# Lecture_1
# Topic: Introduction to MIS

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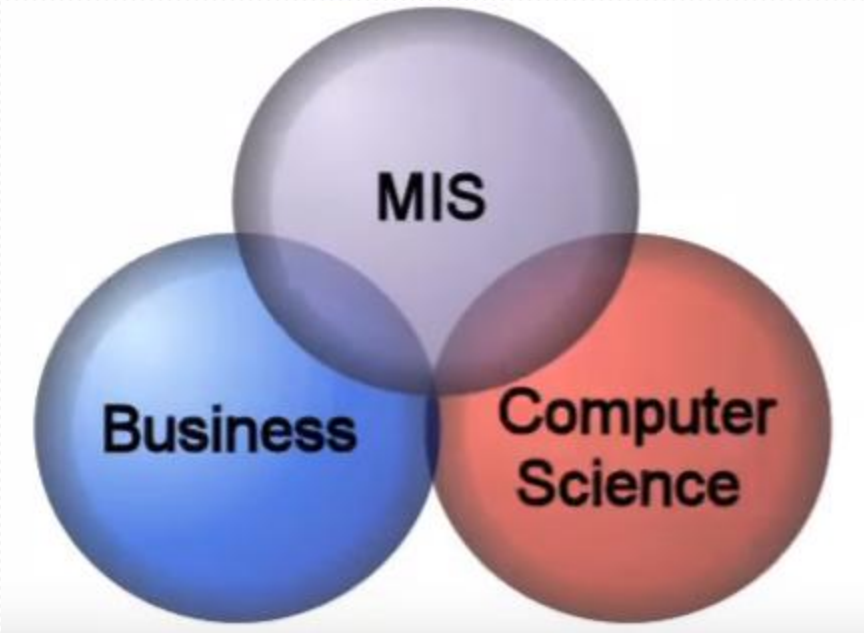
# Slide Content

- Concept of management, information and systems.
- Definition and purpose of MIS
- Different stages of MIS
- Characteristics or features of MIS
- Concept of Information System and information technology
- Role of Information System in Business
- Perspectives on Information Systems
- Contemporary Approaches to Information Systems
- Major Enterprise Applications
- Qualities of an Excellent Manager
- Managers in the field of MIS

# MIS–Management Information System

If we want to understand MIS, we have to understand what is – Management?

- Information?
- System?



# What is Management?

- Effective utilization of human and material resources to achieve the enterprise objective. (Man, Material, Machine, Money, Method)
- It is a process consisting of the five basic functions:
  - Planning
  - Organizing
  - Staffing
  - Directing
  - Controlling

# Hierarchy of Managers


CEO, COO , CTO etc

Regional/Plant/Division Managers

Team Leader
Asst. Manager
Foreman
Shift Manager

# Functional Areas of Management

- Production management
- Marketing management
- Financial management
- Personnel or human resource management

In performing each of the four functions of management, in each of the functional areas, at any of the three levels of management, information is required to take different decisions.

# What is Information?

- Basis of decision making
- Lifeblood of management

- **Data**
  - A given face, a number, a statement or a picture
  - Represent Something in the real world

- **Information**
  - Date that have meaning within a context
  - Data in relationship
  - Data after manipulation

