Unit-1

Fundamentals of Computer and Information System

Prof. Suhag Baldaniya

Topics

- History of Computer, Generation of Computer, Computer devices,
- Types of Network and topologies, Intranet, Internet, Extranet.
- Information System: Data, Information and its attributes.
- Information Systems – meaning, functions, Hierarchy of Management activity,
- Information needed at different level and organization.
- Management Information System: Evolution of MIS, Role, Impact, Importance, Characteristics, Objectives,
- Advantages and Disadvantages of MIS.


BEFORE


NOW


Then
TICKET


Now
BUY
TICKET


Then


Now
Hotels online


Then


Now

History of Computer

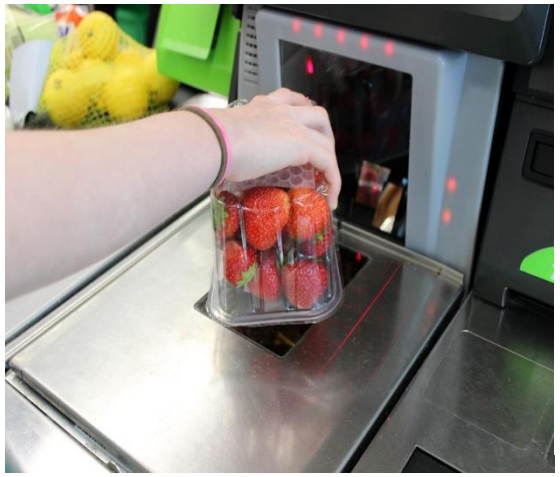
What is Computer ?

- An electronic machine that can store, find, and arrange information, calculate amounts, and control other machines.
- It has the ability to **store**, **retrieve**, and **process** data.

- When most people hear the word **computer**, they think of a **personal computer** such as a **desktop** or **laptop**.

Different Types of Computers

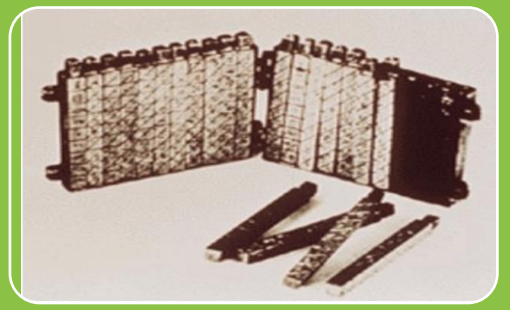
- Computers come in **many shapes and sizes**, and they perform many different functions in our daily lives.
- When you withdraw cash from an ATM, scan groceries at the store, or use a calculator, you're using a type of computer.
- Many of today's electronics are basically **specialized computers**.
  - ↪ Example: **Smartphones, Wearables, Game consoles, TVs.**



Early Computing Devices

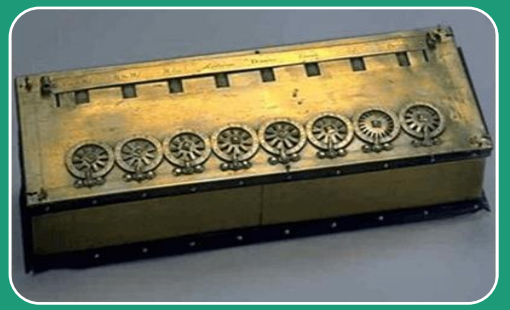
1.Abacus

2.Around 4000 years ago, the Chinese invented the Abacus, and it is believed to be the first computer. The history of computers begins with the birth of the abacus.



Napier's Bones

Napier's Bones was a manually operated calculating device and as the name indicates, it was invented by John Napier. In this device, he used 9 different ivory strips (bones) marked with numbers to multiply and divide for calculation. It was also the first machine to use the decimal point system for calculation.



Pascaline

It is also called an Arithmetic Machine or Adding Machine. It is invented by Pascal to help his father, a tax accountant in his work or calculation. It could perform addition and subtraction in quick time.

Early Computing Devices

Stepped Reckoner

It was a digital mechanical calculator which was called the stepped reckoner as instead of gears it was made of fluted drums.

Difference Engine

In the early 1820s, it was designed by Charles Babbage who is known as "Father of Modern Computer". It was a mechanical computer which could perform simple calculations. It was a steam driven calculating machine designed to solve tables of numbers like logarithm tables.

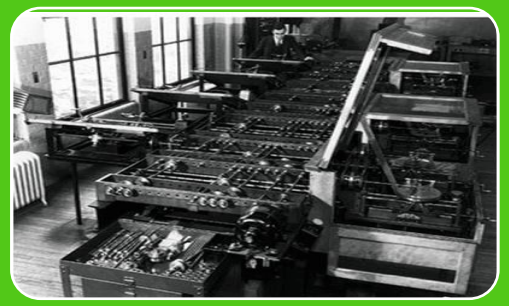
Analytical Engine

This calculating machine was also developed by Charles Babbage in 1830. It was a mechanical computer that used punch-cards as input. It was capable of solving any mathematical problem and storing information as a permanent memory. Tabulating Machine

Early Computing Devices

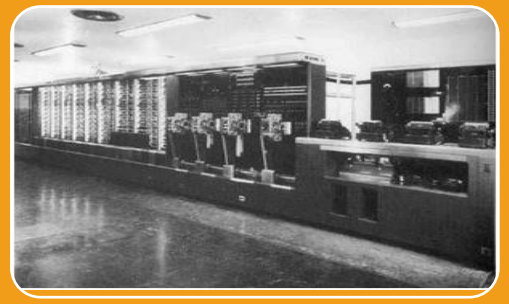
Tabulating Machine

It was invented in 1890. It was a mechanical tabulator based on punch cards. It could tabulate statistics and record or sort data or information. This machine was used in the 1890 U.S. Census. Tabulating Machine Company which later became International Business Machine (IBM) in 1924.



Differential Analyzer

It was the first electronic computer introduced in the United States in 1930. It was an analog device invented by Vannevar Bush. This machine has vacuum tubes to switch electrical signals to perform calculations. It could do 25 calculations in few minutes.



Mark I

The next major changes in the history of computer began in 1937 when Howard Aiken planned to develop a machine that could perform calculations involving large numbers. In 1944, Mark I computer was built as a partnership between IBM and Harvard. It was the first programmable digital computer.

Generations of Computer

- The computer has evolved from a large-sized simple calculating machine to a smaller but much more powerful machine.
- The evolution of computer to the current state is defined in terms of the generations of computer.
- Each generation of computer is designed based on a new technological development, resulting in better, cheaper and smaller computers that are more powerful, faster and efficient than their predecessors.
- Currently, there are five generations of computers. In the following subsections, we will discuss the generations of computer in terms of the technology used by them (hardware and software), computing characteristics (speed, i.e., number of instructions executed per second), physical appearance, and their applications.

First Generation Computers (1946-1959)

- The first generation (1946-1959) computers were slow, huge and expensive.
- In these computers, vacuum tubes were used as the basic components of CPU and memory.
- These computers mainly depended on batch operating systems and punch cards.
- Magnetic tape and paper tape were used as output and input devices in this generation; Some of the popular first-generation computers are;
  - ENIAC (Electronic Numerical Integrator and Computer)
  - EDVAC (Electronic Discrete Variable Automatic Computer)
  - UNIVACI (Universal Automatic Computer)
  - IBM-701
  - IBM-650

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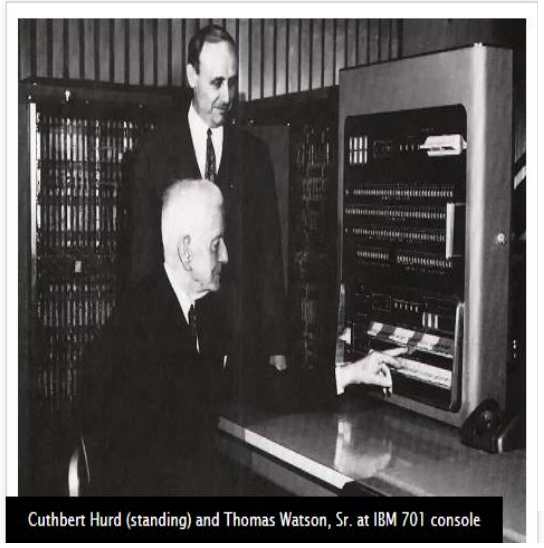
Public unveiling of ENIAC

ENIAC

First Univac 1 delivered to US Census Bureau

Univac 1 installation

IBM ships its Model 701 Electronic Data Processing Machine



Cuthbert Hurd (standing) and Thomas Watson, Sr. at IBM 701 console

IBM 650 magnetic drum calculator introduced

IBM 650

Second Generation Computers(1959-1965)

- The second generation (1959-1965) was the era of the transistor computers. These computers used transistors which were cheap, compact and consuming less power; it made transistor computers faster than the first generation computers.
- In this generation, magnetic cores were used as the primary memory and magnetic disc and tapes were used as the secondary storage.
- Assembly language and programming languages like COBOL and FORTRAN, and Batch processing and multiprogramming operating systems were used in these computers.

