CHAPTER 2
Information Technology and Business

LH-3hrs

CONTENTS

- Business in the information age; Information systems; Organization structure and IT support; Evolution and types of information systems; IT for business; IT for individuals; Computers in past and present

Business in Information Age

- The current age referred as Information age, Digital age or New Media age has paved the way for great revolution in various spheres of business and industry. We cannot imagine our lives without information technology and computers.
- Information technology is defined as capabilities offered to organizations by computers, software applications, and telecommunications to deliver data, information, and knowledge individuals and processes. This is the era of Information Technology, Everyone is dependent information technology. It is used everywhere- business, industry, home, education entertainment and science.
- Before understanding relation of information technology with business, we should understand that it is made of two words Information and Technology.
- ***Information*** is all about communicating and receiving of knowledge and data.
- ***Technology*** means the body of knowledge that is used to develop tools and machines for solving various organizational problems.
- Information systems are established tools which are expert in finding the position of the business and alert the companies of eventual crisis possibilities in the future. Information technology includes usage of computers, networks, mobile and wireless devices, satellite telecommunications, robotics, electronic mail, and automated office equipment.

- **Information technology or the IT department is a crucial part of any company of business as they monitor and manage almost everything that is to do with information technology and communication systems.**
- The IT department is at the epicenter of the building and maintenance of communications networks for businesses small and large. Not many companies, big or small, could survive without a good IT department making them imperative to a business's day to day existence.
- From sending an email, to changing a password, accessing databases and everything in between IT are there to help every step of the way. IT in business is ultimately to help the business be more efficient and productive.
- It has a number of different roles including but not limited to:

➢ Helping the company be more productive, time = money.

➢ Optimising business performance

➢ Safeguarding data and troubleshooting

➢ Saving the business money

- Improving customer experience, satisfaction and communication
- Streamlining communication systems
- Enhancing managerial decision-making
- Helping the business expand globally
- Providing staff access to company information

Characteristics of Information

- **Accuracy:** This means information is free from errors and mistakes. It also means the information is from bias. Incorrect information can lead to wrong decisions.
- **Timeliness:** It means the information should reach the receiver within a defined time. The information should be latest. There should not be any delays.
- **Relevance**: This means particular information may be useful for one person while it may not be useful to another person. Information should be useful enough so that managers can draw decisions out of it.
- **Complete:** Information should be complete to be used for making right decisions organizations, information systems are employed which enable transforming data into information to generate knowledge which helps in decision making.

Importance of Information Technology

- Information technology has tremendously paved the way of business organizations towards innovation and growth. Over the past years, there have been improvements in productivity and efficiency with the adoption of information-based systems. In the following sections, we will understand how information technology is important and its application in various functions of business.
- **Office Automation:** This involves using computer and communication technology for managing organizational information. It includes usage of computers, telephones, email and machines. IT has helped different office to communicate easily and organize their data which helps the business to increase the productivity. Office automation systems support the wide range of business office activities for improved work flow and communication between workers, regardless of whether or not those workers are located in the same office.
- **Communication:** Information technology has made it easier for the organizations to communicate with the customers, suppliers and employees.
- **Business Analysis:** Business Analysis is aimed at providing solutions to various complex business problems.

- **Information Technology in different areas of business:** Information technology has got role to play in almost functional areas of the business. It can be said that it has to play an imperative part now. Let us understand in detail how business enterprises use IT in different functions of business.

- **Finance & Accounting:** Information technology is used in finance and accounting functions of the firms. All the financial information pertaining to daily entries of sales, purchases, salary disbursements, etc. are easily handled in various financial software's. For example, firms are primarily dependent on Tally for journal entries as well as preparation of financial statements. Business enterprises also use software packages for various processes like payroll, billing, budgeting, etc.

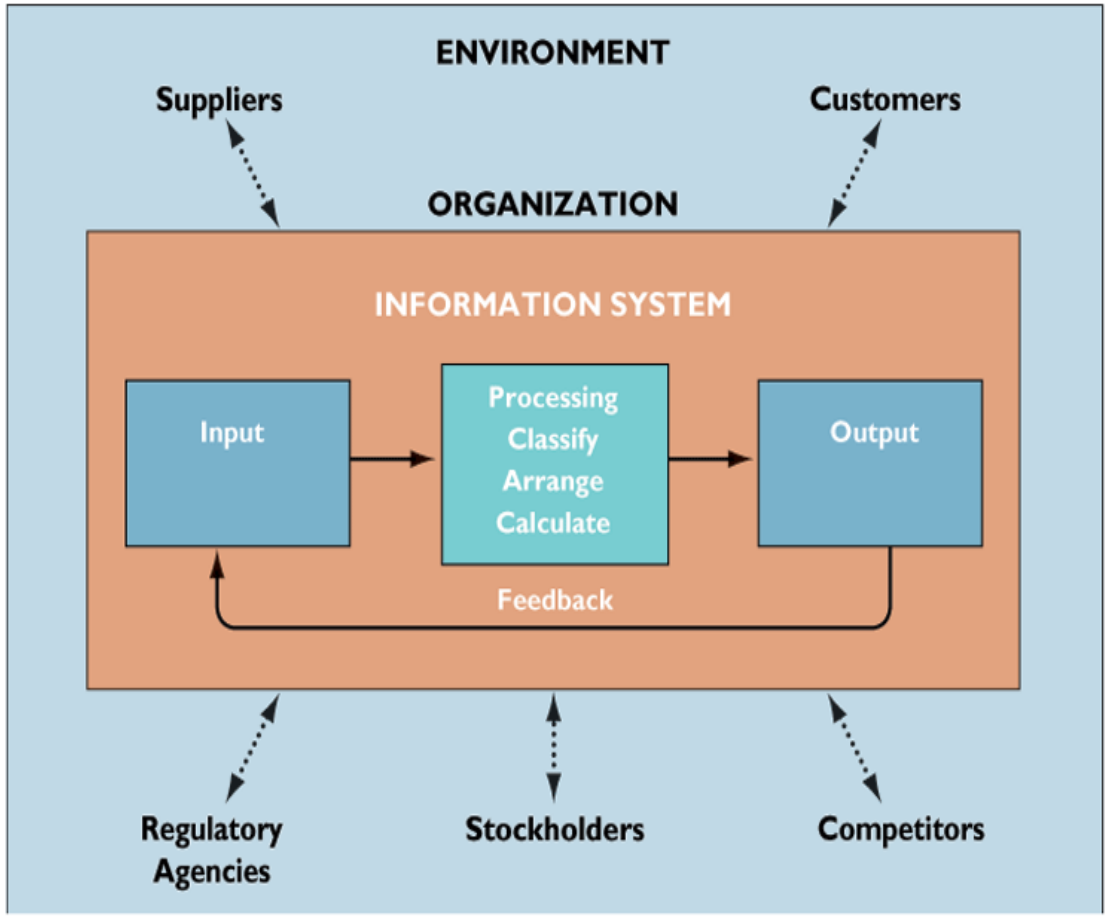
- **Human Resource Management:** The firms can easily rely on IT tools as far as the function of Human resource management (HRM) is concerned. Beginning from the functions of recruitment to employee exit, information technology is a great help to companies. Owing to availability of easy communication on internet, HR managers can get the resumes of perspective employees on their E-mails. Besides this, they can take aptitude tests and interviews of the candidates online. Other areas whereby IT can be utilized for daily attendance, maintaining information of employees, compensation management, performance appraisal, etc. This saves on unnecessary human effort as well as costs on paper work.

- **Marketing:** Marketing function in current scenario has evolved a lot recently. This is to be attributed to the information technology and development of communication facilities. Marketing department is the face of the company. It deals with creating, communicating and delivering value to the customers. IT has provided wings to marketing. The companies can reach to its customers through using tools like digital marketing and Customer relationship management (CRM). Digital marketing is promotion of products and services using digital channels to reach consumers.

Information System

- In a simplest sense, a system that provides information to people in an organization is called **information system (IS).**
- Information systems in organizations capture and manage data to produce useful information that supports an organization and its employees, customers, suppliers and partners. So, many organizations consider information system to be the essential one.
- Information systems produce information by using data about significant people, places, and things from within the organization and/or from the external environment to make decisions, control operations, analyze problems, and create new products or services.
- **Information** is the data shaped into a meaningful form.
- **Data**, on the other hand, are the collection of raw facts representing events occurring in organizations or the environment before they have been organized and arranged into a form that people can understand and use.

- The three activities to produce information in an information system are input, processing, and output.
- **Input** captures or collects raw data from within the organization or from its external environment for processing.
- **Processing** converts these raw data into the meaningful information.
- **Output** transfers this information to the people who will use it or to the activities for which it will be used.
- Information systems also require **feedback**, which is used to monitor the current information system output and compare it to the system goal.