# Data and Information

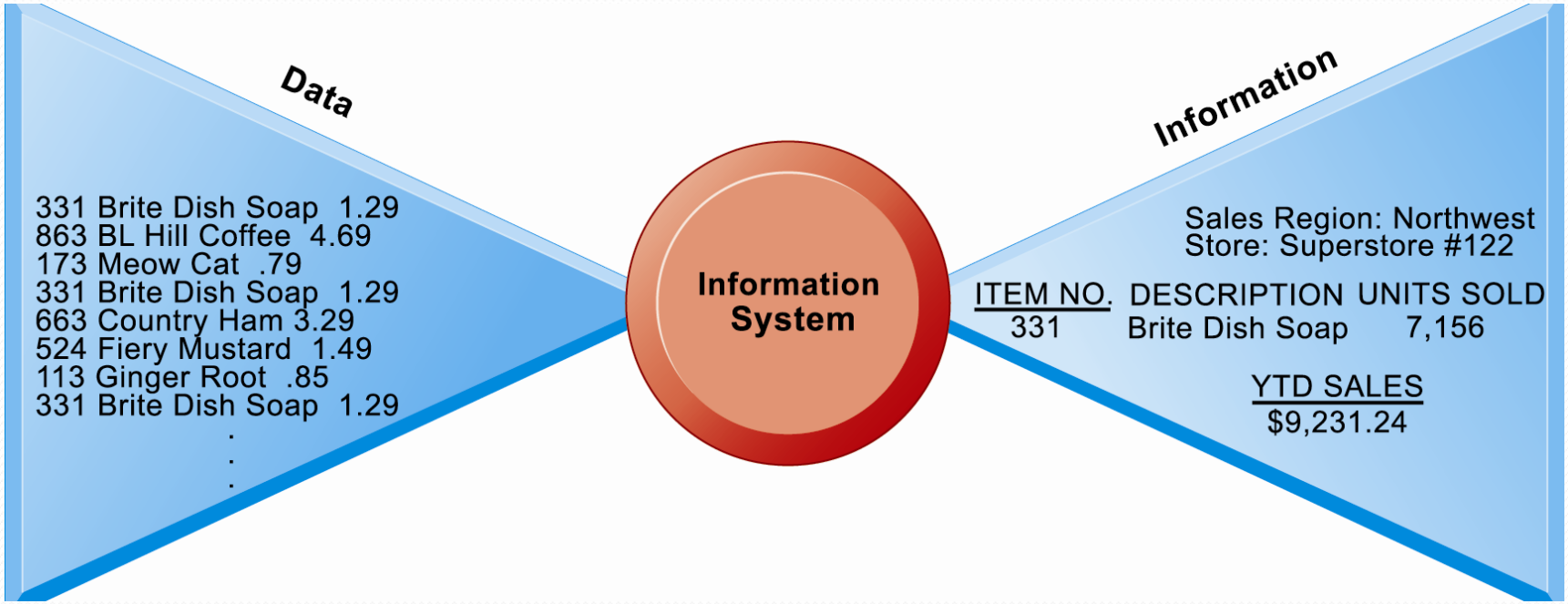



Figure: Raw data from a supermarket checkout counter can be processed and organized to produce meaningful information, such as the total unit sales of dish detergent or the total sales revenue from dish detergent for a specific store or sales territory.

# Why People Need Information?

- **Individuals** – for entertainment
  enlightenment
  decision making
  problem solving

- **Business** – for decision making
  problem solving
  control

# What is System?

- **System**- Set of components or sub-systems that work together to achieve a common goal.

Ex. Education System

Political System

National System

Information System

- **Subsystem**- one part of a system where the products of more than one system are combined to reach an ultimate goal.