Second Generation Computers(1959-1965)

- Some of the popular second generation computers are;
  - IBM 1620
  - IBM 7094
  - CDC 1604
  - CDC 3600
  - UNIVAC 1108

Third Generation Computers (1964-1971)

- The development of the integrated circuit was the hallmark of the third generation of computers.
- Transistors were miniaturized and placed on silicon chips, called semiconductors.
- Instead of punched cards and printouts, users interacted with third-generation computers through keyboards and monitors and interfaced with an operating system.
- Allowed the device to run many different applications at one time.
  - IBM-360 series
  - Honeywell-6000 series
  - PDP(Personal Data Processor)
  - IBM-370/168
  - TDC-316

Fourth Generation Computers (1971-present)

- The microprocessor brought the fourth generation of computers, as thousands of integrated circuits were built onto a single silicon chip.
- The Intel 4004 chip, developed in 1971, located all the components of the computer. From the central processing unit and memory to input/output controls—on a single chip.
- Fourth-generation computers also saw the development of GUIs, the mouse , and handheld devices.
  - DEC 10
  - STAR 1000
  - PDP 11
  - CRAY-1(Super Computer)
  - CRAY-X-MP(Super Computer)

Fifth Generation Computers (present and beyond)

- In fifth generation (1980-till date) computers, the VLSI technology was replaced with ULSI (Ultra Large Scale Integration).
- It made possible the production of microprocessor chips with ten million electronic components.
- This generation of computers used parallel processing hardware and AI (Artificial Intelligence) software. The programming languages used in this generation were C, C++, Java, .Net, etc.
- Some of the popular fifth-generation computers are;
  - Desktop
  - Laptop
  - NoteBook
  - UltraBook
  - ChromeBook

Computer Device – Input Device

- **Keyboard**
  - A simple device comprising keys and each key denotes either an alphabet, number or number commands which can be given to a computer for various actions to be performed
  - It has a modified version of typewriter keys
  - The keyboard is an essential input device and computer and laptops both use keyboards to give commands to the computer
- **Mouse**
  - It is also known as a pointing device. Using mouse we can directly click on the various icons present on the system and open up various files and programs
  - A mouse comprises 3 buttons on the top and one trackball at the bottom which helps in selecting and moving the mouse around, respectively
  - In case of laptops, the touchpad is given as a replacement of the mouse which helps in the movement of the mouse pointer

Computer Device - Input Device

- **Joy Stick**
  - It is a device which comprises a stick which is attached at an angle to the base so that it can be moved and controlled
  - Mostly used to control the movement in video games
  - Apart from a computer system, a joystick is also used in the cockpit of an aeroplane, wheelchairs, cranes, trucks, etc. to operate them well
- **Light Pen**
  - It is a wand-like looking device which can directly be moved over the device's screen
  - It is light-sensitive
  - Used in conjunction with computer's cathode ray tube

Computer Device - Input Device

- **Microphone**
  - Using a microphone, sound can be stored in a device in its digital form
  - It converts sound into an electrical signal
  - To record or reproduce a sound created using a microphone, it needs to be connected with an amplifier
- **Scanner**
  - This device can scan images or text and convert it into a digital signal
  - When we place any piece of a document on a scanner, it converts it into a digital signal and displays it on the computer screen
- **Barcode Reader**
  - It is a kind of an optical scanner
  - It can read bar codes
  - A source of light is passed through a bar code, and its aspects and details are displayed on the screen

Computer Device - Output Device

- **Monitor**
  - The device which displays all the icons, text, images, etc. over a screen is called the Monitor
  - When we ask the computer to perform an action, the result of that action is displayed on the monitor
  - Various types of monitors have also been developed over the years
- **Printer**
  - A device which makes a copy of the pictorial or textual content, usually over a paper is called a printer
    - For example, an author types the entire book on his/her computer and later gets a print out of it, which is in the form of paper and is later published
  - Multiple types of printers are also available in the market, which can serve different purposes

Computer Device - Output Device

- **Speakers**
  - A device through which we can listen to a sound as an outcome of what we command a computer to do is called a speaker
  - Speakers are attached with a computer system and also are hardware device that can be attached separately
  - With the advancement in technology, speakers are now available that are wireless and can be connected using BlueTooth or other applications
- **Projector**
  - An optical device which presents an image or moving images onto a projection screen is called a projector
  - Most commonly these projectors are used in auditoriums and movie theatres for the display of the videos or lighting
  - If a projector is connected to a computer, then the image/video displayed on the screen is the same as the one displayed on the computer screen

Computer Device - Output Device

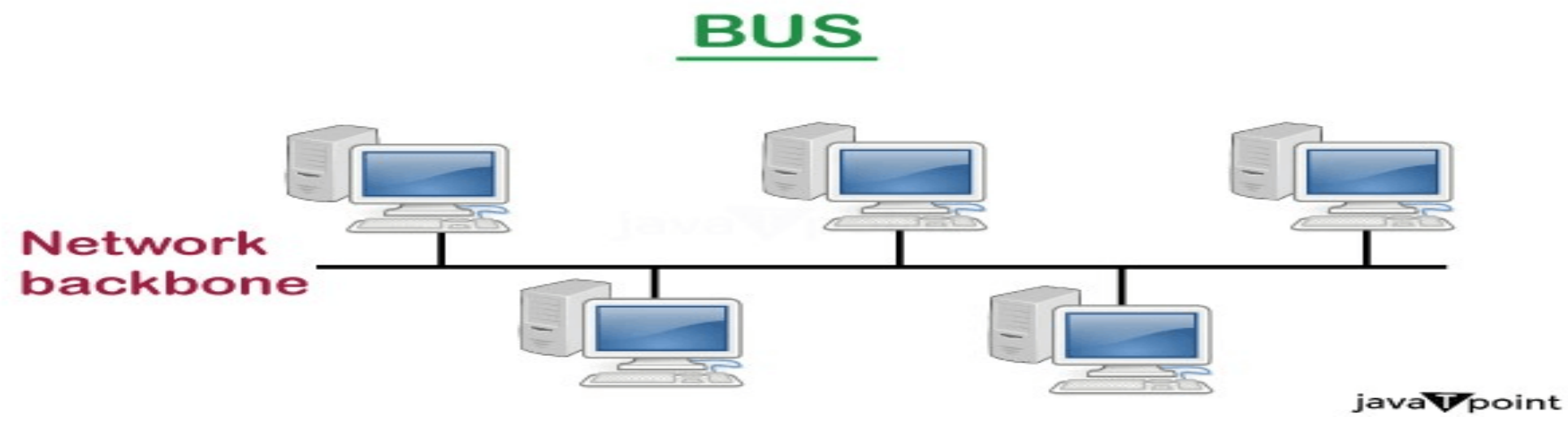
- **Headphones**
  - They perform the same function as a speaker, the only difference is the frequency of sound
  - Using speakers, the sound can be heard over a larger area and using headphones, the sound is only audible to the person using them
  - Also known as earphones or headset

Types of Network Topologies

- Network topology is the physical or logical arrangement of devices and connections in a network.
- It defines how devices are connected to each other and how data flows through the network.
  - Bus Topology
  - Ring Topology
  - Star Topology
  - Mesh Topology
  - Hybrid Topology

Bus Topology

- Bus topology is a network type in which every computer and network device is connected to single cable. When it has exactly two endpoints, then it is called **Linear Bus topology**.
- Features of Bus Topology
  1. It transmits data only in one direction.
  2. Every device is connected to a single cable