Components of an Information System

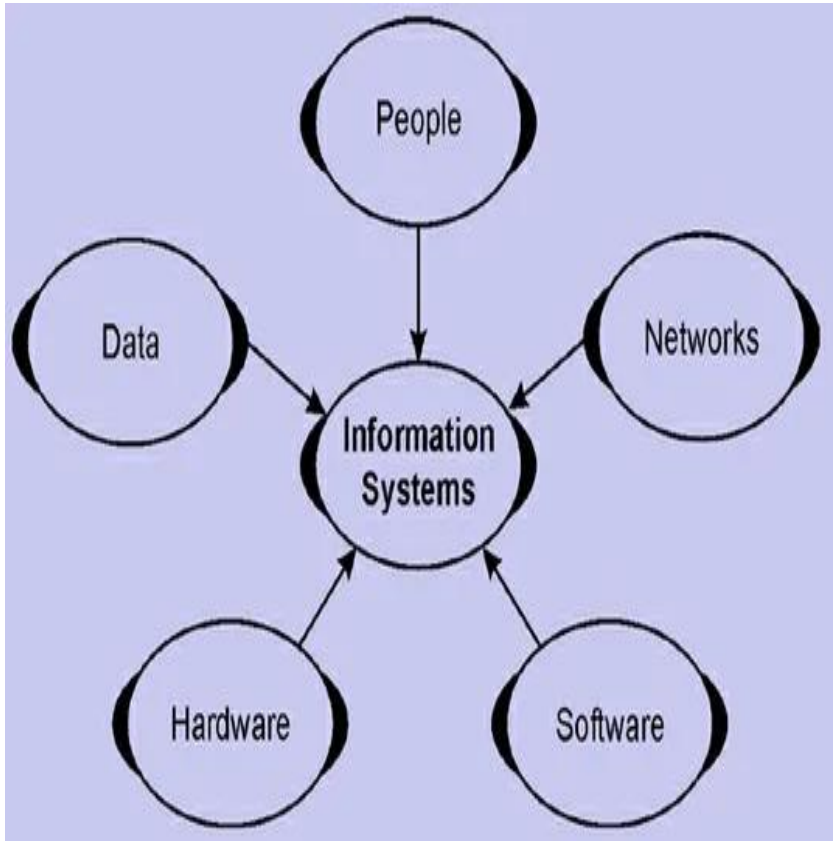
- A computerized IS consists of six interacting components:

1. Hardware:

- Any physical device used in a computerized IS. Example include CPU, sound card, video card, network card, hard drive, display keyboard, motherhood, power supply, modem, mouse, printer, etc.

2. **Software:**

- A set of machine-related instructions or code that makes up a computer application that direct a computer's processor to perform specific operations. Computer software is nontangible, contrasted with system hardware, which is the physical component of an IS. Examples include Internet browser, Operating system, Office Package, Skype and so on.



3. People: Any person involved in using an IS. Examples include programmers, operators help desk, and end-users.

4. Procedures: Documentation containing directions on how to use the other components of an IS. Examples include operational manual and user manual.

5. Network: A combination of lines, wires, and physical devices connected to each other to create a telecommunications network. In computer networks, networked computing devices exchange data with each other using a data link. The connections between nodes are established using either cable media or wireless media. Networks can be internal or external. If they are available only internally within an organization, they are called "intranets." If they are available externally, they are called "internets" The best-known example of a computer network is the World Wide Web..

6. Data: Raw or unorganized facts and figures (such as invoices, orders, payments, customer details, product numbers, product prices) that describe conditions, ideas, or objects.

Users of Information Systems

- Some information systems are very specialized and are used by just one individual or department in an organization; others are more general purpose and may be used by nearly all employees. Systems that are used by an entire enterprise are referred to as enterprise systems.

1. **Executive managers:** include the highest management positions in un organization, such as the president and chief executive officer (CEO); they use information systems to make relatively unstructured, long-term strategic decisions.
2. **Middle managers:** include managers who fall between executive managers and operational managers; they use information systems to make moderately structured, tactical decisions.
3. **Operational managers:** include supervisors, office managers, foremen, and other managers who supervise nonmanagement workers; they use information systems to make highly structured, operational decisions geared toward meeting short-term objectives.
4. **Non-management workers**: include office workers, accountants, engineers, and other workers; they use information systems to make the on-the-job decisions necessary to perform their jobs.
5. **External users:** include individuals outside an organization, such as customers. suppliers, and other types of strategic partners; they use the organization's information systems to obtain the information needed in the context of their relationship with that organization.

Role of Information system in Business Today

Managers are intensively using information systems and making large investments in information technology. You will certainly want to know how to invest this money wisely. If you make wise choices, your firm can outperform competitors. If you make poor choices, you will be wasting valuable capital.

In contemporary systems, there is a growing interdependence between a firm's information system and its business capabilities. Changes in strategy, rules and business processes increasingly require changes in hardware, software, databases and telecommunications.

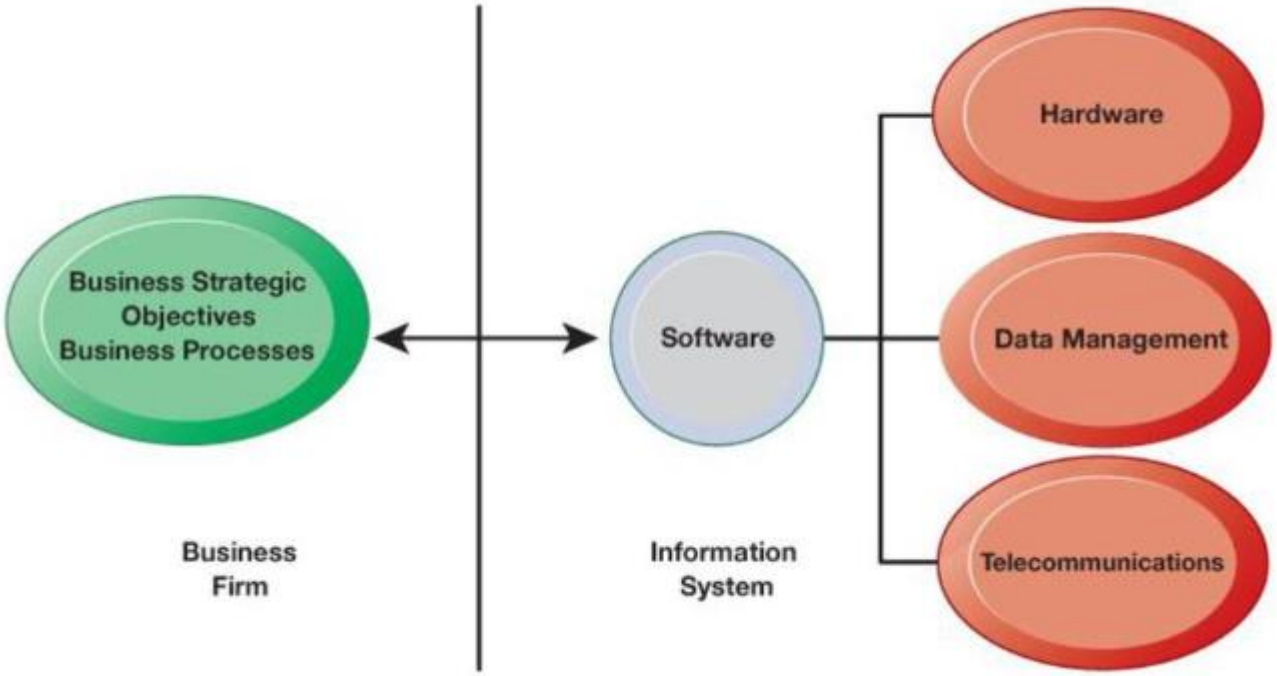


Figure: Interdependence between IS and business

The role of IT in business can be summarized as:

Business firm invest heavily in information systems to achieve six strategic ***business objectives: operational excellence; new products, services and business models; customer and supplier intimacy; improved decision making; competitive advantage and survival.***

Operational Excellence:

Businesses continuously seek to improve the efficiency of their operations in order to achieve higher profitability. Information systems and technologies are some of the most important tools available to managers for achieving higher levels of efficiency and productivity in business operations, especially when coupled with changes in business practices and management behavior.

New Products, Services, and Business Models

Information systems and technologies are a major enabling tool for firms to create new products and services, as well as entirely new business models. A business model describes how a company produces, delivers, and sells a product or service to create wealth.

Customer and supplier intimacy

When a business really knows its customers, and serves them well, the customers generally respond by returning and purchasing more. This raises revenues and profits. Likewise with suppliers: the more a business engages its suppliers, the better the suppliers can provide vital inputs. This lowers costs.

Improved decision making

Without accurate and timely information, business managers must make decisions based on forecasts, best guesses, and luck, a process that results in over and under-production of goods. raising costs, and the loss of customers. Information systems and technologies have made it possible for managers to use real-time data from the marketplace when making decisions.

