UNIT-1

MANAGEMENT INFORMATION SYSTEM

CONTENT:

MIS importance, definition, nature and scope of MIS, Structure and Classification of MIS, Information and Systems Concept, Types of Information, Information systems for competitive advantage.

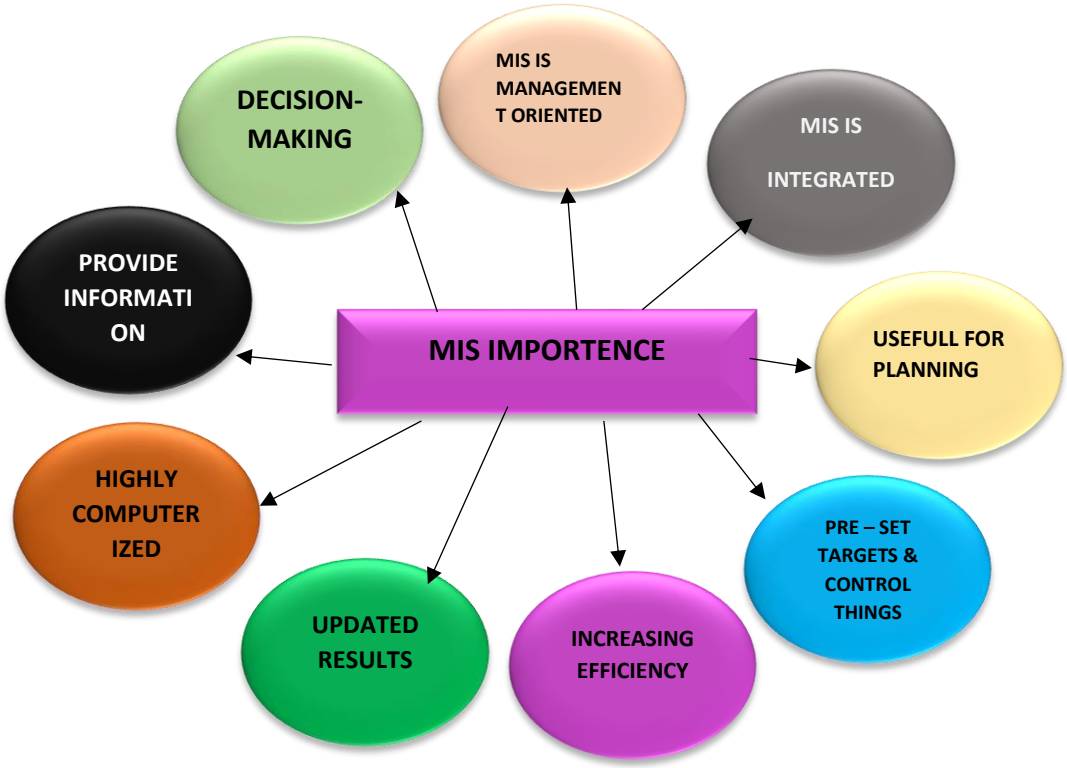
Definition:

MIS is a system consisting of people, machines, procedures, data bases and data models, and its elements.
System gathers data from internal & external sources of an organization.
Process it, supplies it to assist manager in decision making

IMPORTENCE OF MIS:

Management Information System is formal method of collecting information in summarized.

Timely & Reliable information is essential for taking Relational Decisions in managerial functions.



- **Process it, supplies it to assist manager in decision making**
  1.Taking Quick Decisions
  2.Processing a large voluminous data

DEFINITION OF MIS:

Management Information System (MIS) refers to the processing of information through computers and other intelligent devices to manage and support managerial decisions an organization.

Management Information System, commonly referred to as MIS is a phrase consisting of three words: Management, Information and Systems.

MANAGEMENT:

Koontz, 1972 "Management is the art of getting things done through and with the people in formally organized groups."

MANAGERIAL FUNCTIONS:

Planning, Organizing, Staffing, Directing, Controlling, Co-ordinating, Reporting & Budgeting

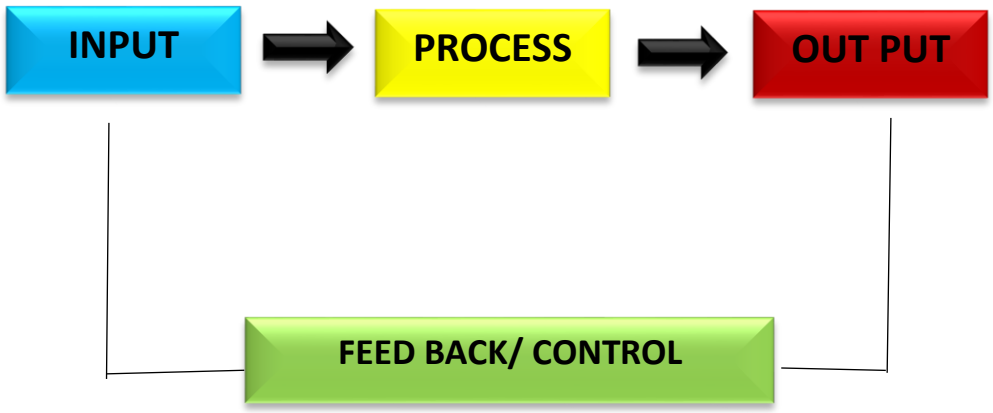
INFORMATION:

Information is data that is processed and is presented in a form that assists decision makers.