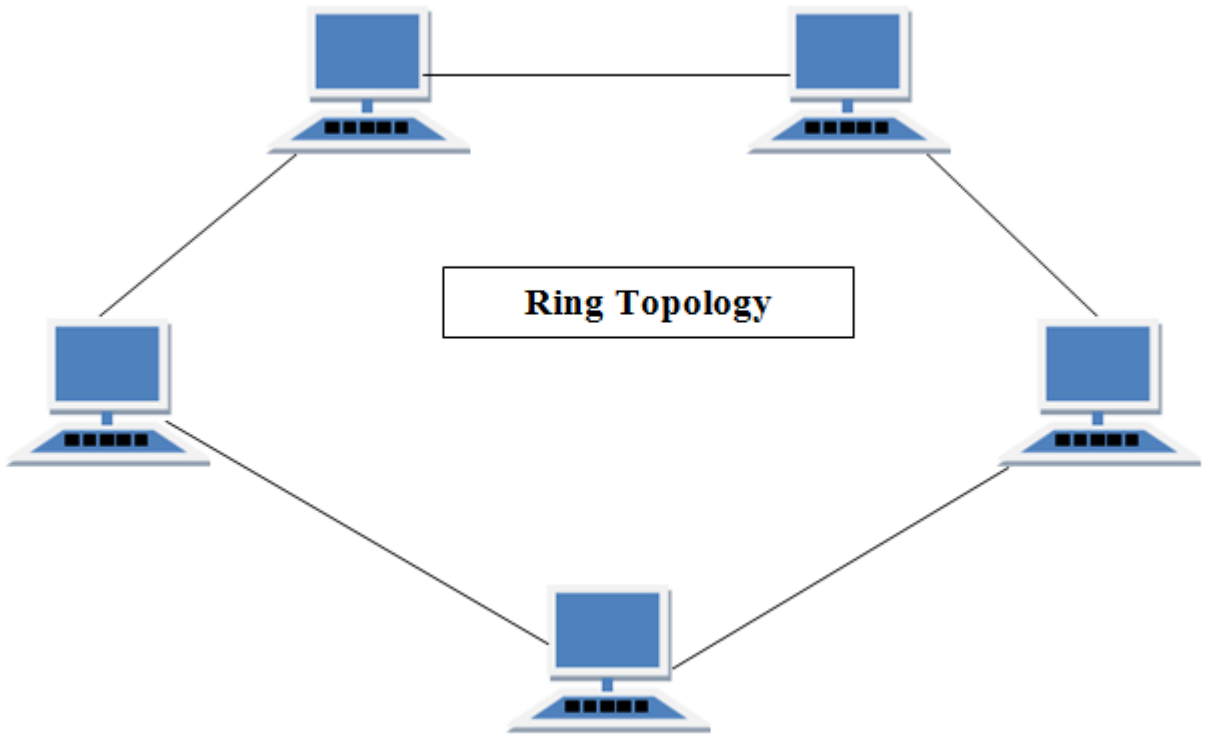


Bus Topology

- Advantages of Bus Topology
  - It is cost effective.
  - Cable required is least compared to other network topology.
  - Used in small networks.
  - It is easy to understand.
  - Easy to expand joining two cables together.
- Disadvantages of Bus Topology
  - Cables fails then whole network fails.
  - If network traffic is heavy or nodes are more the performance of the network decreases.
  - Cable has a limited length.
  - It is slower than the ring topology.

Ring Topology

- It is called ring topology because it forms a ring as each computer is connected to another computer, with the last one connected to the first. Exactly two neighbours for each device.

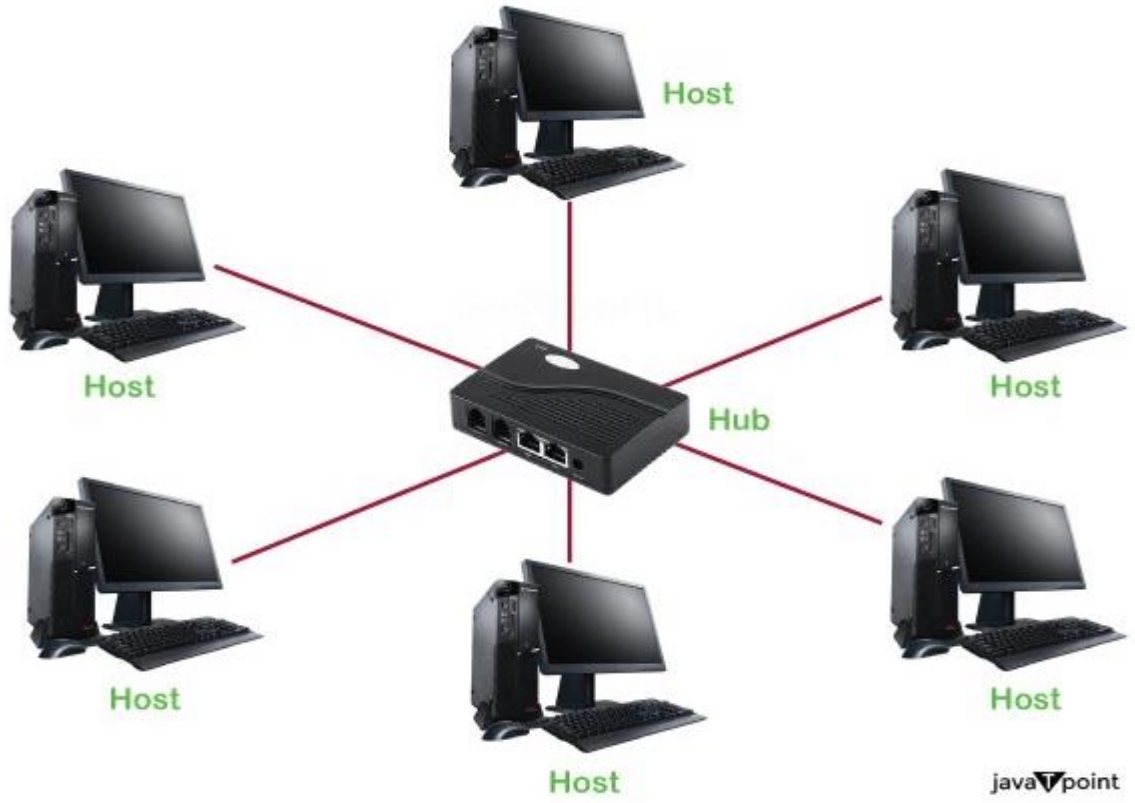


Ring Topology

- **Advantages**
  - Simple installation
  - Fewer Cables are needed.
  - Minimizes the possibility of data collision.
  - An easy problem to solve.
  - The access time is the same for every node.
- **Drawbacks**
  - The network as a whole will collapse if one node fails.
  - Slow data transfer rate as each message has to go through the ring path.
  - Getting more difficult to reconfigure.

Star Topology

- In this type of topology all the computers are connected to a single hub through a cable. This hub is the central node and all others nodes are connected to the central node.