Competitive advantage

When firms achieve one or more of these business objectives-operational excellence; new products, services, and business models; customer/supplier intimacy: and improved decision making-chances are they have already achieved a competitive advantage. Doing things better than your competitors, charging less for superior products, and responding to customers and suppliers in real time all add up to higher sales and higher profits that your competitors cannot match.

Survival

Business firms also invest in information systems and technologies because they are necessities of doing business. Sometimes these "necessities" are driven by industry-level changes.

Organization Structure and IT support

- Organizational structure is a conceptual blueprint that defines the structure and operations of an enterprise (a business, organization, government agency, or other entity). The goal of Organizational structure is to provide a detailed picture of an organization, its functions, and its systems, and the relationships among these items-it is essentially a map of an organization's business functions and systems.
- With the complexity of today's systems, organizational architecture allows managers to better organize and maximize the use of information technology (IT) resources, as well as make informed decisions with fewer mistakes.
- Experts agree that developing an organizational structure is not easy and requires a great deal of time and effort. The first step is usually to examine the existing systems and functions to identify gaps, overlaps and other possible issues with the existing setup.
- Organizations have a structure that is composed of different levels and specialties. Their structures reveal a clear-cut division of labor. Authority and responsibility in a business firm are organized as a hierarchy, or a pyramid structure. The upper levels of the hierarchy consist managerial, professional, and technical employees, whereas the lower levels consist of operational personnel.

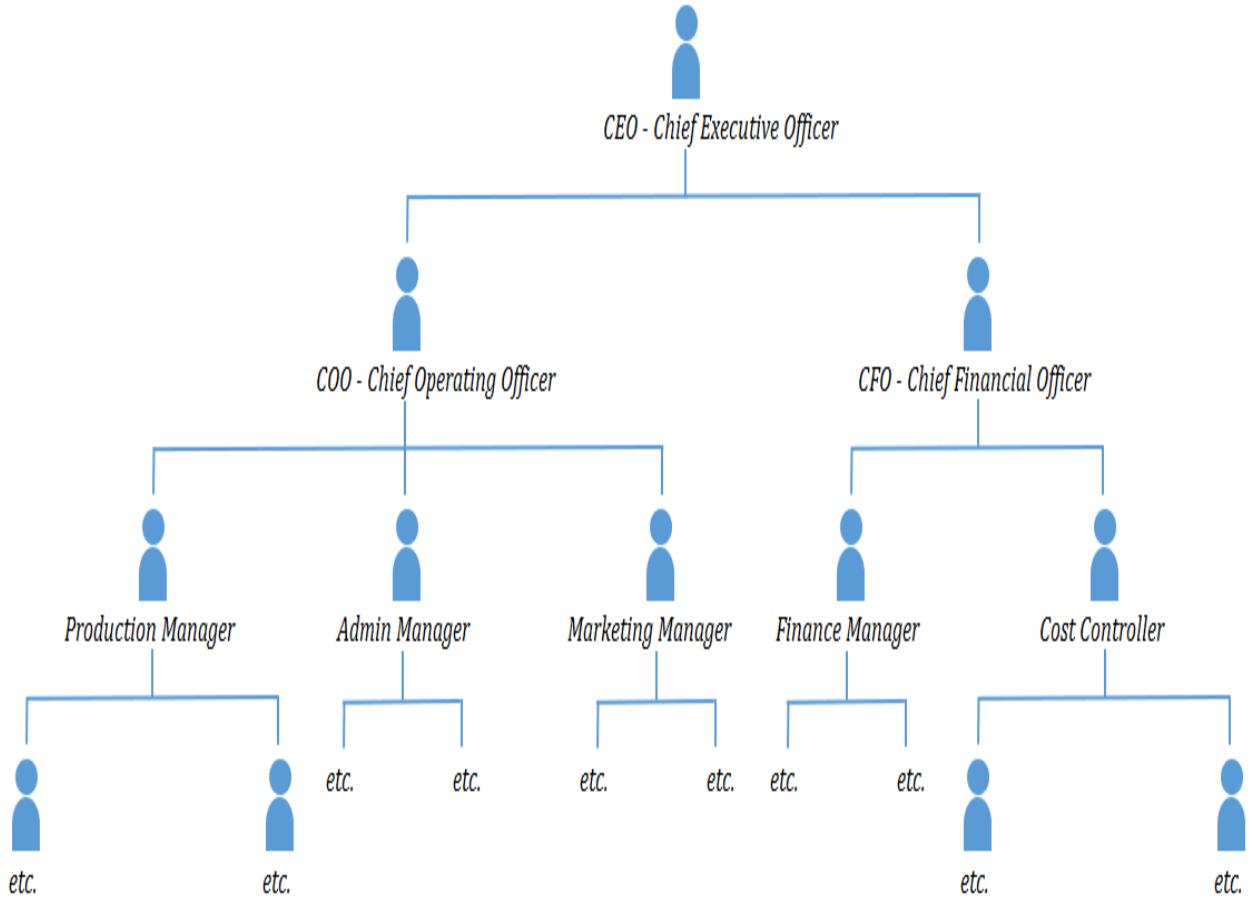
- Senior management makes long-range strategic decisions about products and services as well as ensures financial performance of the firm. Middle management carries out the programs and plans of senior management, and operational management is responsible for monitoring the daily activities of the business.
- An organization coordinates work through its hierarchy and through its business processes Most organizations' business processes include formal rules that have been developed over a long time for accomplishing tasks. These rules guide employees in a variety of procedures, from writing an invoice to responding to customer complaints.
- Size and number of locations are the major factors that determine the organization's structure. Organizational structure is comprised of functions, relationships, responsibilities, authorities and communications of individuals within each department. Broadly we can describe organizational structures into following two types:

1. Hierarchical Organizational
2. Matrix Management

1. Hierarchical Organizational:

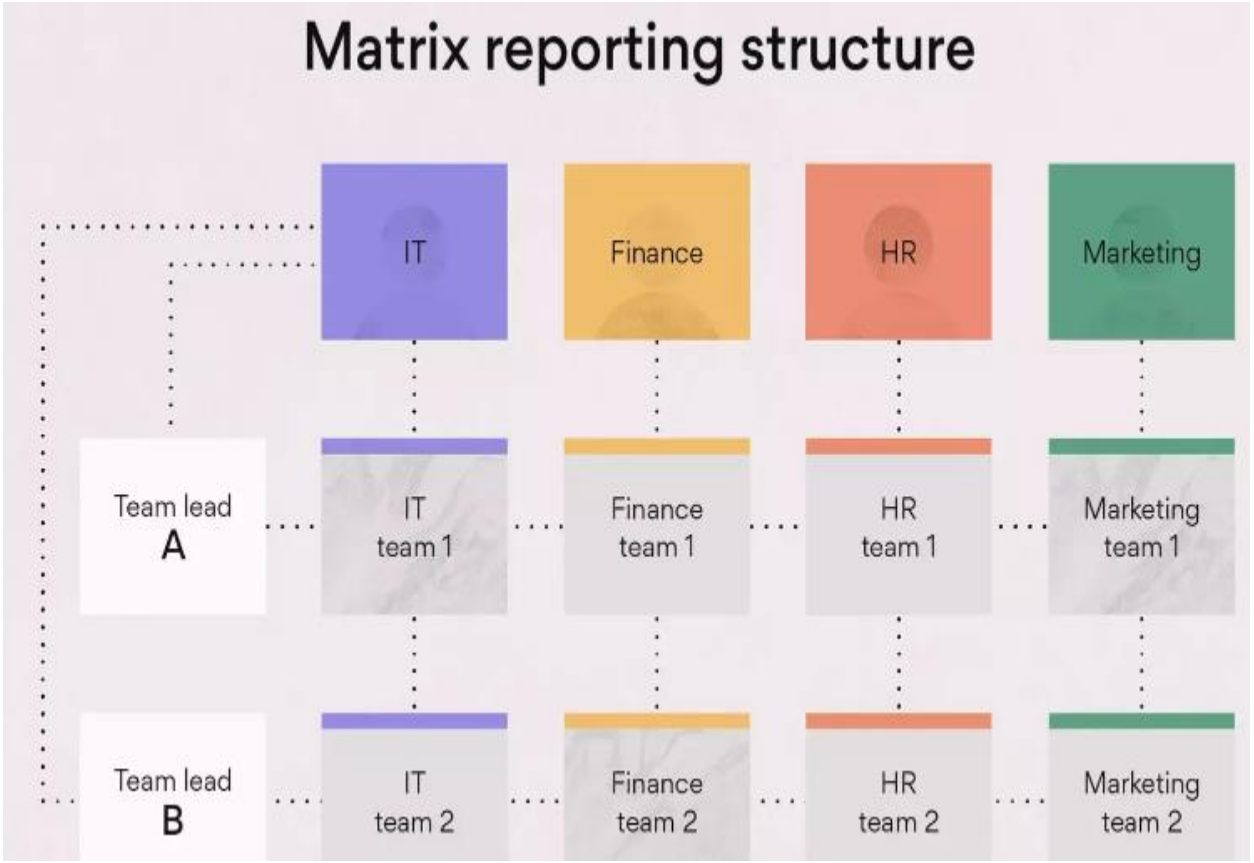
A hierarchical structure is typical for larger businesses and organizations. It relies on having different levels of authority with a chain of command connecting multiple management levels within the organization.