SYSTEM:

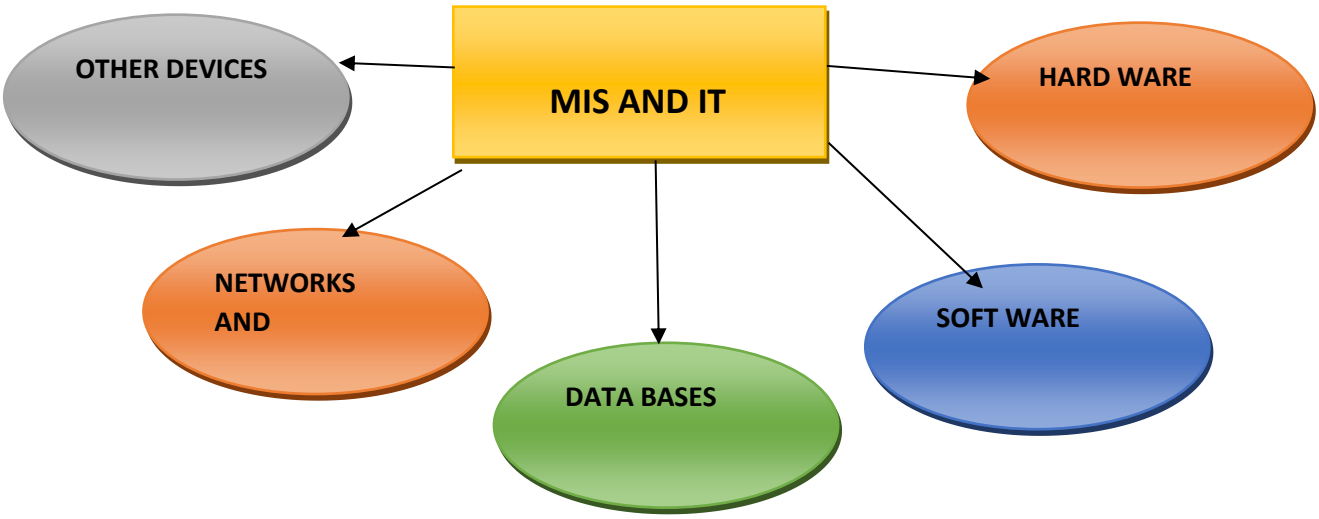
A system is a set of interrelated and interdependent element which are joined together to achieve a common objective.

ELEMENTS OF A SYSTEM:



MIS AND IT:

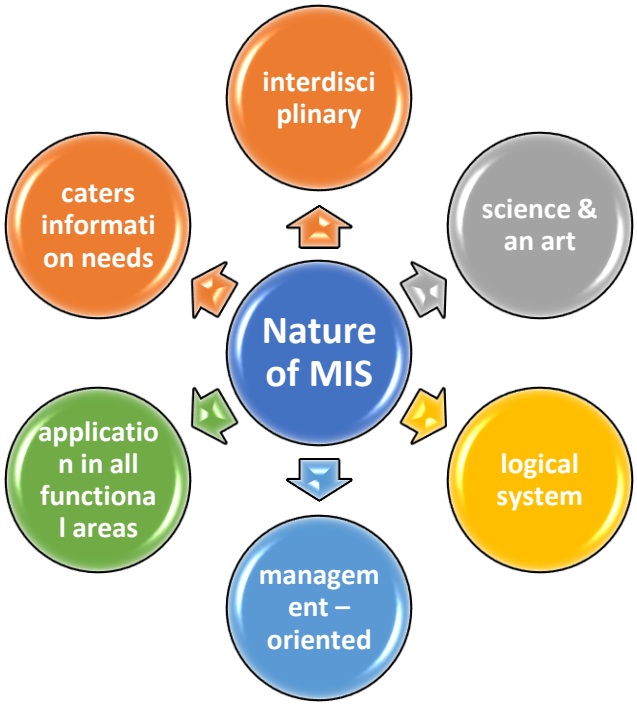
IT is referred to the technological side of an information system, includes.



- **Hardware**
- **Software**
- **Databases**
- **Networks and**
- **Other devices**

NATURE AND SCOPE OF MIS:

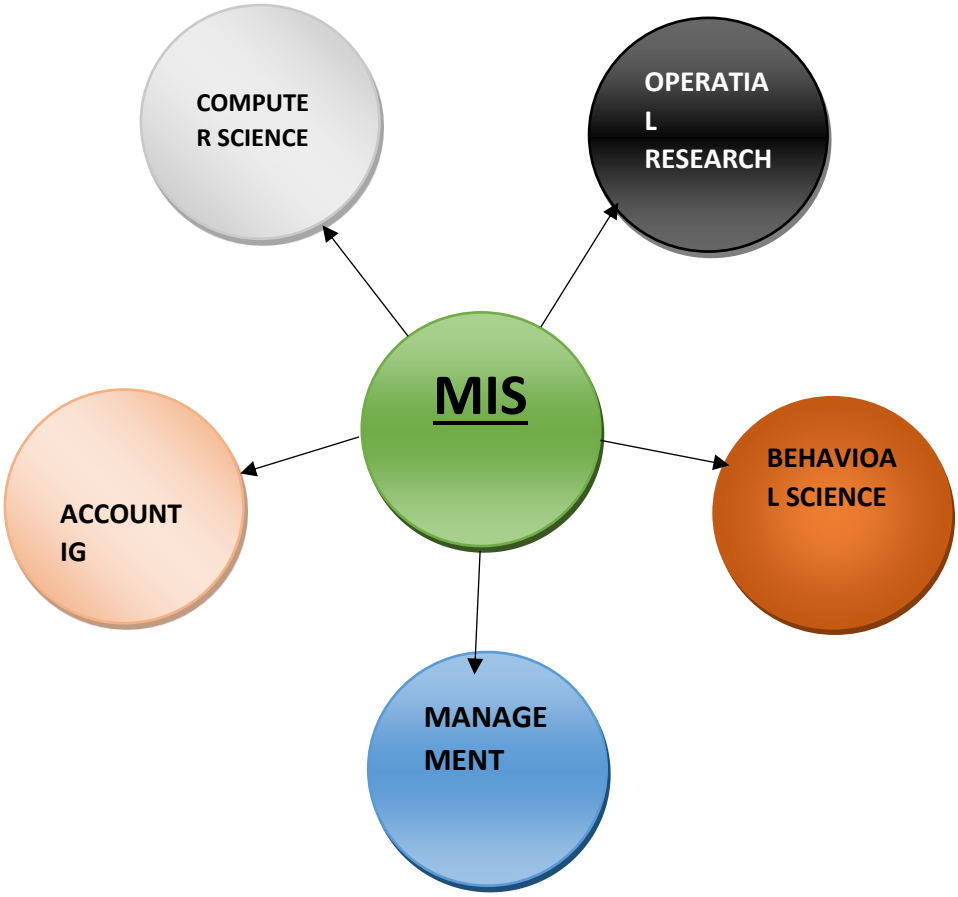
The concept of MIS is interdisciplinary in nature, i.e. it has borrowed its concepts from a large number of disciplines like Accounting, Computers, Organizations, Mnagement, Operations Research and Behavioural Seciences, etc .