Star Topology

Advantage of STAR Topology

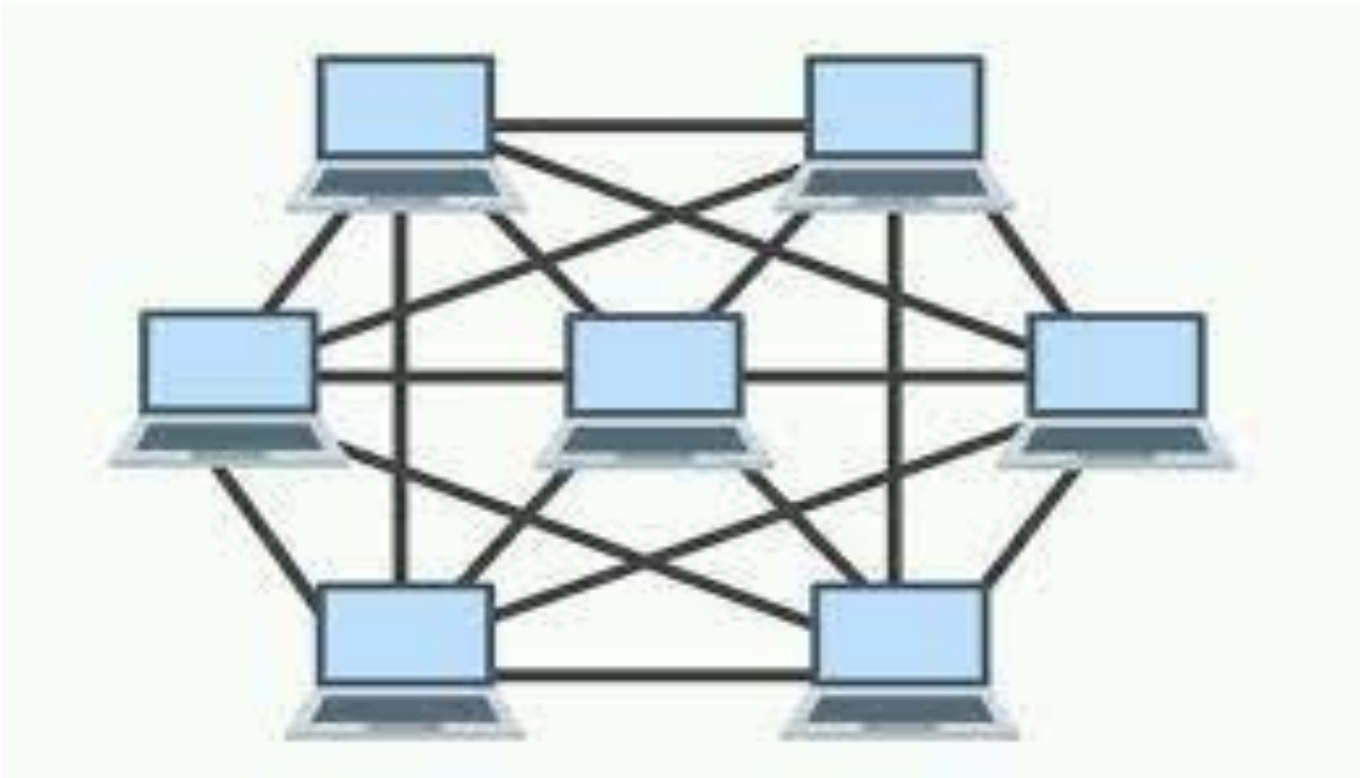
- Speedy performance with less number of nodes and low network traffic.
- Hub can be easily upgraded without hassle.
- Simpler to troubleshoot.
- Simpler to set up and modify.
- If there is a failure in one node then the failed node is only affected, and the rest of the nodes can work without any issues.

Star Topology

- **Disadvantage of STAR Topology**
  - Expensive to install.
  - Expensive in usage.
  - If the hub crashes then the entire network is stopped because all linked nodes depend on the hub.
  - Efficiency is dependent on the hub, that is it depends on its capacity.

Mesh Topology

- In mesh topology each device is connected to every other device on the network through a dedicated point-to-point link.
- When we say dedicated it means that the link only carries data for the two connected devices only.

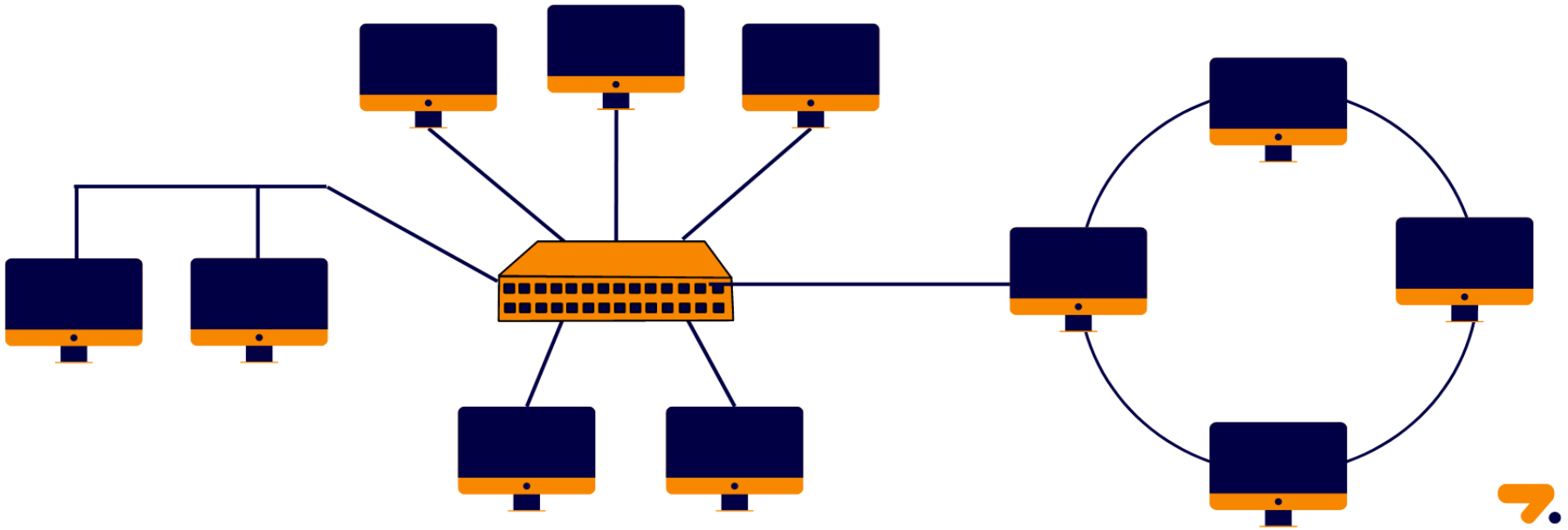


Mesh Topology

- Advantage
  - No data traffic issues as there is a dedicated link between two devices
  - Mesh topology is secure and Reliable
  - Fault detection is easy
  - Fast communication
- Disadvantages
  - Amount of wires required to connect each system is tedious and headache.
  - Scalability issues because a device cannot be connected with large number of devices

Hybrid Topology

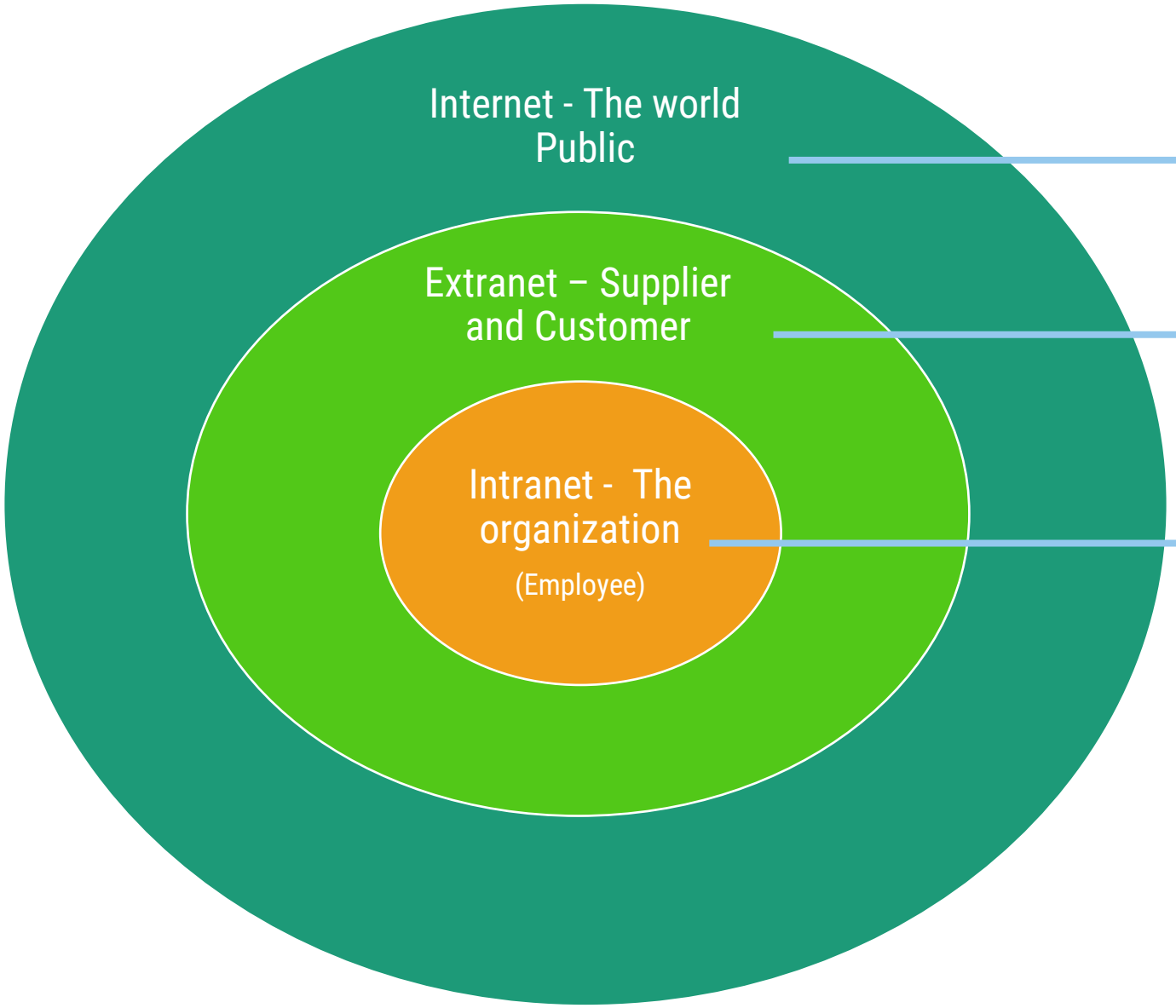
- A hybrid topology is a type of network topology that combines two or more network topologies, including ring, bus, and mesh topologies.