The decision-making process is typically formal and flows from the top down. This creates a tall organizational structure where each level of management has clear lines of responsibility and control. As the organization grows, the number of levels increases and the structure grows taller.



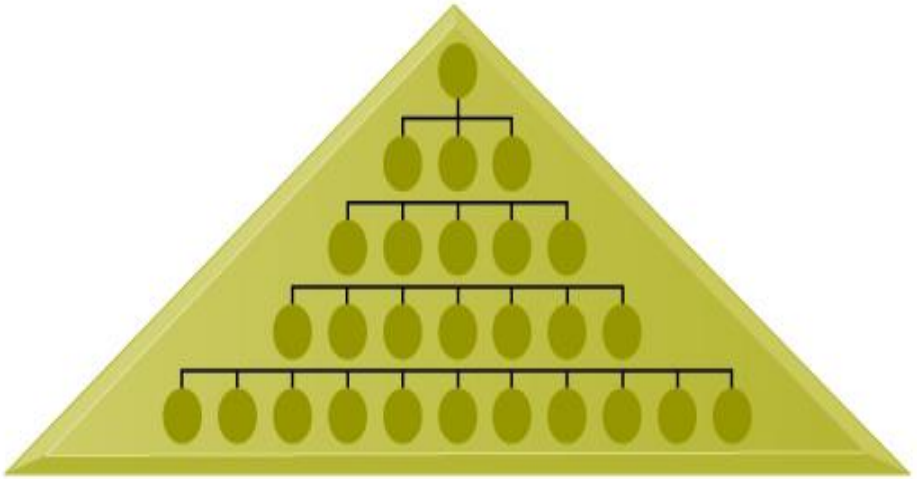
2. Matrix Management:

A matrix organization is a work structure where team members report to multiple leaders. In a matrix organization, team members (whether remote or in-house) report to a project manager as well as their department head. Some companies employ matrix management to create a more streamlined way of working. While this form of organization might not be for everyone, it's important to understand its benefits and usage to determine if it's the right fit for the company or not.

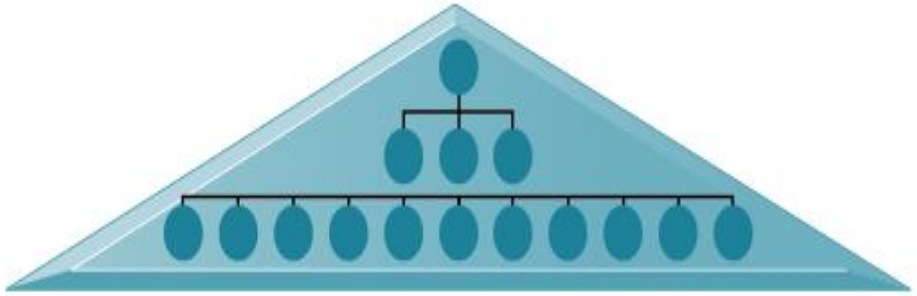


IT Flattens Organization:

- In a flat organization, there are little to no management levels between "superiors" and staff. It promotes an increased involvement in decision-making with less supervision.
- A flat structure elevates each employee’s responsibility inside the organization and eliminates excess management layers to improve coordination and communication. Fewer levels between employees improve the decision-making process among staff. The lack of need for middle management boosts the organization's budget.
- Behavioral researchers have theorized that information technology facilitates flattening of hierarchies by broadening the distribution of information to empower lower-level employees and increase management efficiency.



A traditional hierarchical organization with many levels of management

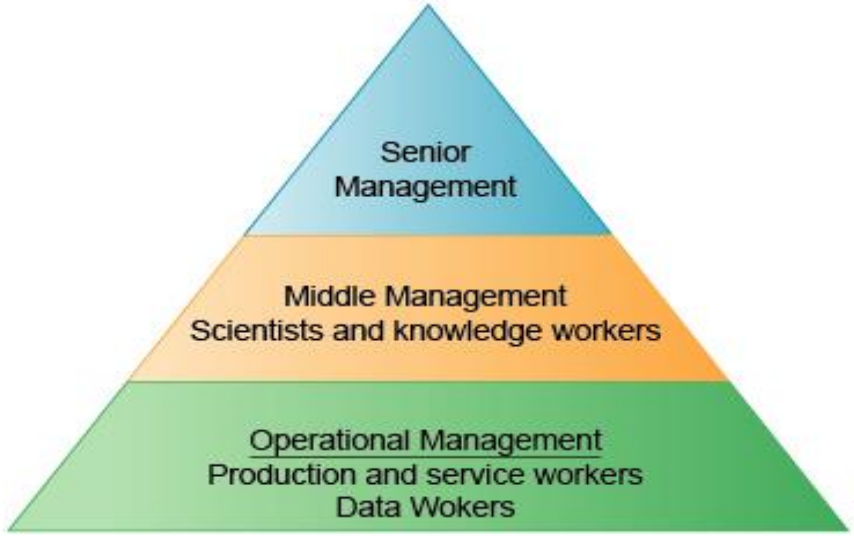


An organization that has been "flattened" by removing layers of management

- IT pushes decision-making rights lower in the organization because lower-level employees receive the information they need to make decisions without supervision.
- Managers receive so much more accurate information on time that they become much faster at making decisions, and so fewer managers are required.
- **Levels in Business Firm:**

Business organizations are hierarchies consisting of three principal levels: senior management, middle management, and operational management. Information systems serve each of these levels. Scientists and knowledge workers often work with middle management.

Senior management makes long-range strategic decisions and ensures the firm's financial performance. **Middle management** carries out the plans of senior management and **operational management** monitors the firm's daily activities. **Knowledge workers** such as engineers and scientists design products and create and distribute new knowledge for the organization. **Data workers** such as secretaries process the organization's paperwork. **Production or service workers** produce the products or services.



Postindustrial Organizations:

- Postindustrial theories also support the notion that IT should flatten hierarchies.
- Professional workers tend to be self-managing and decision making should become more decentralized as knowledge and information become more widespread throughout the firm.
- Information Technology may encourage task force-networked organizations in which groups of professionals come together-face to face or electronically-for short periods of time to accomplish a specific task, once the task is accomplished, the individuals join other task forces.

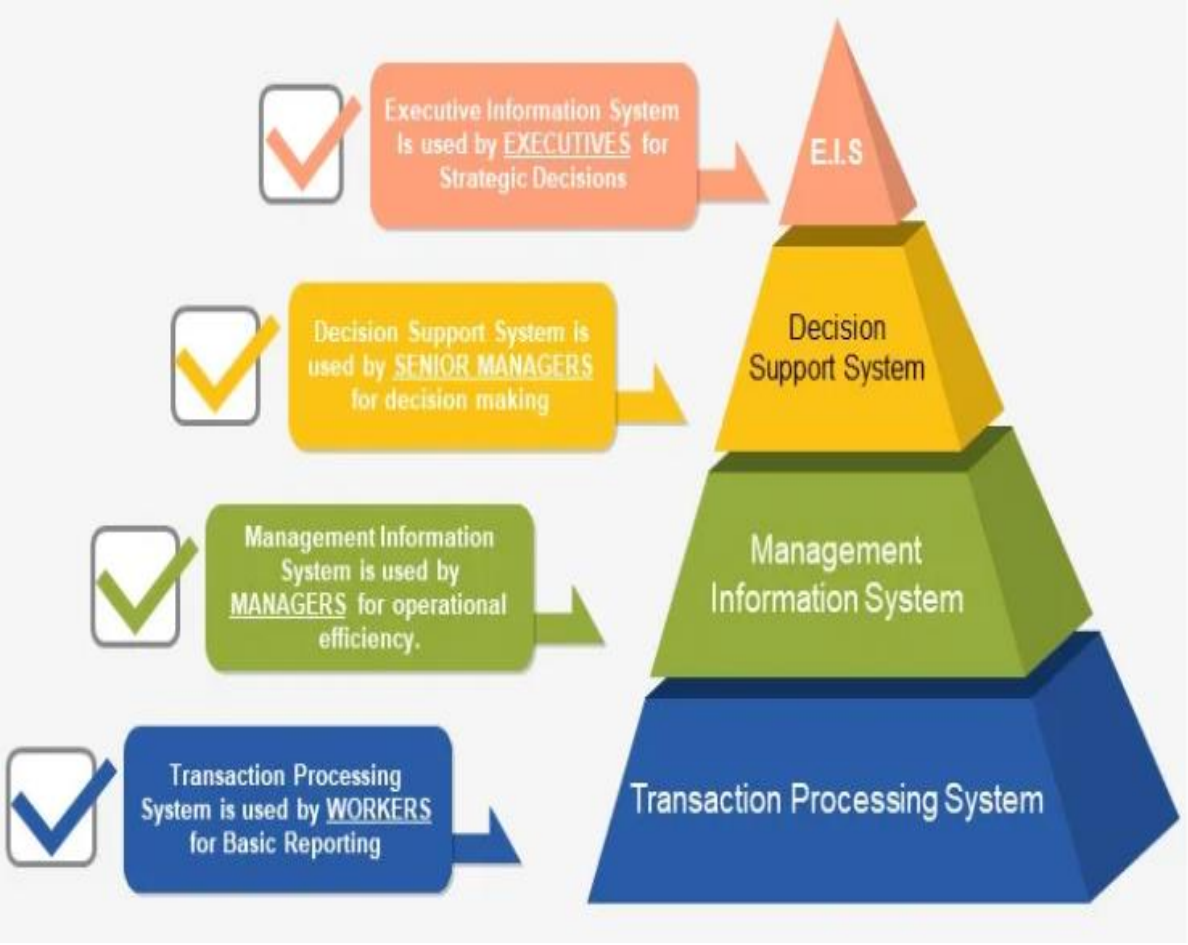
Evolution and Types of Information System