NATURE OF MIS:

- **Inter disciplinary**
- **Science and art**
- **Logical system**
- **Management oriented**
- **Applications in all functional areas**
- **Caters information needs**

SCOPE OF MIS:

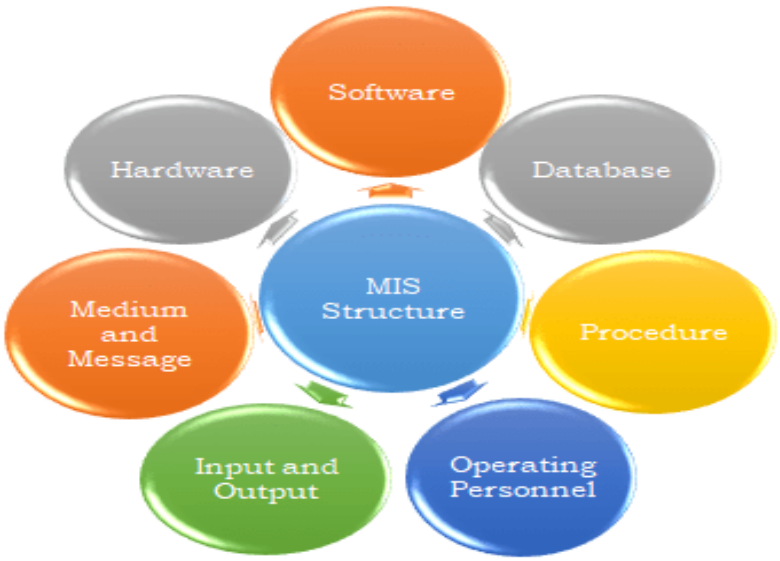


- MIS is neither a pure science nor an art. It is recognized as a combination of both.
- An information system is a logical system.
- MIS is more management – oriented or computer – oriented, there are advocates of both sides.

MIS CHARACTERISTICS:

- ✓ System approach (holistic/ comprehensive view)
- ✓ Management oriented (Top- down approach)
- ✓ Need based (information needs at all levels)
- ✓ Exception Based (abnormal situation min, mix etc.,
- ✓ Future oriented
- ✓ Integrated
- ✓ Common Data Flows
- ✓ Long term planning
- ✓ Sub system concept
- ✓ Central data base

MIS STRUCTURE BASED:



- **Hardware**
- **Software**
- **Data base**
- **Procedures**
- **Operating Personnel**
- **Input & Output**

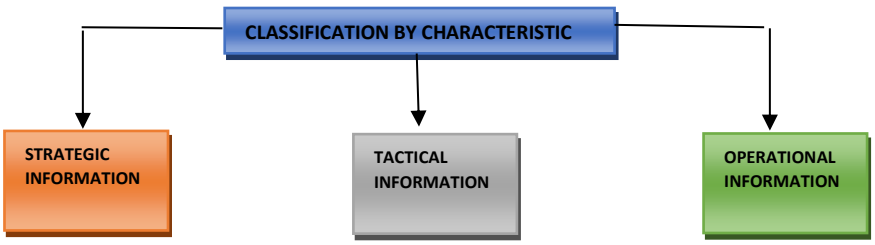
MIS – CLASSIFICATION OF INFORMATION:

Information can be classified in number of ways:

1. **Classification by characteristic**
2. **Classification by Application**

1.CLASSIFICATION BY CHARACTERISTIC:

- ✓ **Strategic Information**
- ✓ **Tactical Information**
- ✓ **Operational Information**

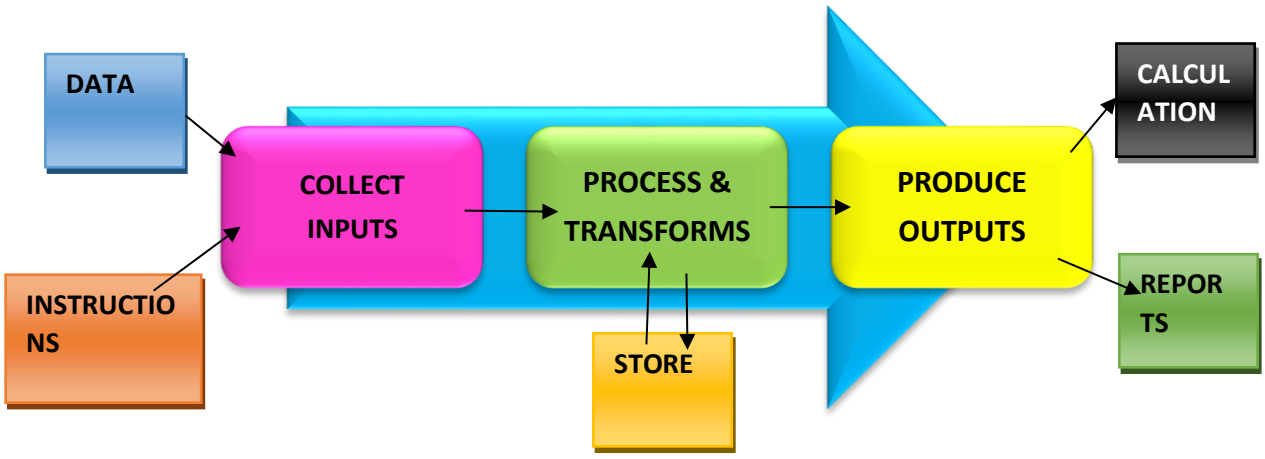


2.CLASSIFICATION BY APPLICATION:

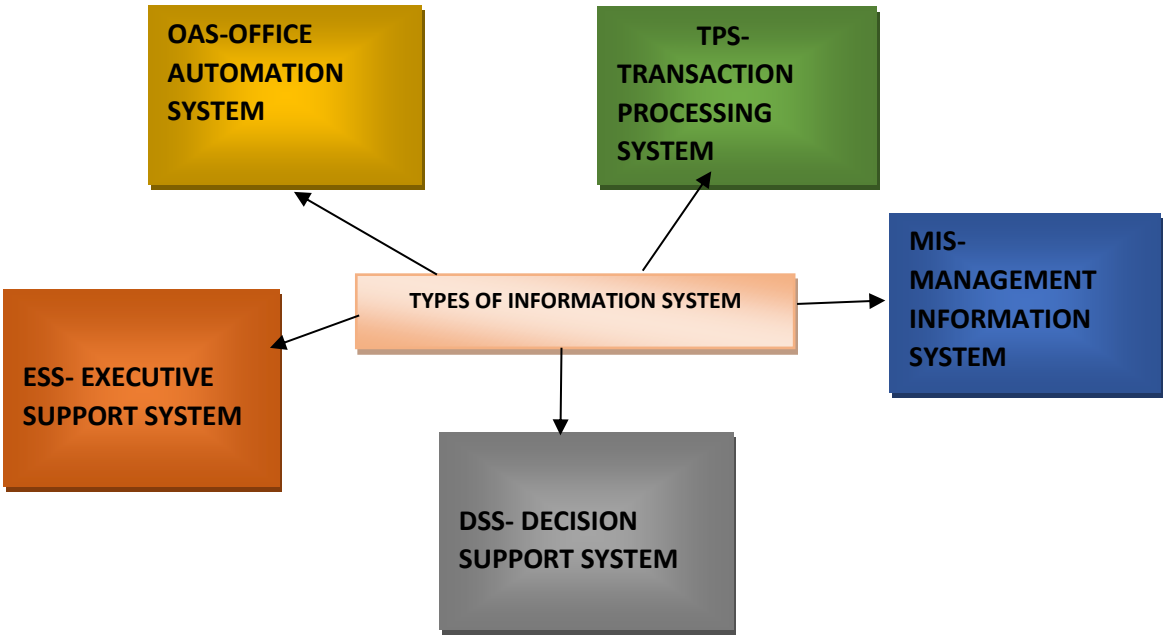
- ✓ Planning Information
- ✓ Control Information
- ✓ Knowledge Information
- ✓ Organizational Information
- ✓ Functional/Operational Information
- ✓ Database Information

INFORMATION SYSTEM CONCEPT:

An information system (IS) is an organized system for the collection, organizing, storage and communication of information. More specifically, it is the study of complementary networks that people and organizations use to collect, filters, and process, create and distribute data.



TYPES OF INFORMATION SYSTEMS:



1. TPS Transaction Processing System
2. MIS Management Information System
3. DSS Decision Support System
4. ESS Executive Support System
5. OAS-Office Automation System.

PYRAMID DIAGRAM OF ORGANIZATIONAL LEVELS AND INFORMATION REQUIREMENTS:

Understanding the various levels of an organization is essential to understand the information required by the users who operate at their respective levels.

1.Operational Management Level

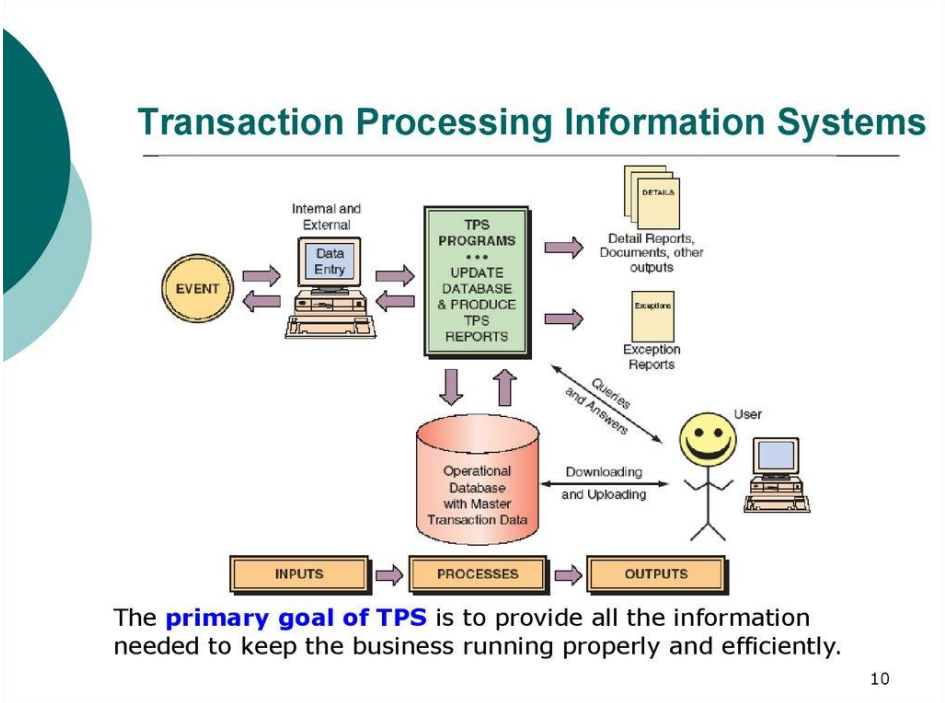
2.Tactical Management Level

3.Strategic Management Level

TRANSACTION PROCESSING SYSTEM(TPS):

Transaction processing systems are used to record day to day business transactions of the organization. They are used by users at the operational management level. The main objectives of a transaction processing system to answer routine questions such as

TRANSACTION SYSTEM INCLUDES:



- **Point of Sales systems- records daily sales**
- **Payroll systems-processing employees salary, loans management, etc.**
- **Stock Control systems-keeping track of inventory levels**
- **Airline booking systems-flights booking management**

MANAGEMENT INFORMATION SYSTEM:

information system (MIS) are used by tactical managers to monitor the organization's current performance status. The output from a transaction processing system is used as input to a management information system.