# Perspectives on Information Systems

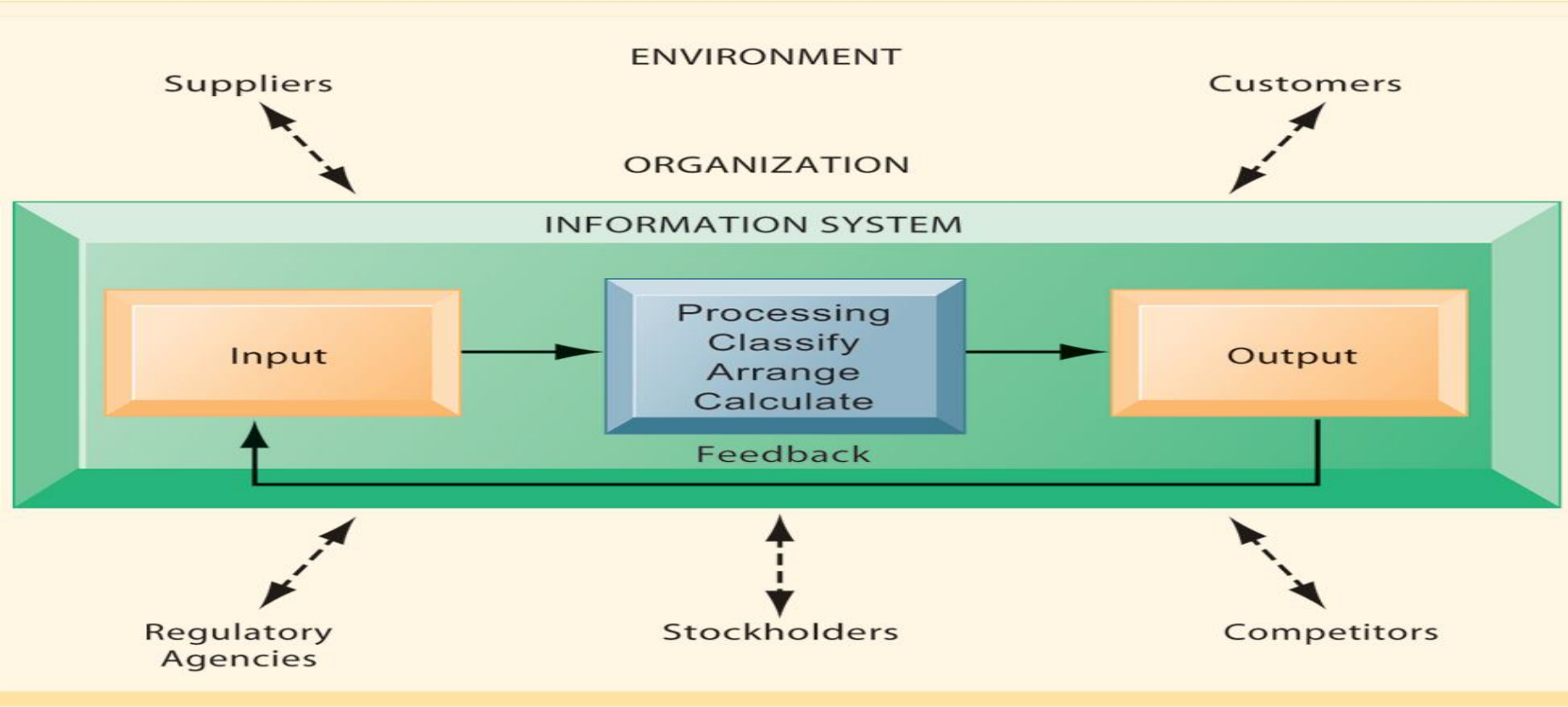



Figure: An information system contains information about an organization and its surrounding environment. Three basic activities—input, processing, and output—produce the information organizations need. Feedback is output returned to appropriate people or activities in the organization to evaluate and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

# Types of System

- **Close system**- stand-alone system that has no contact with other systems or the environment.

Ex. a research-and-development (R&D) department within a computer organization may be set up as a closed system with no interaction outside of the division; the purpose is to protect trade secrets and inventions that are being produced inside.

- **Open system**- system that interfaces with other systems and the environment.

Ex. Business organization continuously interact with environment. It affect the environment and it is effected by the environment.

# System Approach to information by Managers

- Creates s framework for problem solving and decision making.
- Keep managers focused on overall goals and operations of business.
- Balanced attention to every area is possible.

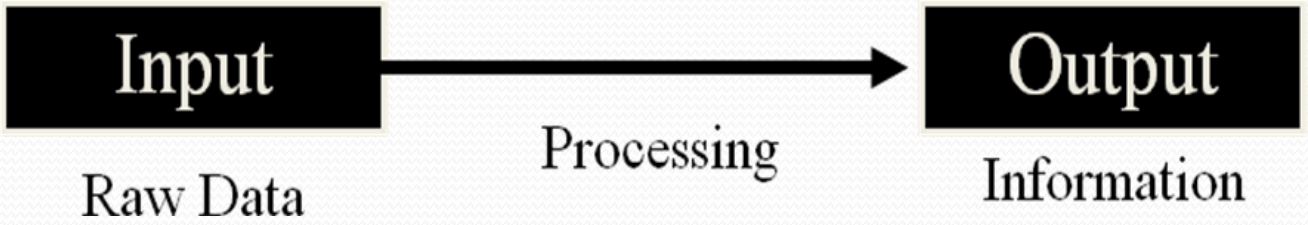



Figure: Generating information by computer based IS

# What is MIS?

- Management Information System (MIS) is an information system that evaluates, analyzes and processes an organization's data to produce meaningful and useful information on which the management will take right decision to ensure future growth of the organization.