- Information system are used by organizations to collect, process and distribute the information. These systems uses communication technology and information to make use of it.
- Main components of information systems are technology, information, procedures, management and users.
- Information systems are designed according to the need of the organizations. These are categorized into many types, each having different functionality and uses.

Types of Information System

- In practice there are several classes of information systems in organizations. Each class serves the needs of different types of users. These are:

1. Transaction processing system (TPS)
2. Management information system (MIS)
3. Decision support system (DSS)
4. Executive information system (EIS)
5. Expert system
6. Communication and collaboration system
7. Office automation system.



Transaction Processing Systems(TPS)

- These are the computerized systems that perform and records the daily routine transactions necessary to conduct business. These systems serve the operational level of the organization. Some examples include sales order entry, hotel reservation systems, payroll, employee record keeping, and shipping.
- Transaction processing systems are central to a business. TPS failure for a few hours can cause a firm's demise and perhaps other firms linked to it. Managers need TPS to monitor the status of internal operations and the firm's relations with external environment. TPS are also major producers of information for the other types of systems.
- Online transaction processing systems (OLTPS) is an interactive data processing system that involves a direct connection between TPS programs and users. As soon as a single transaction is entered into a computer system, the program interacts immediately with the user for that transaction. It is often known as the live system where there is no time lag between data creation and its processing. A good example of this system is online ticket reservation system.

- TPS is a type of IS that manages data created in everyday operations. This includes storing, formatting, processing, retrieving, and creating some new aggregate data.
- Examples: purchasing transactions, sales orders, sales transactions, payroll, employee data, inventory
- Records daily, routine activities
- Serves supervisory level of management

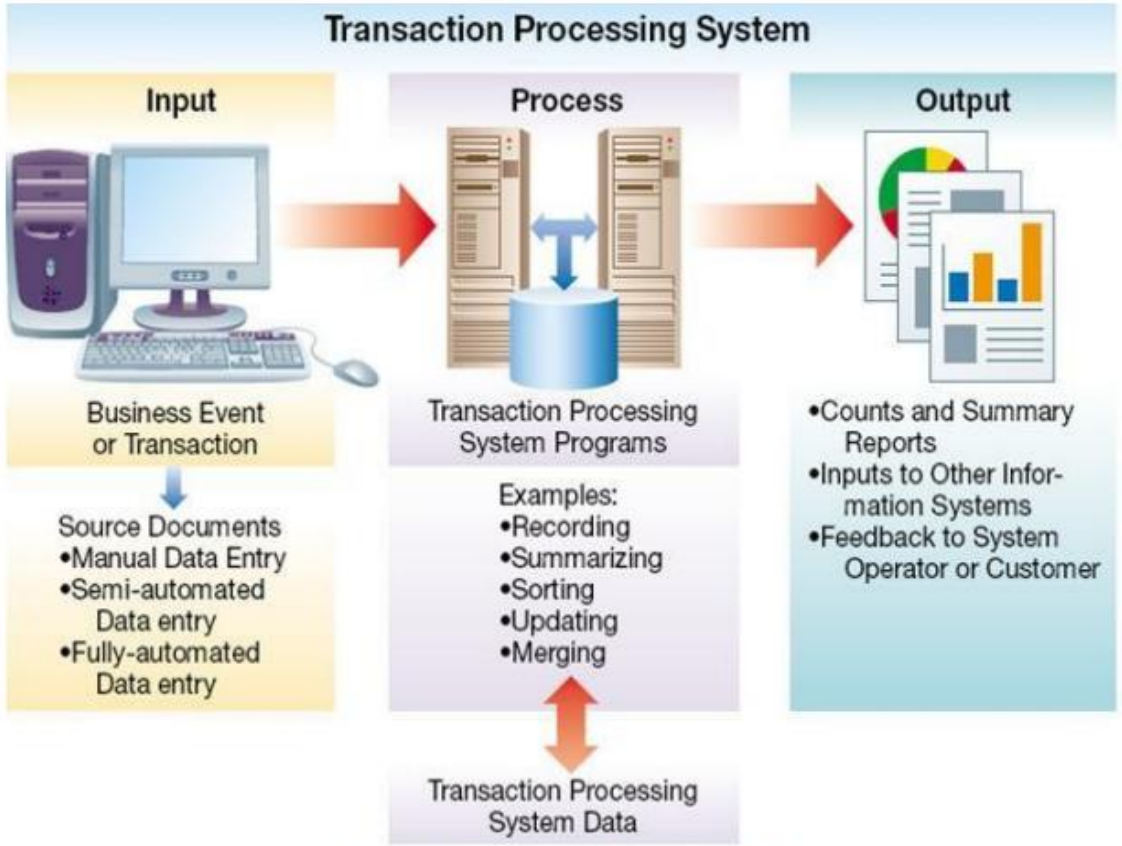


Figure: Transaction Processing Systems

Management Information Systems (MISs)

- These are the information systems at the management level of an organization and serve management-level functions like planning, controlling, and decision-making. These systems provide reports that are usually generated on a predetermined schedule and appear in prearranged format.
- Typically, these systems use internal data provided by the transaction processing systems. These systems are used for structured decision-making and in some cases for semi-structured decision making as well.
- Salary analysis and sales reporting are the examples in which MIS can be used.
- Management information system, or MIS, broadly refers to a computer-based system that provides managers with the tools to organize, evaluate and efficiently manage departments within an organization.

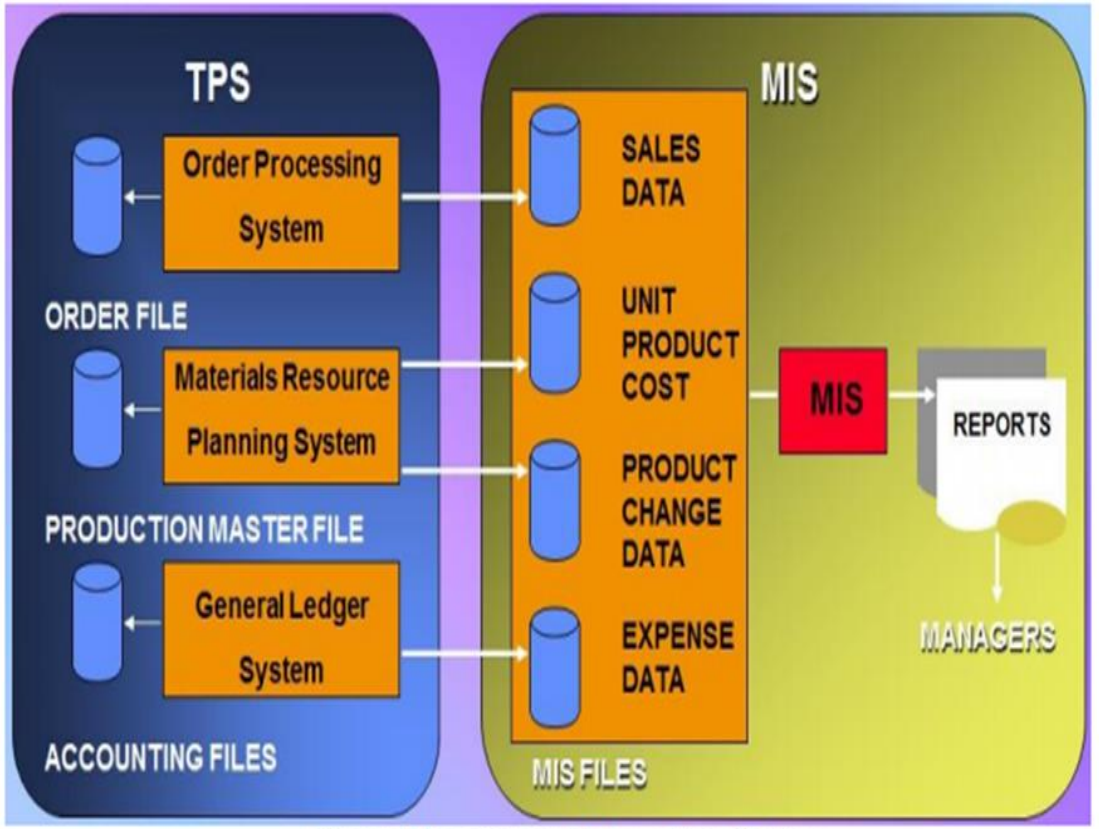


Figure: Management Information System

- MIS convert data from internal and external sources into information for managers.
- The source of data for an MIS usually comes from numerous databases. These databases are usually the data storage for Data Processing Systems.
- MIS summarise and report on the organisation's basic operations.
- MIS produce reports for managers interested in historic trends on a regular basis.
  - MIS operate at the tactical level
  - *Example: Annual budgeting*