EXAMPLES O

DECISION SUPPORT SYSTEM (DSS):

Decision support system are used by senior management to make non-routine decisions. Decision support systems use input from internal systems (Transaction processing systems and Management information systems) and external systems.

EXAMPLES OF DECISION SUPPORT SYSTEM:

- **Financial planning systems**
- **Bank loan management systems**

ARTIFICIAL INTELLIGENCE TECHNIQUES IN BUSINESS:

Artificial intelligence systems mimic human expertise to identify patterns in large data sets. Companies such amazon, Facebook, and Google, etc. use Artificial intelligence techniques to identify data that is most relevant to you.

ONLINE ANALYTICAL PROCESSING (OLAP):

Online analytical processing (OLAP) is used to query and analyze multi-dimensional data and produce information that can be viewed in different ways using multiple dimensions.

INFORMATION SYSTEMS FOR COMPETITIVE ADVANTAGES:

- **In management Information Systems by Effy Oz (2008), there are eight ways to gain competitive advantage**
- **Reducing cost, rising barriers to market entrants, establishing high switching costs, creating new products or services, differentiating products or services, enhancing products or services, establishing alliances.**
- **According to the authors W.R. King, V.Grove, and E.H. Hufnagel (1989), information technology is used as a strategic tool for companies to increase their competitive advantage at a time when uncertainty is growing.**
- **Modification, differentiation or charges that make the company stand out with its products and services or weaken competition and reduce the competitive advtg.**
- **Adopting and adjusting supply costing costs, reducing consumer spending and increasing competitive expenses;**
- **Company being introduced innovative products or services that results in changes in the way business is passed then in the industry.**
- **Improving growth and development by increasing volume, expending geographically and being harmonized with suppliers and customers:**
- **Forms of mergers and alliances through various agreements in marketing etc.**

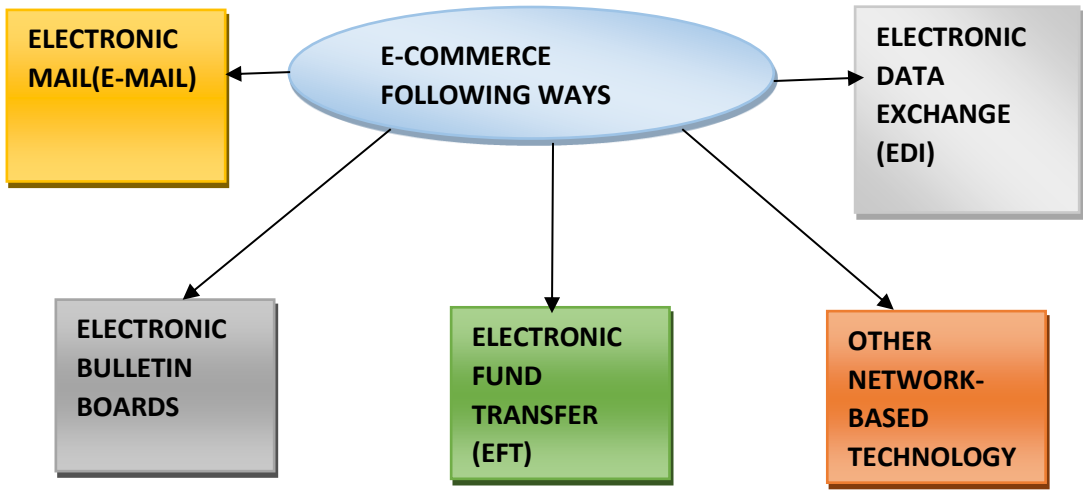
UNIT-2

BUSINESS APPLICATIONS OF INFORMATION SYSTEMS

E-COMMERCE: E-Commerce features & Business Models

- **Decision Support Systems**
- **Business Process Reengineering**
- **Business Intelligence and Knowledge Management System.**

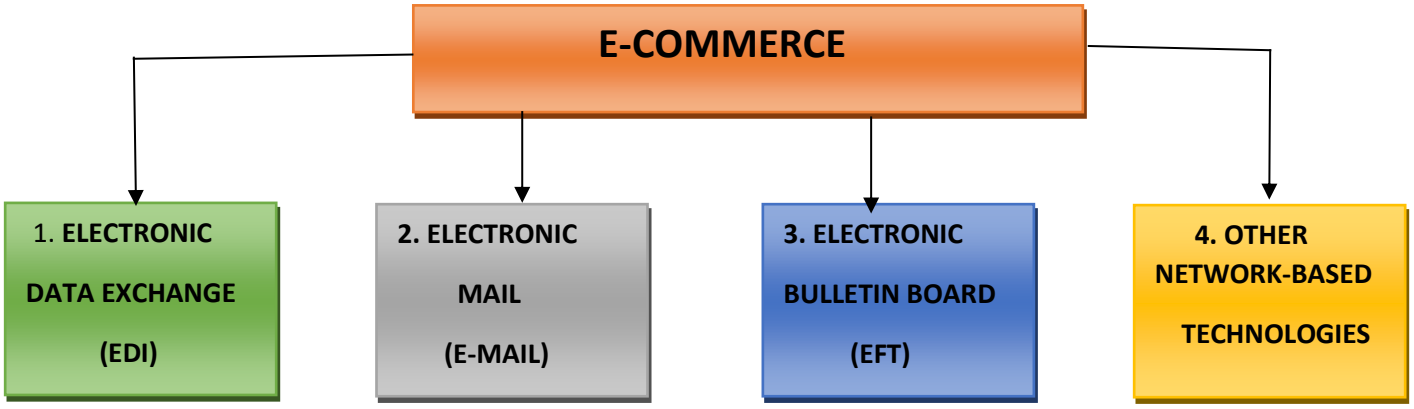
ECOMMERCE REFERS TO THE PAPERLESS EXCHANGE OF BUSINESS INFORMATION USING THE FOLLOWING WAYS :-