- The purpose of MIS is the smooth running of the business by providing information about the organization. Employees from different levels will then evaluate this information so that decisions can be made to ensure that the business remains competitive and successful.

# Introduction to MIS

- Managers makes decisions all the time.
- There is an overload of information.
- All information is not useful.
- Anything which helps manager improve his decision-making will obviously lead to better result.
- MIS is a system, where data is the input, which is processed to improve output in the form of information reports, summaries etc, which aid the managers decision-making process.

# History of MIS

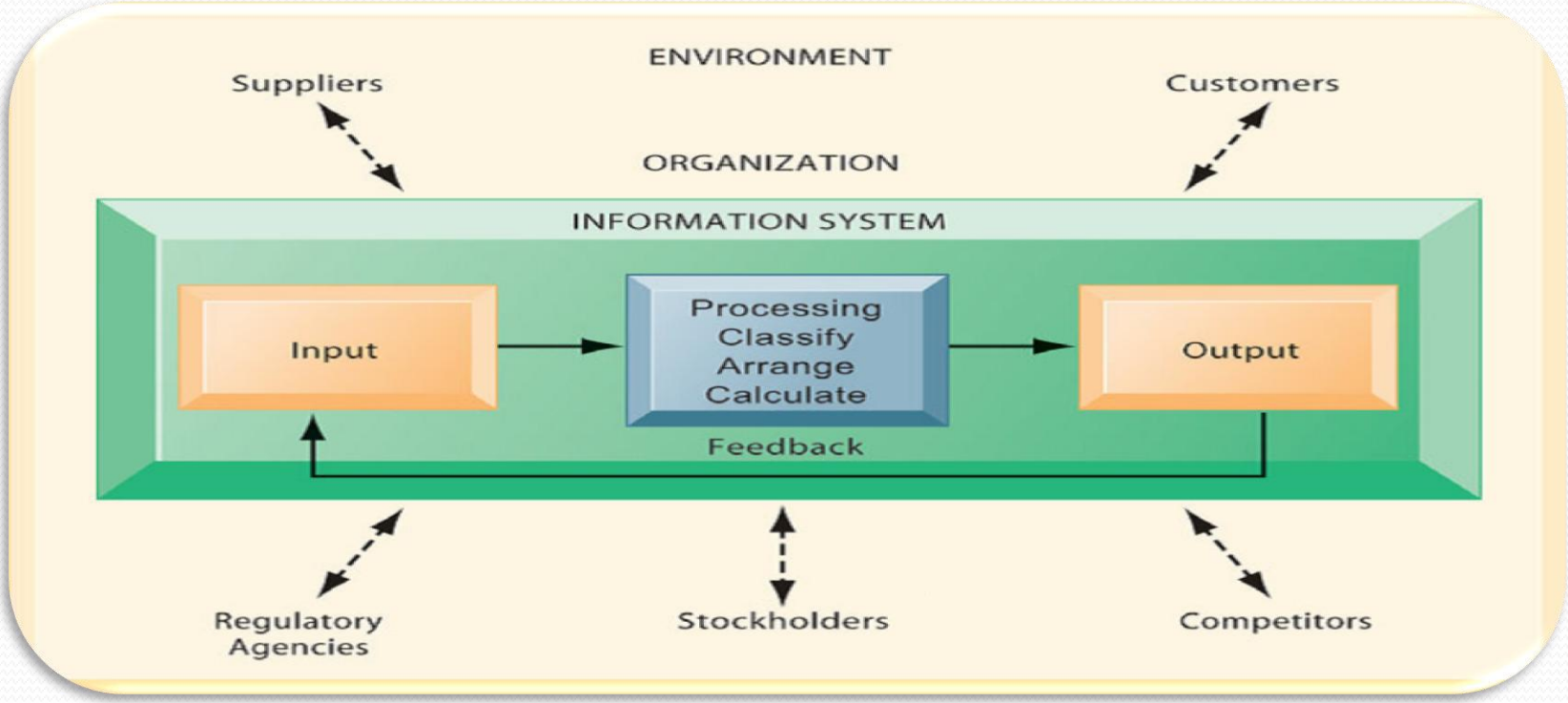
- Stage 1: Regular reports
- Stage 2: Different reports according to requirement
- Stage 3: Exception report
- Stage 4: Need based exception report
- Stage 5: Decision Making system

# Characteristics or features of MIS

- Support decision –making function in the organization
- Individualistic
- Interdisciplinary
- Systems approach
- Subsystems
- Dynamic concept
- MIS model changes over a time

# Information System

An information system can be defined technically as a set of interrelated components that collect (or retrieve), process, store, and distribute information to support decision making and control in an organization.



