Top level management uses such information.(Top level Information)

**Example**:, *decision regarding opening of new branches, customer history data analysis to improve business relationships*

**Tactical information**: Required for the efficient running of the business. Help in making short-term decisions. Middle level management makes use of such information.  
(Middle level information)

**Example**:, *Changing the credit limit of the customer, amount of item that has to be stocked.*



## Types of information ... Cont'd...

### Classification by Management Hierarchy ...Cont'd ...

**Operational information**: Such information is necessary for carrying out the daily operations of the organization. Managers working at operational level need such data.

***Example:*** *Report containing the list of the defaulting customers, preparing the items lists, simple clerical processing of the data.*