Hybrid Topology

- Advantages of Hybrid topology
  - Most dependable and secure networking structure
  - Excellent scalability is one of its best qualities.
- Disadvantages of Hybrid topology
  - Fault detection is difficult.
  - Installation is difficult.
  - Design is complex so maintenance is high and thus expensive.

Internet, Intranet and Extranet



It is accessible to everyone connected.

Accessible only to the members of organization and external members with logins.

It is accessible only to the members of organization.

Internet

- The network formed by the co-operative interconnection of millions of computers, linked together is called Internet.
- It is the network of networks.
- Internet comprises of…
- **People :** People use and develop the network.
- **Resources :** A collection of resources that can be reached from those networks.
- **A setup for collaboration :** It includes the member of the research and educational committees worldwide.
- What we are normally using is internet.

Extranet

- It is the type of network that allows users from outside to access the Intranet of an organization.
- To share information with suppliers and vendors it makes the use of public network.
- Restricted area upto an organization and some of its stakeholders or so.
- It is derived from Intranet.
- DELL and Intel use network for their business operations.

Intranet

- It is an internal private network built within an organization using Internet and World Wide Web standards and products that allows employees of an organization to gain access to corporate information.
- Restricted area upto an organization.
- It is accessible only to the members of organization.
- The minimal number of devices are connected.
- It’s purpose is to share information throughout the organization.
- Policies of the organization are imposed.
- WIPRO using internal network for its business operations.

Information System

- **Data**
- Meaning: Data is raw, unorganized facts that need to be processed. Data can be something simple and seemingly random and useless until it is organized.
- Example Each student's test score is one piece of data.
- Data by itself alone is not significant.
- **Information**
- Meaning: When data is processed, organized, structured or presented in a given context so as to make it useful, it is called information.
- The average score of a class or of the entire school is information that can be derived from the given data.
- Information is significant by itself

Examples of Data

- **Student Data on Admission Forms:** When students get admission in a college. They fill admission form. This form contains raw facts (data of student) like name, father's name, address of student etc.
- **Data of Citizens:** During census, data of all citizens is collected.
- **Survey Data:** Different companies collect data by survey to know the opinion of people about their product.
- **Students Examination data**: In examination data about obtained marks of different subjects for all students is collected.

Examples of Information

- **Student Address Labels:** Stored data of students can be used to print address labels of students.
- **Census Report:** Census data is used to get report/information about total population of a country and literacy rate etc.
- **Survey Reports and Results:** Survey data is summarized into reports/information to present to management of the company.
- **Result Cards of Individual Students:** In examination system collected data (obtained marks in each subject) is processed to get total obtained marks of a student. Total obtained marks are Information. It is also used to prepare result card of a student.

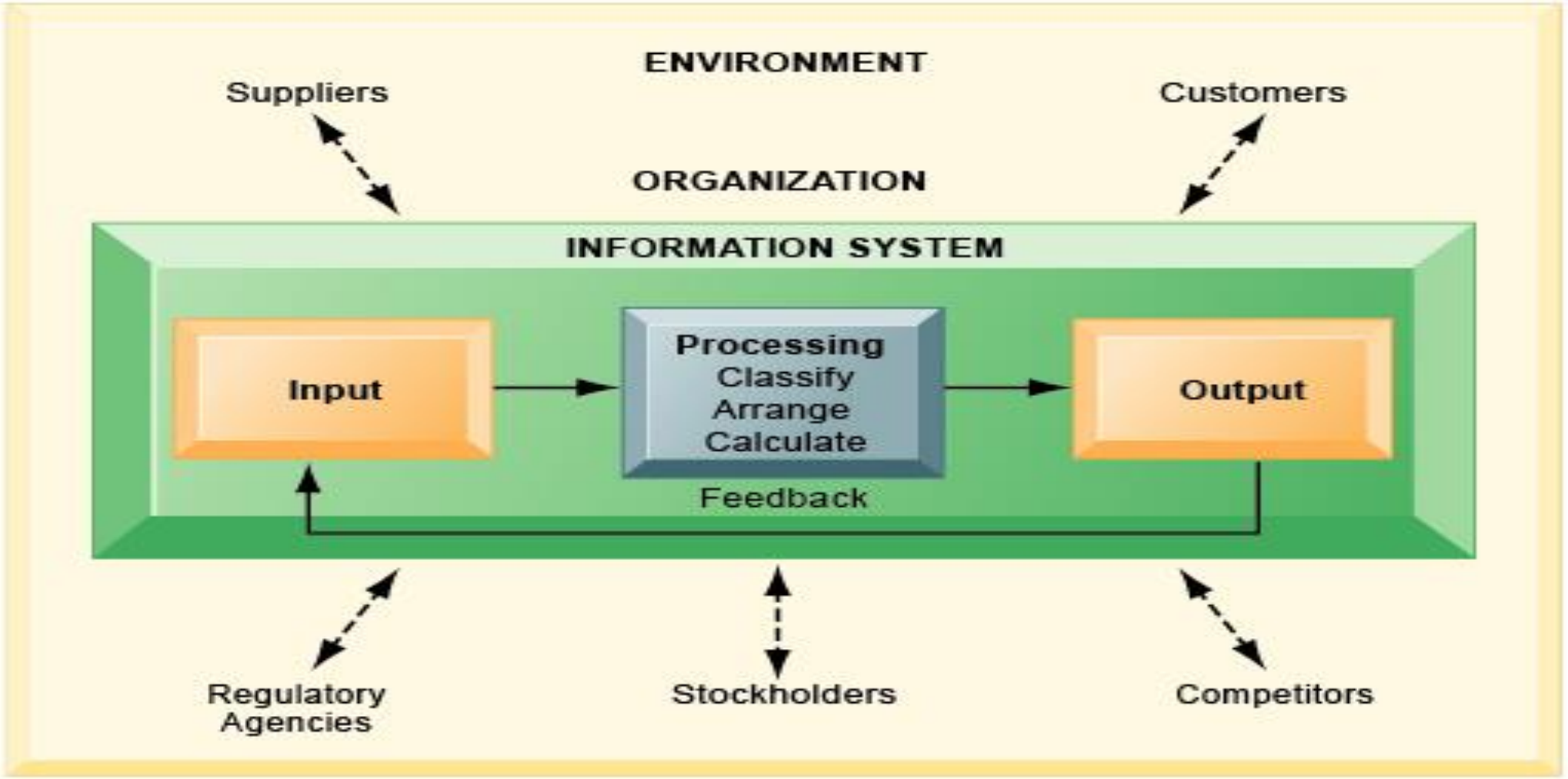
Attributes of Information

- Information must primarily possess attributes of relevance, availability and timeliness, to have value and thus to qualify as information.
- Objectivity, sensitivity, comparability, consciousness, and completeness are desirable and necessary only in comparability.

Information System

- Information systems encompass the tools that organizations use to collect, manage, and analyze data.
- This data guides decision-making to improve efficiency and profitability.
- Definition
  - "Information systems are interrelated components working together to **collect**, **process**, **store**, and **disseminate information** to support decision making, coordination, control, analysis, and visualization in an organization."
- The components of MIS are Hardware, software, network, people, data and Process.