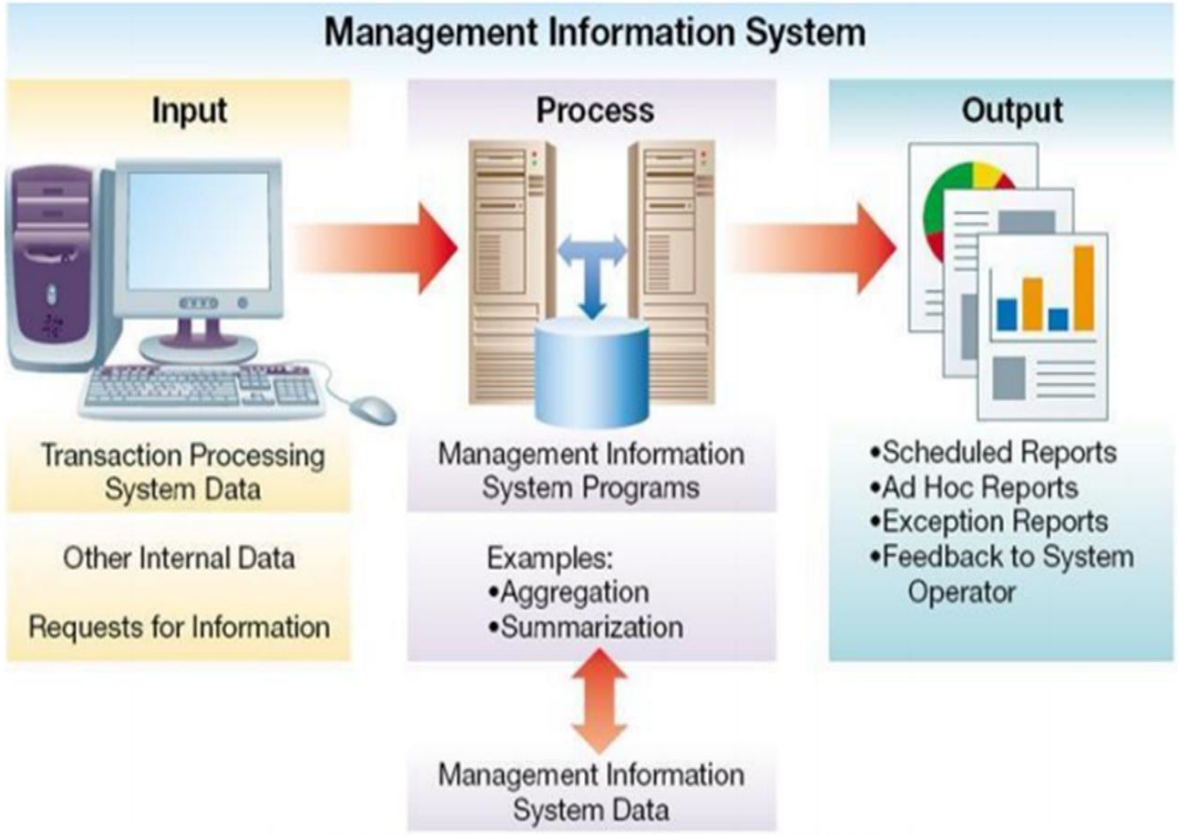


Figure: Management Information Systems

Decision Support Systems (DSSs)

- These systems also serve at the management level of the organization. These systems combine data and sophisticated analytical models or data analysis tools to support semi structured and unstructured decision-making.
- These systems use internal information from TPS and MIS, and often information from external sources, such as current stock prices or product prices of competitors.
- DSS have more analytical power than other systems. Contract cost analysis is an example in which DSS can be used.
- A decision support system (DSS) is an information system application that provides its users with decision-oriented information whenever a decision-making situation arises. When applied to executive managers, these systems are sometimes called executive information systems (EIS).

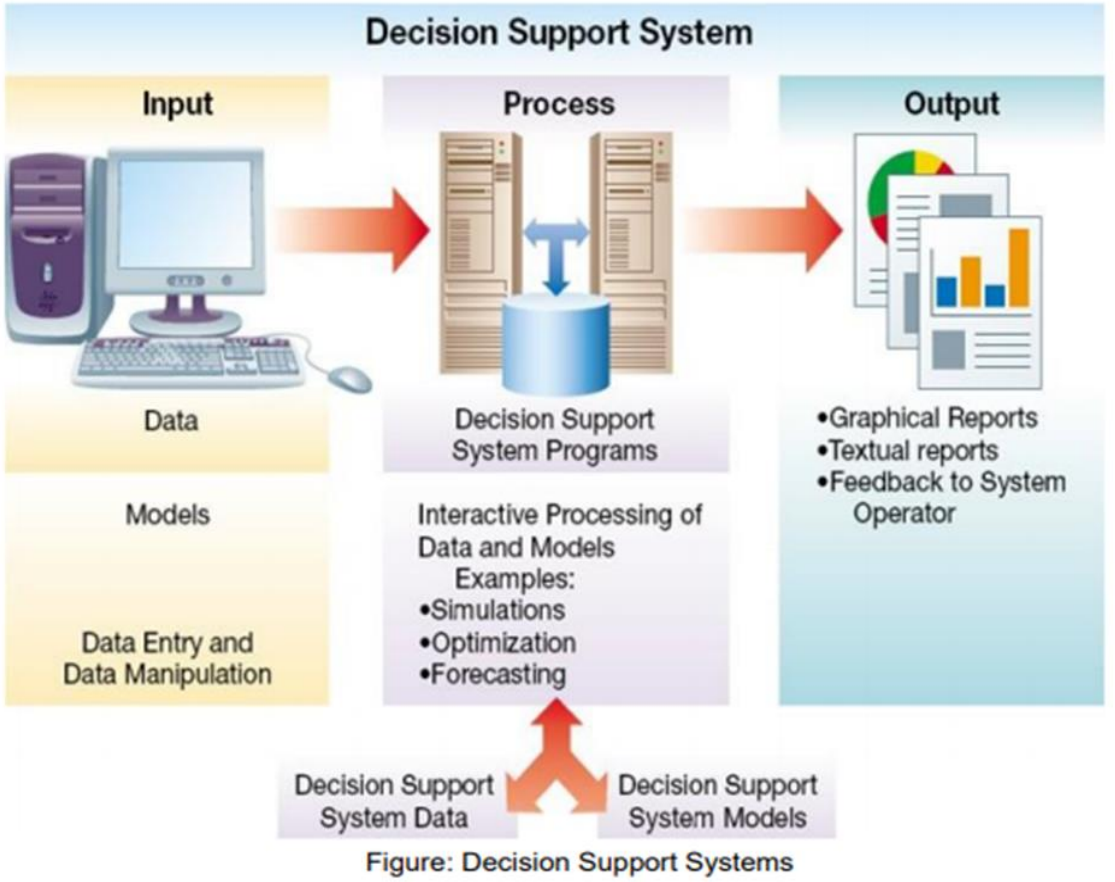


Figure: Decision Support Systems

- A Decision Support System (DSS) is an interactive computer-based system or subsystem intended to help decision makers use communications technologies, data, documents, knowledge and/or models to identify and solve problems, complete decision process tasks, and make decisions.
- Decision Support System is a general term for any computer application that enhances a person or group's ability to make decisions.
- Also, Decision Support Systems refers to an academic field of research that involves designing and studying Decision Support Systems in their context of Use

Some common DSS are:

Area	Common DSS Models
Accounting	Cost analysis, discriminant analysis, break-even analysis, auditing, tax computation and analysis, depreciation methods, budgeting
Corporate Level	Corporate planning, venture analysis, mergers and acquisitions
Finance	Discounted cash flow analysis, return on investment, buy or lease, capital budgeting, bond refinancing, stock portfolio management, compound interest, after-tax yield, foreign exchange values
Marketing	Product demand forecast, advertising strategy analysis, pricing strategies, market share analysis, sales growth evaluation, sales performance
Personnel	Labor negotiations, labor market analysis, personnel skills assessment, employee business expense, fringe benefit computations, payroll and deductions
Production	Product design, production scheduling, transportation analysis, product-mix inventory level, quality control, learning curve, plant location, material allocation, maintenance analysis, machine replacement, job assignment, material requirement planning
Management Science	Linear programming, decision trees, simulation, project evaluation and planning, queuing, dynamic programming, network analysis
Statistics	Regression and correlation analysis, exponential smoothing, sampling, time-series analysis, hypothesis testing

Executive Information Systems (EISs)

- These systems are also called executive support systems (ESSs) and serve the strategic level of the organization. These systems are designed to address unstructured decision making through advanced graphics and communication. It is used by top management.
- These systems incorporate data about external events such as new tax laws or competitors, but they also draw summarized information from internal MIS and DSS.
- These systems are not designed to solve a specific problem but they provide generalized computing and telecommunication capacity that can be applied to a changing array of problems. 5-year operating plan is an example in which EIS can be used.
- Another special characteristic of an ESS is its drill down capability, which is the ability of the system to provide information at any level of detail desired by the decision maker. For example, the CEO of a company may want the monthly sales of Product X for the entire company. Next, the CEO may want a breakdown of sales figures on a regional basis or on a store wide basis. The drill down facility can provide both.

It is a user friendly, interactive system, and almost intuitive to use; it has excellent menus and graphic capabilities designed to meet the information needs of top management engaged in long range planning, crisis management, and other strategic decisions.

Such systems assist in the making of decisions that require an in depth understanding of the firm and of the industry in which the firm operates.

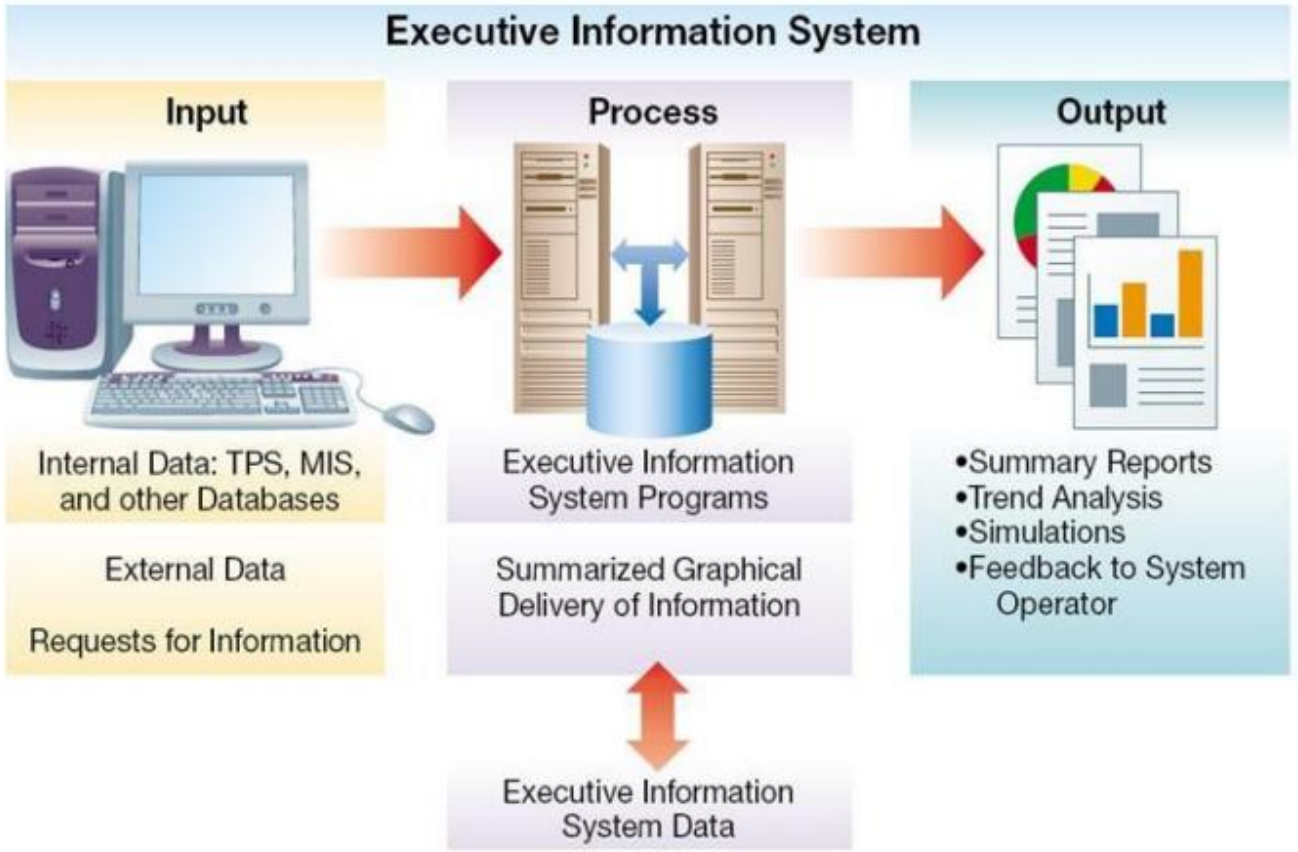


Figure: Executive Support Systems

Expert Systems

- An expert system is an extension of DSS that captures and reproduces the knowledge and expertise of an expert problem solver or decision maker and then simulates the “thinking” or “actions” of that expert.
- These systems imitate the logic and reasoning of the experts within their respective fields. Expert systems are implemented with artificial intelligence (AI) technology that captures, stores, and provides access to the reasoning of the experts.
- An expert system is a system that employs human knowledge captured in a computer to solve problems that ordinarily require human expertise.(Turban)
- An expert system is a computer program that tries to emulate human reasoning. It does this by combining the knowledge of human experts and then, following a set of rules, draws inferences.