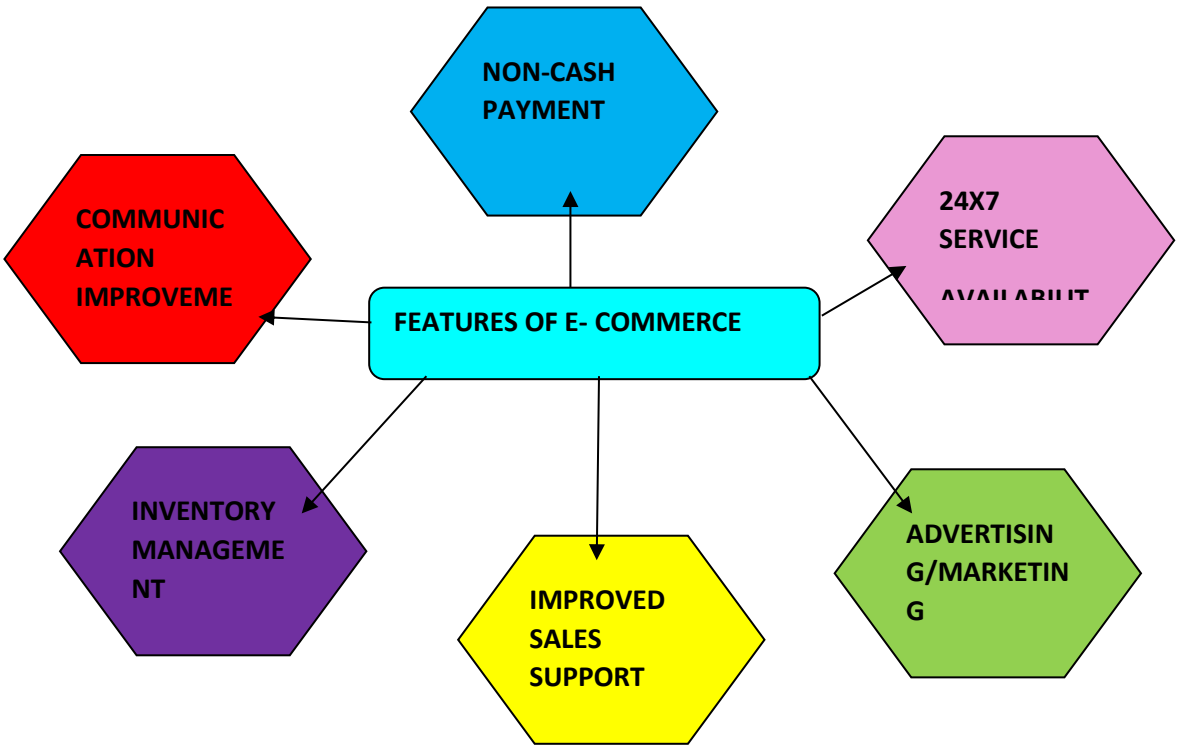
E-COMMERCE:

E-commerce or Electronics Commerce is a Methodology of modern business, which addresses the requirements of business organizations. It can be broadly defined as the process of buying or selling of goods or services using an electronic medium such as the Internet.

E-Commerce refers to the paperless exchange of business information using the following Ways-



FEATURES OF E-COMMERCE:

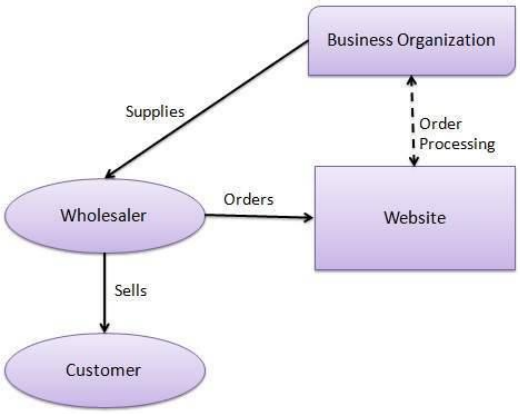


1. Non-Cash Payment
2. 24x7 Service availability
3. Advertising / marketing
4. Improved Sales Support
5. Inventory Management
6. Communication improvement

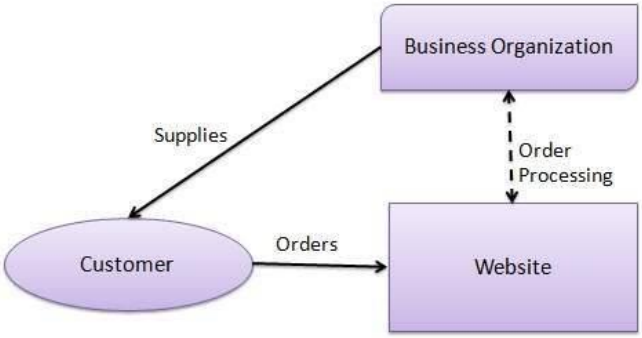
E-COMMERCE Business Models Can generally be categorized into to following categories.