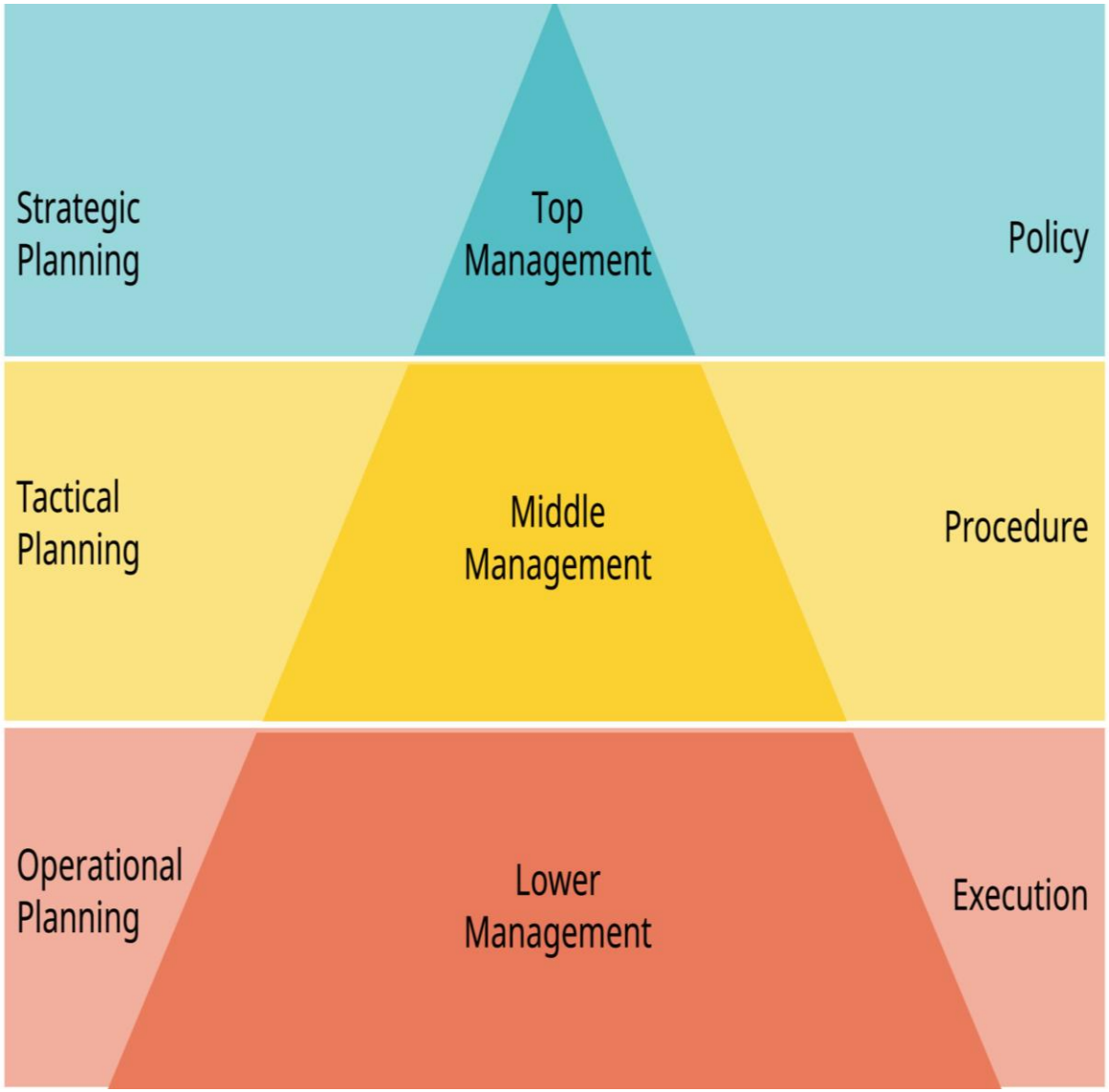
Functions of an Information System

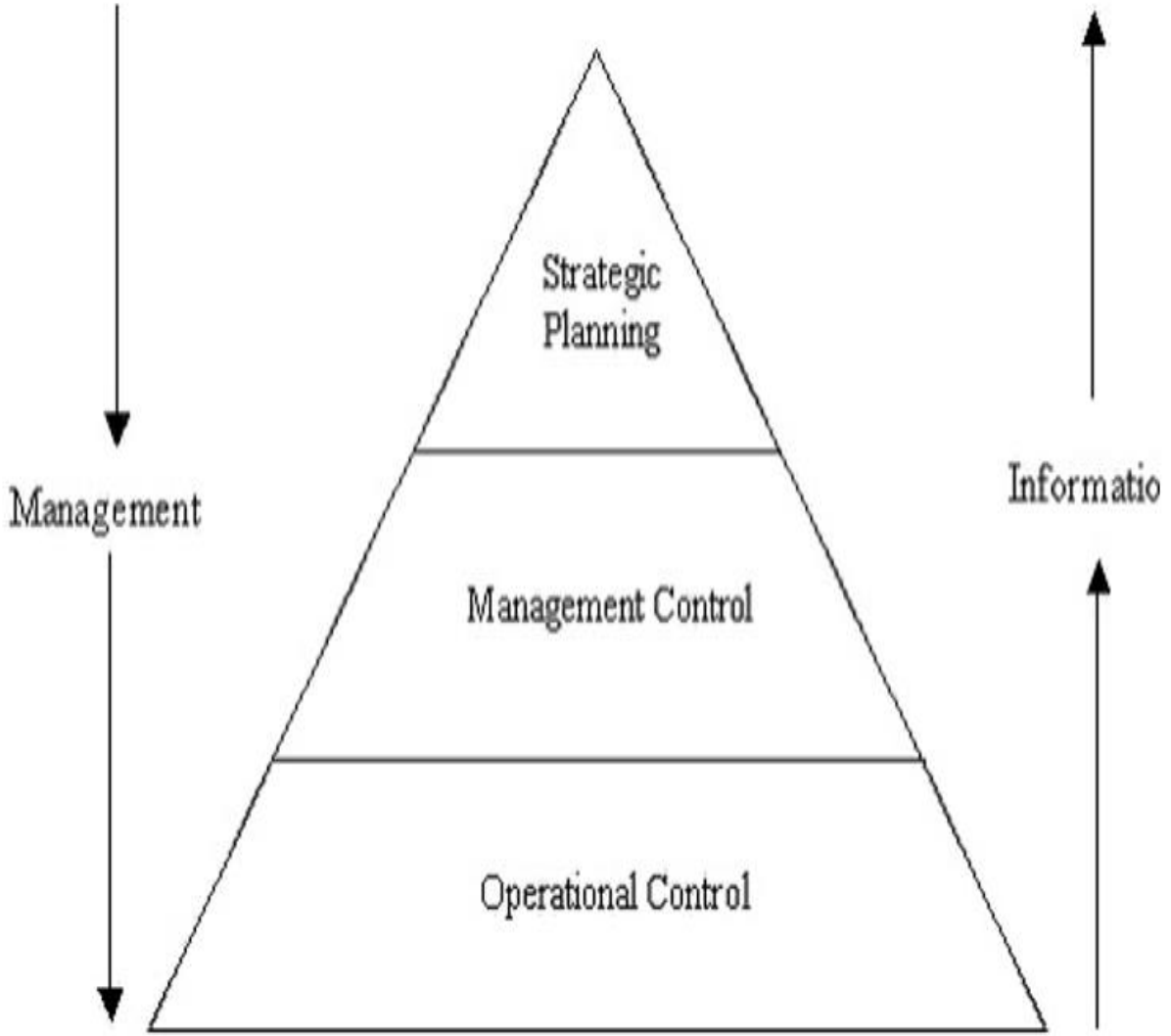


Information System - Function

- An information system contains information about an organization and its surrounding environment.
- Three basic activities—input, processing, and output—produce the information organizations need.
- Feedback is output returned to appropriate people or activities in the organization to evaluate and refine the input.
- Environmental actors, such as customers, suppliers, competitors, stockholders, and regulatory agencies, interact with the organization and its information systems.