# Components of Information System

- **Hardware** is a device such as a processor, monitor, keyboard or printer
- **Software** is a program or collection of programs that enable hardware to process data.
- **Database** is a collection of related files or tables containing data.
- **Network** is a connecting system (wired or wireless) that permits different computers to share resources.
- **Procedures** are the set of instructions about how to combine the above components in order to process information and generate the desired output.
- **People** are those individuals who use the hardware and software, interface with it, or use its output.

# Role of Information System in Business

- Information systems are a foundation for conducting business today.
- In many industries, survival and the ability to achieve strategic business goals are difficult without extensive use of information technology.
- Businesses today use information systems to achieve six major objectives:
  - operational excellence
  - new products, services, and business models
  - customer/supplier intimacy
  - improved decision making
  - competitive advantage and
  - day-to-day survival.

# Role of Information System in Business

- Operational excellence:
  - Improvement of efficiency to attain higher profitability
  - Information systems, technology an important tool in achieving greater efficiency and productivity

- New products, services, and business models:
  - Business model: describes how company produces, delivers, and sells product or service to create wealth
  - Information systems and technology a major enabling tool for new products, services, business models
    - Examples: Apple's iPod, iTunes, iPhone, iPad, Google's Android OS, and Netflix

# Role of Information System in Business

- Customer and supplier intimacy :
  - Serving customers well leads to customers returning, which raises revenues and profits

    Example: High-end hotels that use computers to track customer preferences and use to monitor and customize environment
  - Intimacy with suppliers allows them to provide vital inputs, which lowers costs

    Example: J.C.Penney's information system which links sales records to contract manufacturer

# Role of Information System in Business

- Improved decision making:
  - Without accurate information:
    - Managers must use forecasts, best guesses, luck
    - Leads to:
      - Overproduction, underproduction of goods and services
      - Misallocation of resources
      - Poor response times
    - Poor outcomes raise costs, lose customer

# Role of Information System in Business

- Competitive advantage:
  - Delivering better performance
  - Charging less for superior products
  - Responding to customers and suppliers in real time
  - Examples: Apple, Walmart, UPS

# Role of Information System in Business

- Survival:
  - Information technologies as necessity of business
  - May be:
    - Industry-level changes, e.g. Citibank's introduction of ATMs
    - Governmental regulations requiring record-keeping
      - Examples: Toxic Substances Control Act