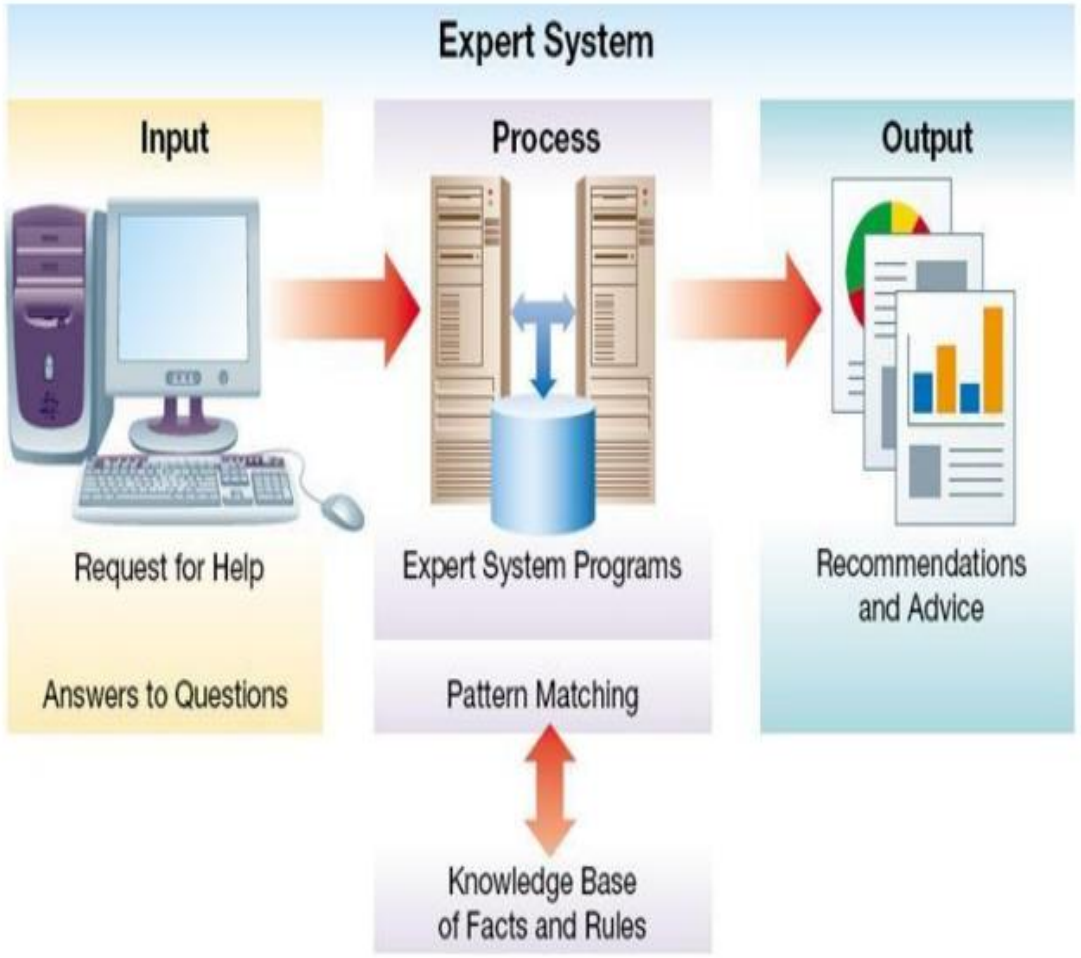
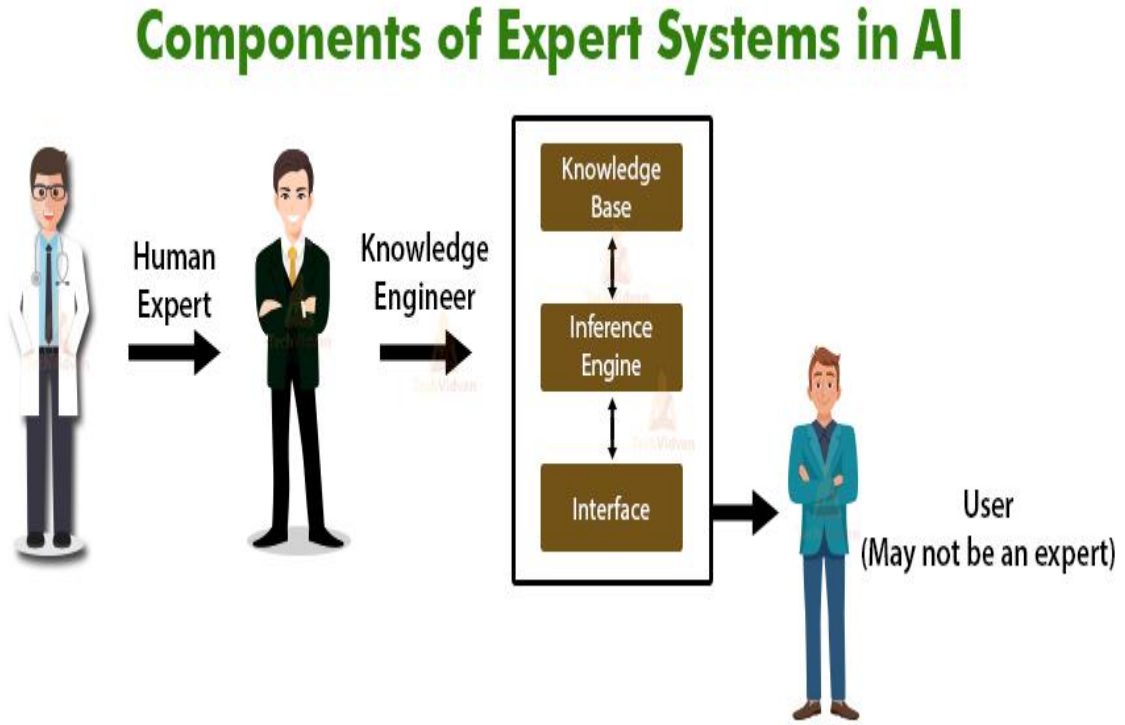


Figure: Expert Systems

- An expert system is made up of three parts:
  - A **knowledge base** stores all of the facts, rules and information needed to represent the knowledge of the expert.
  - An **inference engine** interprets the rules and facts to find solutions to user queries.
  - A **user interface** allows new knowledge to be entered and the system queried.



Communication and Collaboration Systems

- These systems enable more effective communications between workers, partners, customers and suppliers to enhance their ability to collaborate. These systems use network technology that allows companies to coordinate with other organizations across great distances.
- These systems create new efficiencies and new relationships between an organization, its customers and suppliers, and business partners redefining organizational boundaries.

Office Automation Systems

- Office automation (OA) is more than word processing and spreadsheet applications.
- Office automation systems support the wide range of business office activities for improved work flow and communication between workers, regardless of whether or not those workers are located in the same office.
- Office automation functions include word processing, spreadsheet applications, electronic mails, work group computing, fax processing, work flow management etc.
- Office automation systems can be designed to support both individuals and work groups.
- **Personnel information systems** are those designed to meet the needs of a single user. They are designed to boost an individual's productivity.
- **Work group information systems**, on the other hand, are designed to meet the needs of a work group. They are designed to boost the group's productivity.

IT for Individuals

Information technology has changed our lives drastically. You are only a single click away from everything. The list of the benefits of information technology in our lives are explained below:

- With the advancement in IT, one can access the system of the company from any place. It is not necessary for the authority to be in the office only. They can submit their work from home as well. Easy access to the system has surely increased one's productivity without any physical presence of the person in the office.
- There is a huge demand for IT professionals in various fields. The demand opens an immense opportunity for IT professionals to explore the field and show their talent The IT field offers people to work for computer programming, system analysis, testing, software and hardware development, web application design etc.
- With the advancement of information technology, the education field has transformed its outlook and has adopted a modern way of teaching and learning. Teaching on the blackboard is now an old thing. Teachers and institutions are using modern gadgets to teach their students. A computer with an internet connection helps students to learn new things and understand the topics easily and deeply.

- Information technology helps patients as well. They can now connect with physicians and take advice online. Also, there are many virtual healthcare applications available to provide guidance. Electronic health records and tele medicines are delivering efficient and quality health to patients.
- In the technology world, with information technology, the drawback of time and distance in business activities has been removed. Now, buying and selling are too easy. Customers can buy online from their locals and international vendors as well.
- With wireless communication mediums, news broadcasts have become so easier. Only a few seconds are needed to know the news from any corner of the world.
- Use of the internet on mobile phones, tablets, laptops, iPods, and other gadgets has been offering us unlimited access to entertainment mediums. People can watch movies or new songs on different platforms.
- With the Information technology, communication between people has become cheaper, easier and faster than ever before. Texting, video calling, sending e-mails are so easy nowadays. There are so many apps available online to provide these services.
- With the Information technology, we have seen and understood the meaning of globalization. Today, the world is on one platform and there are no physical barriers between nations. People are now 'global' citizens.

IT for Business

- Information technology (IT) is the lifeblood of most businesses. It is used to fulfill administrative and production requirements, and it crosses all industries. Generally, the larger the enterprise, the greater the need for a sophisticated and professionally managed information technology infrastructure.
- Computers are at the core of IT, but to say information technology is just computers is to ignore the complexity and diversity of the technologies businesses need to stay afloat in the 21st century. A more complete definition of IT is this: all of an organization's hardware and software for storing, retrieving, transmitting, and managing electronic information. Information in this context is in its broadest sense and includes images and digitized sound and video. Among the tools companies use to manage their information are:

- personal computers, terminals, and workstations
- network servers (including Internet) and other networking hardware
- Mainframes
- scanners, printers, and other peripherals
- all forms of software, including proprietary systems and site licenses for off-the shelf packages

- These technologies serve many purposes in a business. Some are purely logistical or convenient and thereby save time and resources. Others are essential to the company's output or its competitive advantage. Examples of IT's benefits to different areas of an enterprise include:

- timely and efficient delivery of products and services
- higher sales through better understanding of customer behaviors
- cost savings from fewer staff hours and reduced human or machine error
- better resource planning through detailed, accurate, and timely financial information.

- Medium to large corporations oversee their often substantial investments in these technologies through a specialized department that may be known simply as IT, or as information systems (IS) or information systems (MIS). This area may be under the direction of a chief information officer (CIO), but many IT departments report ultimately to the company's chief financial officer (CFO).

Acquisitions and Upgrades

- Most large organizations must purchase and install new hardware and software on a regular basis. In order to do so effectively, IT managers must be familiar simultaneously with business needs and available technologies. Some purchases may be very routine, the corporation may only need additional units of existing devices it has already implemented, or, as is the case with software upgrades, there may only be one logical course of action. However, many IT-acquisition decisions demand strategic vision for the organization. IT decision-makers must be able to match present and future needs with technological solutions, often in the face of rapidly technologies and severe financial outcomes from choosing the wrong technology.
- The acquisition process can be especially troublesome when custom software is being implemented. These projects are notorious for exceeding cost estimates and taking longer than planned. Moreover, custom software clients must be wary, after added time and expense, of whether the new system will serve all of the needs it was intended to satisfy-and without loosing the essential strengths and capabilities of the system it is replacing

Service and Maintenance

- Another requisite to owning information technology is ensuring that it is compatible with other technologies already in place and that it functions properly. Compatibility issues extend from making software applications work together on a single computer to allowing substantially different computer systems to share information. A mix of new and old technology can present special challenges.
- Over time, most computer equipment requires some form of servicing, usually due to component failures, user mistakes, or obsolescence. This aspect of IT isn't trivial performing routine service and maintenance in a large IT environment may require a substantial investment in technical staff hours (or outside services) and replacement equipment.

Assignment

- Write about computers in past and present how it is being used in detail.