Hierarchy of Management Activity





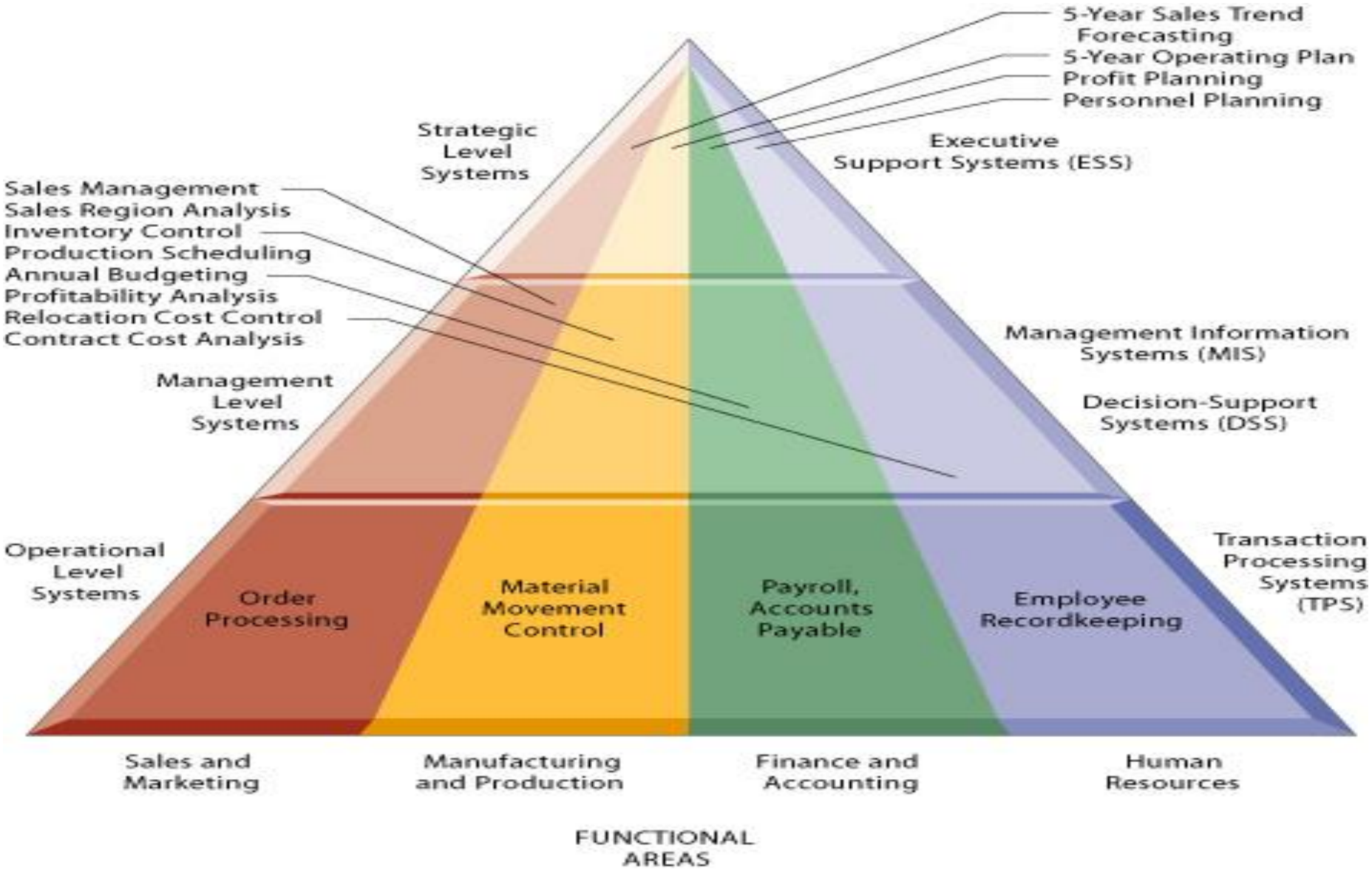
Hierarchy of Management Activity

- Hierarchy is the process of ensuring that specific tasks are carried out effectively and efficiently.
- **There are three levels of management activities**,
  1. Strategic planning
  2. Management control
  3. Operational control

Hierarchy of Management Activity

- **Operational-level systems** support operational managers by keeping track of the elementary activities and transactions of the organization, such as sales, receipts, cash deposits, payroll, credit decisions, and the flow of materials in a factory.
- **Management-level systems** serve the monitoring, controlling, decision-making, and administrative activities of middle managers.
- **Strategic-level systems** help senior management tackle and address strategic issues and long-term trends, both in the firm and in the external environment.

Information needed at different level and organization



Information needed at different level and organization

Levels of Management	Problems handled/ decisions made	Type of information required
Top level	Unstructured problems. Decisions are based on situations not/rarely handled in the past. Decision-making variable not clearly defined.	Strategic information from within the organization and outside. Information about likely scenarios. Information that can be analyzed in different ways. Exception reports
Middle level	Semi structured/structured problems. Decisions on regular issues. Decisions on tactical issues.	Regular summarized reports. Information that can be drilled deeper for insight. Information to help find out exceptions so that they can be reported to top management
Operational level	Structured problems Structured decision-making Decision-making on the basis of set rules	Operational information Rule based information, guidelines, handbook level information

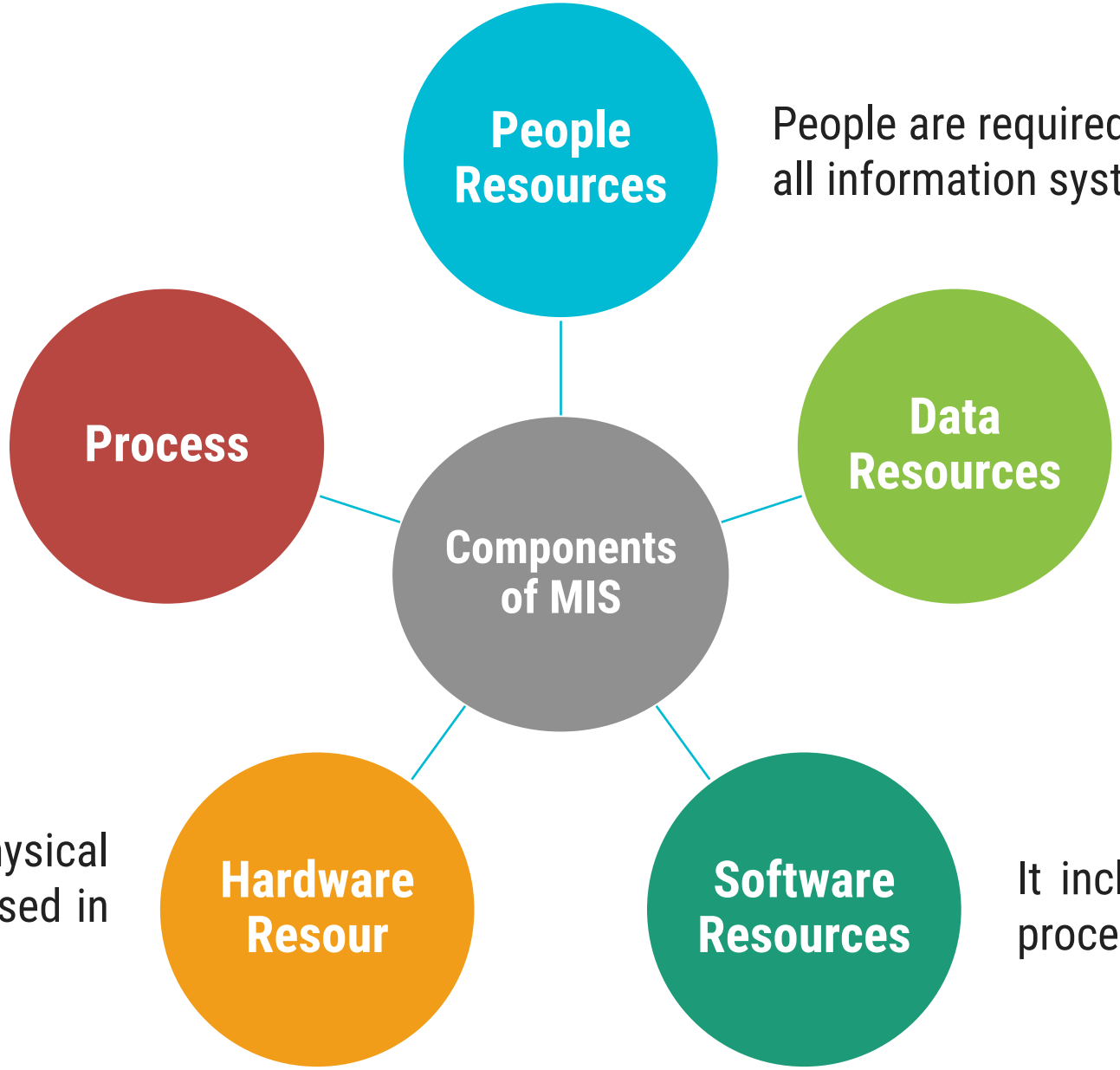
Meaning of MIS

- A management information system is an information system used for decision-making, and for the coordination, control, analysis, and visualization of information in an organization.
- The study of the management information systems involves people, processes and technology in an organizational context.
- MIS is the study of people, technology, organizations, and the relationships among them and helping firms realize maximum benefits.