# Role of Information System in Business

The Interdependence Between Organizations and Information Technology

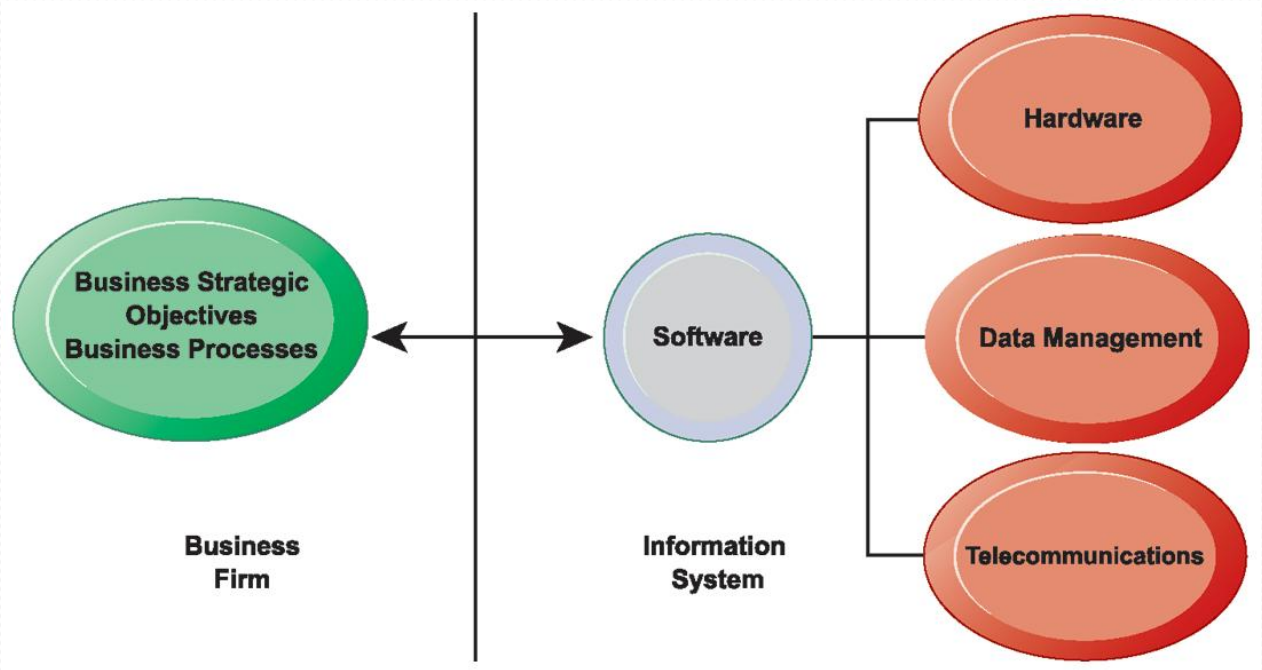



**Figure** In contemporary systems there is a growing interdependence between a firm's information systems and its business capabilities. Changes in strategy, rules, and business processes increasingly require changes in hardware, software, databases, and telecommunications. Often, what the organization would like to do depends on what its systems will permit it to do.

# Information Technology

- Information technology (IT) consists of all the hardware and software that a firm needs to use in order to achieve its business objectives.

- This includes not only computer machines, storage devices, and handheld mobile devices, but also software, such as the Windows or Linux operating systems and the many thousands of computer programs.

# Perspectives on Information Systems

- Information Systems Are More Than Computers
- Understanding the interaction between these factors and information systems is known as information system literacy.

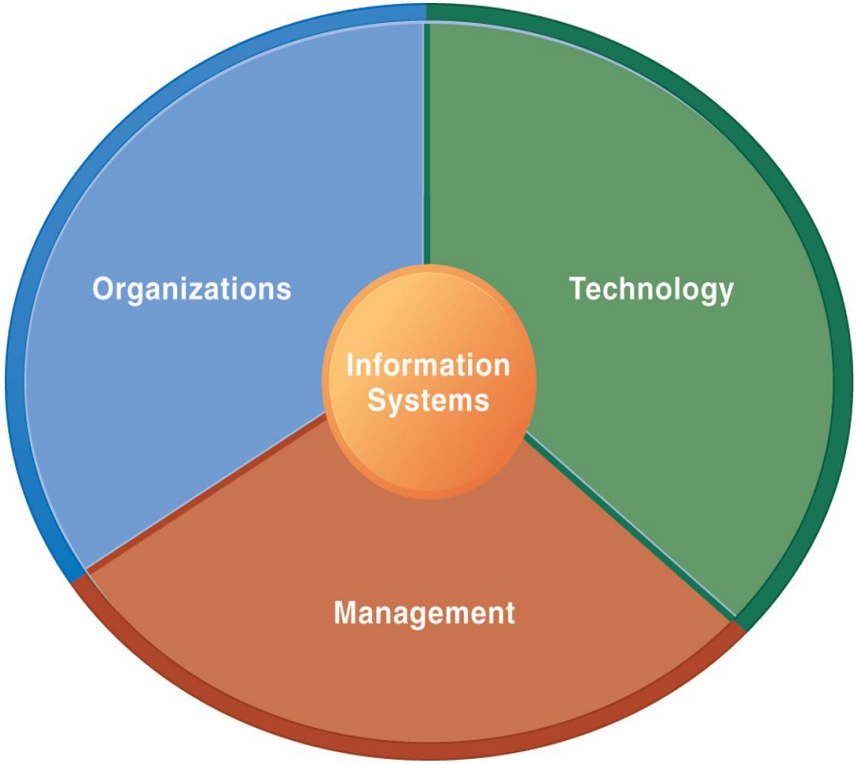



**Figure:** Using information systems effectively requires an understanding of the organization, management, and information technology shaping the systems. An information system creates value for the firm as an organizational and management solution to challenges posed by the environment.

# Contemporary Approaches to Information Systems

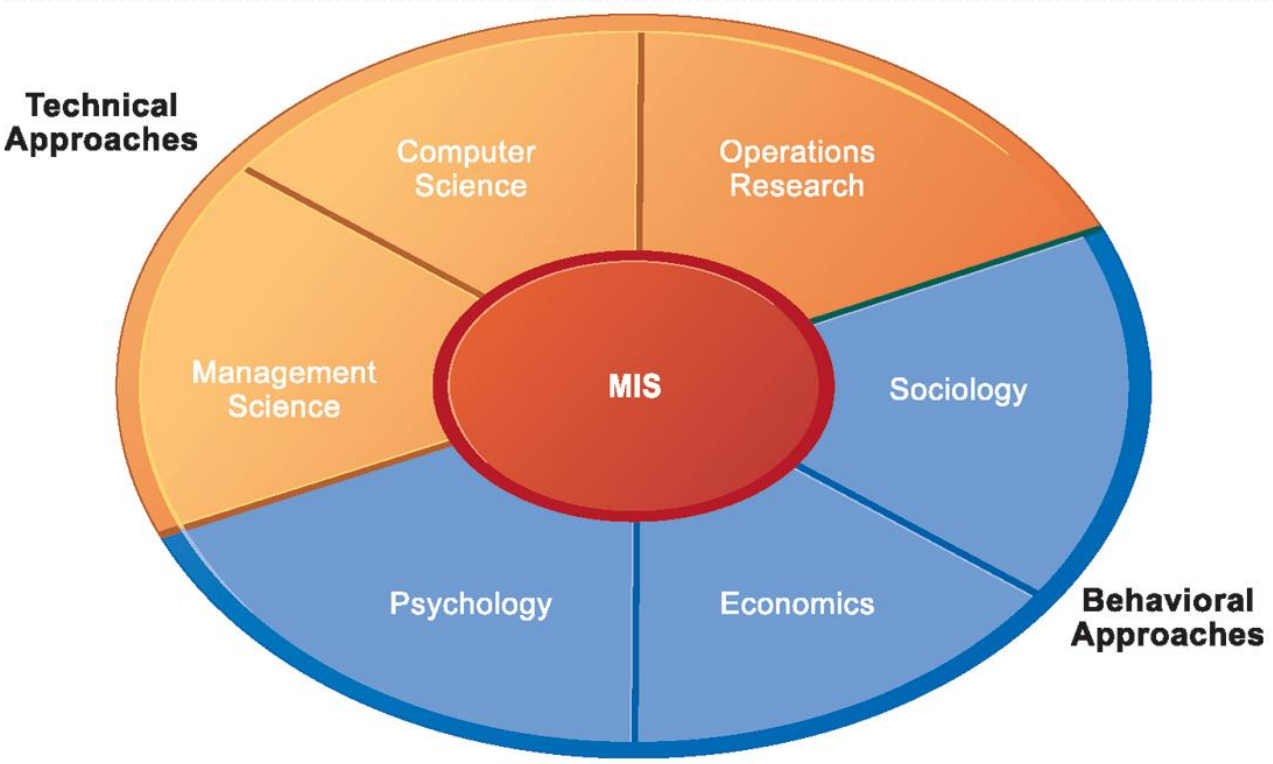



**Figure:** The study of information systems deals with issues and insights contributed from technical and behavioral disciplines.

# Contemporary Approaches to Information Systems

- Technical approach
  - Emphasizes mathematically based models
  - Computer science, management science, operations research
- Behavioral approach
  - Behavioral issues (strategic business integration, implementation, etc.)
  - Psychology, economics, sociology

# Contemporary Approaches to Information Systems

- Management Information Systems
  - Combines computer science, management science, operations research and practical orientation with behavioral issues
- Four main actors
  - Suppliers of hardware and software
  - Business firms
  - Managers and employees
  - Firm's environment (legal, social, cultural context)

# Major Enterprise Applications

- Enterprise applications are specifically designed for the sole purpose of promoting the needs and objectives of the organizations.