Meaning of MIS

- **A Management Information System is**
  - An integrated user-machine system
  - For providing information
  - To support the operations, management, analysis, and decision-making functions
  - In an organization
- **The system utilizes**
  - Computer hardware & and software
  - Manual procedures
  - Models for analysis, planning, control, and decision-making, and
  - A database

Components of MIS



People are required for the operation of all information system.

It is a step undertaken to achieve a goal.

Database holds processed and organized data.

It Includes all physical devices and materials used in information processing.

It includes all sets of information processing instruction

Evolution of MIS

- From small businesses to large corporations, a management information system (MIS) is the backbone to a company's operation.
- Over the years, the role of MIS has evolved as technology became more sophisticated.
- MIS started as a data capturing and processing system and evolved into a more complex and intelligent system.

1950-1960: Electronic Data Processing (EDP)

- Electronic Data Processing (EDP) systems, also called Transaction Processing Systems (TPS), were groundbreaking at the time.
- It was the first large-scale computer information system to centralize and process day-to-day transactions and activities such as cash deposits, ATM transactions, and payment orders.

1960-1970: Management Information Systems (MIS)

- MIS pulled reports from historical data to determine cost trends, do a sales analysis, keep track of inventory, and measure production performance.
- When managers evaluated the information in these reports, they could see which areas of the business were underperforming and adjust decisions accordingly.

1970-1980: Decision Support Systems (DSS)

- Decision Support System (DSS) provided historical and ad hoc reports on both internal and external information. For example, internal sales reports and external market pricing.
- This advancement brought a new level of decision-making to businesses. Management could more accurately forecast sales, perform a risk analysis, and make bolder strategic decisions.
- It was during this era that personal computers entered the workplace.

1980-1990: Executive Information Systems (EIS)

- As PCs put power in the hands of executives, they could purchase software tailored to their department's needs, such as accounting, project management, and HR systems. It resulted in multiple systems within an organization working independently.
- This led to Executive Information Systems (EIS), a more refined version of the DSS system.

1990-2000: Enterprise Resource Management (ERP) Systems

- Multiple information systems that were not integrated resulted in employees wasting time duplicating information across systems. MIS had to become efficient.
- It did that by creating Enterprise Resource Management (ERP) systems that integrated knowledge management systems and expert systems.
- **Knowledge-based systems organize and disseminate business knowledge** within an organization.
- *Example:* placing a best practices resource on the intranet.
- **Expert systems started to use artificial intelligence to provide advice** and solutions.
  - *Example:* proposing faster delivery routes or assessing risk profiles for credit applications.

Role of MIS

- The role of the MIS in an organization can be compared to the role of heart in the body. The information is the blood and MIS is the heart.
- A management information system (MIS) plays an important role in business organizations.
- **Decision making**
  - Management Information System (MIS) plays a significant role in the decision-making process of any organization. In any organization, a decision is made on the basis of relevant information which can be retrieved from the MIS.
- **Coordination among the department**
  - Management Information System satisfy multiple need of an organization across the different functional department.

Role of MIS

- **Finding out Problems**
  - As we know that MIS provides relevant information about every aspect of activities. Hence, if any mistake is made by the management then MIS, information will help in finding out the solution to that problem.
- **Comparison of Business Performance**
  - MIS store all past data and information in its Database. That why the management information system is very useful to compare business organization performance.
- **Strategies for an Organization**
  - Today each business is running in a competitive market. An MIS supports the organization to evolve appropriate strategies for the business to assent in a competitive environment.

Objectives of MIS

Data Capturing

- MIS capture data from various internal and external sources of the organization. Data capturing may be manual or through computer terminals.

Processing of Data

- The captured data is processed to convert into the required information. Processing of data is done by such activities as calculating, sorting, classifying, and summarizing.

Storage of Information

- MIS stores the processed or unprocessed data for future use. If any information is not immediately required, it is saved as an organization record, for later use.

Objectives of MIS

Retrieval of Information

- MIS retrieves information from its stores as and when required by various users.

Dissemination of Information

- Information, which is a finished product of MIS, is disseminated to the users in the organization. It is periodic or online through a computer terminal.

Characteristics of MIS

- **System Approach**
  - The information system follows a System's approach. The system's approach implies a holistic approach to the study of system and its performance in the light for the objective for which it has been constituted.
- **Management Oriented**
  - The top-down approach must be followed while designing the MIS. The top-down approach suggests that the system development starts from the determination of management needs and overall business objectives.
- **Need-Based**
  - MIS design and development should be as per the information needs of managers at different levels, strategic planning level, management control level and operational control level. In other words, MIS should cater to the specific needs of managers in an organization's hierarchy.

Characteristics of MIS

- **Exception Based**
  - MIS should be developed on the exception-based reporting principle, which means an abnormal situation, i.e. the maximum; minimum or expected values vary beyond tolerance limits. In such situations, there should BE exception reporting to the decision-maker at the required level.
- **Future Oriented**
  - Besides exception-based reporting, MIS should also look at the future. In other words, MIS should not merely provide past or historical information; rather it should provide information, on the basis of projections based on which actions may be initiated.

Characteristics of MIS

- **Integrated**
  - Integration is a necessary characteristic of a management information system. Integration is significant because of its ability to produce more meaningful information.
    - For example, in order to develop an effective production scheduling system, it is necessary to balance such factors as setup costs, Workforce, Overtime rates, Production capacity, Inventory level, Capital requirements and Customer services.
- **Long Term Planning**
  - MIS is developed over relatively long periods. Such a system does not develop overnight. A heavy element of planning is involved. The MIS designer must have the future objectives and needs of the company in mind.

Characteristics of MIS

- **Sub-System Concept**
  - The process of MIS development is quite complex and one is likely to lose insight frequently. Thus, the system, though viewed as a single entity, must be broken down into digestible sub-systems which are more meaningful at the planning stage.
- **Central Database**
  - A central database is a mortar that holds the functional systems together. Each system requires access to the master file of data covering inventory, personnel, vendors, customers, etc. It seems logical to gather data once, validate it properly and place it on a central storage medium, which can be accessed by any other subsystem.

Impact of MIS

- The Management Information System (MIS) has a significant impact on organizations across various aspects of their operations. Here are some of the key impacts of MIS:
  - Improved Decision-Making
  - Increased Efficiency
  - Enhanced Communication
  - Real-Time Monitoring
  - Data Integration
  - Resource Optimization
  - Strategic Planning
  - Customer Relationship Management
  - Compliance and Security
  - Competitive Advantage

Importance of MIS

- Improved Decision-Making
- Increased Efficiency
- Better Communication
- Enhanced Customer Service
- Competitive Advantage

Advantages of MIS

- Allows company management access to a **single database to manage all transactions** and planning processes.
- It **saves time and increases work effectiveness** considerably.
- Ensures **improved data analysis** and decision-making.
- Maintains an **accurate record of the system's inputs and outputs** and tracks employee performance.
- Critically **analyze a company's and its employee's strengths and weaknesses.**
- The CEOs or executives can take greater company financial and operational control.

Disadvantages of MIS (Limitation)

- While MIS may solve some critical problems but it is **not a solution to all problems** of an organization.
- It **cannot meet the special demands** of each person.
- MIS if **designed in an improper manner** does not serve the management and hence is of little relevance.
- The MIS is **not good if the basic data is obsolete** and outdated.
- Mostly information provided by the MIS is in quantitive form. Hence, it **ignores the qualitative information** like the attitude of an employee.
- Involves maintenance and employee training costs.
- It cannot meet everyone's particular demands.