- These applications provide business-oriented tools supporting electronic commerce, enterprise communication and collaboration and web-enabled business processes both within a networked enterprise and with its customers and business partners. Most commonly used enterprise applications are:

1) Enterprise Resource Planning (ERP)
2) Customer Relationship Management (CRM)
3) Decision Support System (DSS)
4) Business Intelligence System (BIS)
5) Supply Chain Management (SCM)

# Enterprise Resource Planning (ERP)

- Enterprise resource planning - often called ERP, ERP system, or ERP software - can be defined as a system that helps organizations manage their financials, supply chain, manufacturing, operations, reporting, and human resources.

- Most ERP systems can be deployed on-premises or in the cloud, to improve and automate the core parts of your business.

# Customer Relationship Management (CRM)

- Firms use customer relationship management (CRM) systems to maintain their relationships with their customers.
- CRM systems provide information to coordinate all of the business processes that deal with customers in sales, marketing, and service to optimize revenue, customer satisfaction, and customer retention.
- This information helps firms identify, attract, and retain the most profitable customers; provide better service to existing customers and increase sales.

# Decision Support System (DSS)

- Decision support systems are interactive software-based systems intended to help managers in decision making by accessing large volume of information generated from various related information systems involved in organizational business processes, like, office automation system, transaction processing system etc.

- DSS uses the summary information, exceptions, patterns and trends using the analytical models.

- Decision Support System helps in decision making but does not always give a decision itself.

- The decision makers compile useful information from raw data, documents, personal knowledge, and/or business models to identify and solve problems

# Business Intelligence System (BIS)

- Business Intelligence System is a contemporary term for data and software tools for organizing, analyzing, and providing access to data to help managers and other enterprise users make more informed decisions.
- The goal of BIS is to allow for the easy interpretation of the large volumes of data.
- Identifying new opportunities and implementing an effective strategy based on insights can provide businesses with a competitive market advantage and long-term stability.

# Supply Chain Management (SCM)

- Supply chain management (SCM) systems help to manage relationships with their suppliers.
- These systems help suppliers, purchasing firms, distributors, and logistics companies to share information about orders, production, inventory levels, and delivery of products and services so that they can source, produce, and deliver goods and services efficiently.
- The ultimate objective is to get the right amount of their products from their source to their point of consumption in the least amount of time and at the lowest cost.
- These systems increase firm profitability by lowering the costs of moving and making products and by enabling managers to make better decisions about how to organize and schedule sourcing, production, and distribution

# Who is manager?

A Manager is the person responsible for planning and directing the work of a group of individuals, monitoring their work and taking corrective action when necessary.

# Qualities of an Excellent Manager

- **Creativity**
- **Communication**
- **Structured**
- **Intuition**
- **Knowledge**
- **Commitment**
- **Being Human**
- **Versatility**
- **Lightness**
- **Discipline/Focus**
- **Big Picture, Small Actions**

# Managers in MIS

- **Chief information officer (CIOs)** - Responsible for the overall technology strategy of their organizations.
- **Chief technology officer (CTOs)** - Responsible for evaluating how new technology can help their organization. They usually recommend technological solutions to support the policies issued by the CIO.
- **IT directors** - IT directors including MIS directors are in charge of both their organization's Information technology departments and the supervision of thereof.
- **IT security managers** - IT Security Managers oversee the network and security data as the title implies

# Exercise

1. Define MIS with it's purpose.
2. Define the word management with it's basic functions.
3. Explain the responsibilities of different levels of managers with example.
4. "Information is Lifeblood of management" explain the concept.
5. Define Data and Information.
6. Explain the concept of System with it's classification and example.

# Exercise (cont…)

7. What are the characteristics or features of MIS?
8. Define Information System with it's components.
9. "Information systems are a foundation for conducting business today" – explain the concept.
10. Define Information Technology.
11. Explain the concept of contemporary approaches to Information Systems.
12. Write short note on: ERP,CRM, DSS, BIS, SCM
13. Who is manager? What are the qualities of an excellent manager

# Thank You