- Business – To – Business (B2B)
- Business – To – Consumer (B2C)
- Consumer – To- Consumer (C2C)
- Consumer – To – Business (C2B)
- Business – To – Government (B2G)
- Government – To – Business (G2B)
- Government – To – Citizen (G2C)

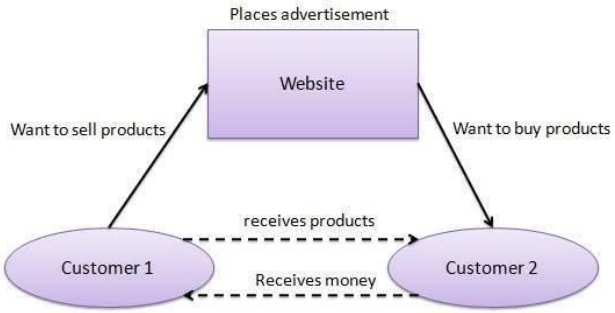
BUSINESS – TO – BUSINESS (B2B):



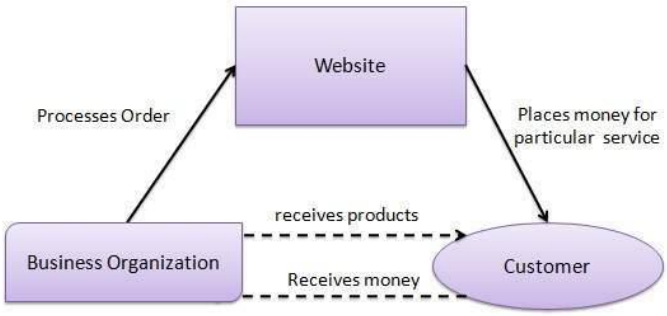
BUSINESS – TO CONSUMER:



CONSUMER – TO – CONSUMER:

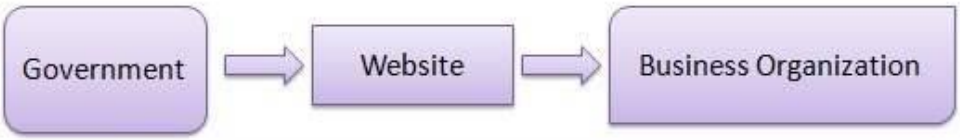


CONSUMER – TO – BUSINESS:



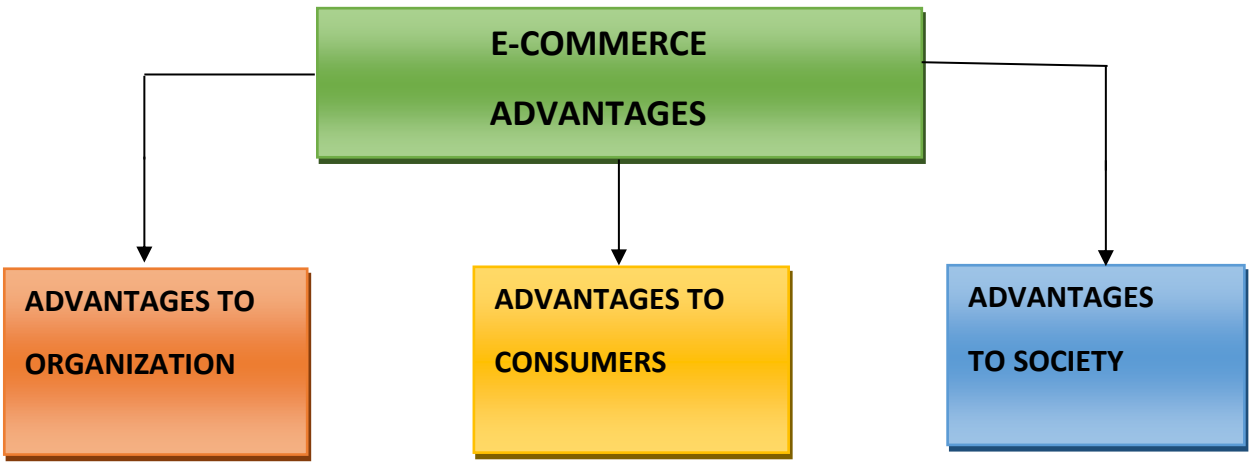
BUSINESS – TO – GOVERNMENT:

GOVERNMENT – TO – BUSINESS:

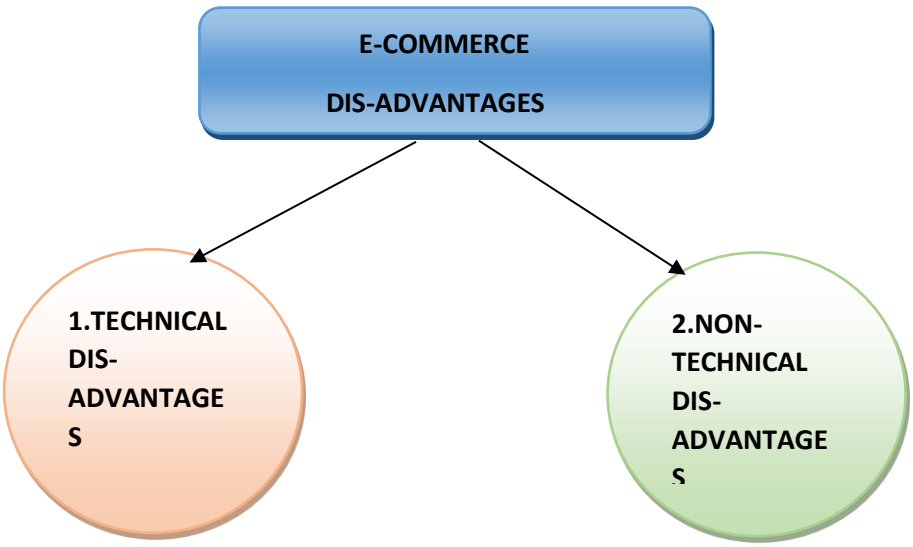


GOVERNMENT – TO – CITIZEN:

E-COMMERCE ADVANTAGES CAN BE BROADLY CLASSIFIED IN THREE MAJOR CATEGORIES-

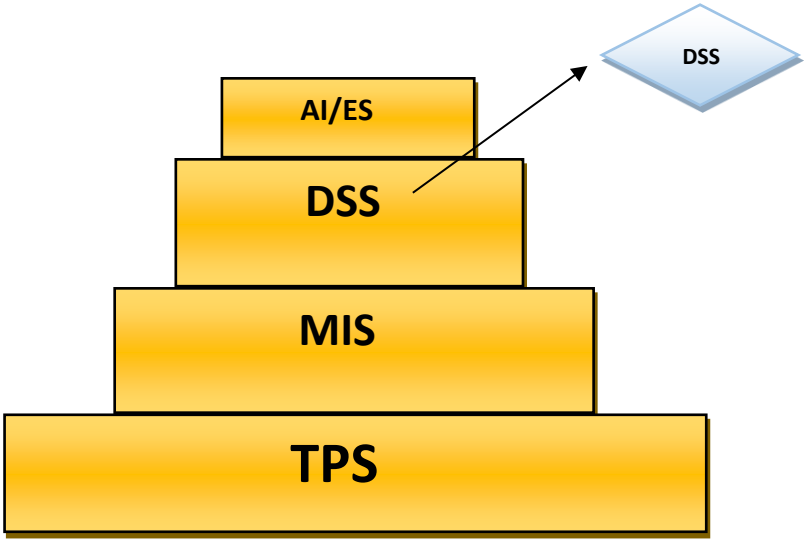


THE DIS- ADVANTAGES OF E-COMMERCE CAN BE BROADLY CLASSIFIED INTO TWO MAJOR CATEGORIES-



DECISION SUPPORT SYSTEM (DSS)-

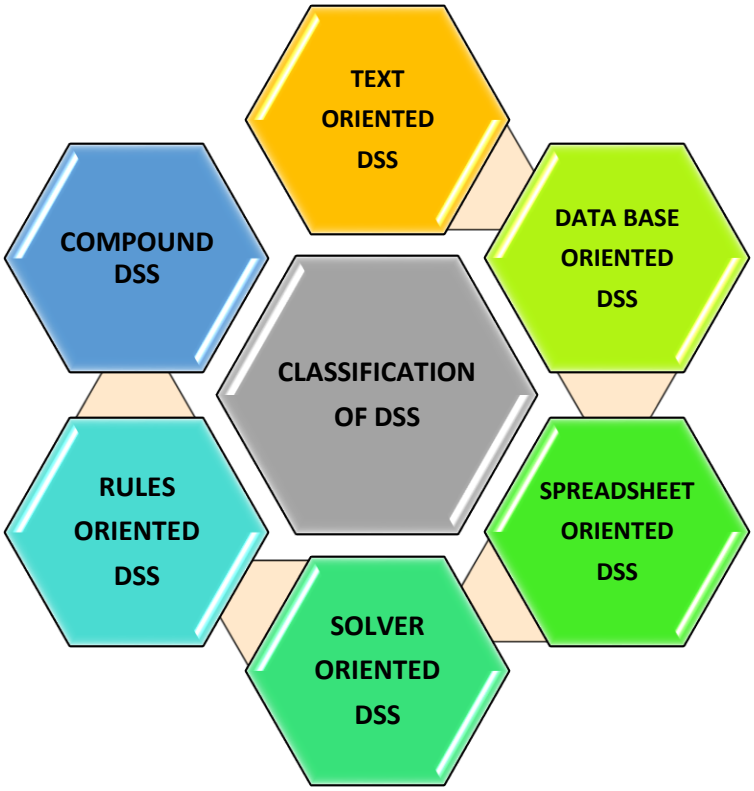
- **A DSS is an organized collection of people, procedures, software, databases, and devices used to support problem- specific decision making.**
- **EXAMPLES:**
  - **How will a labor strike affect our production schedule?**
  - **What are the potential affects of cap- and- trade on our profits?**
  - **Should we introduce a new line of clothing?**



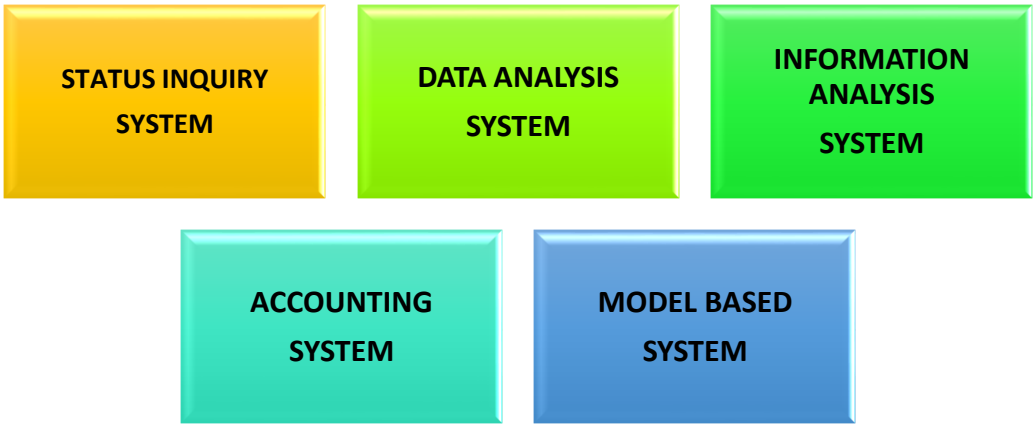
CHARACTERISTICS OF DSS-

- ✓ Support for decision-makers in semi-structured and unstructured problems.
- ✓ Support for managers at various managerial levels, ranging from top executive to line managers.
- ✓ Support for individuals and groups. Less structured problems often requires the involvement of several individuals from different departments and organizational level.
- ✓ Support for interdependent or sequential decisions.
- ✓ Support for intelligence, design, choice, and implementation.
- ✓ Support for variety of decision processes and styles.
- ✓ DSS are adaptive over time.

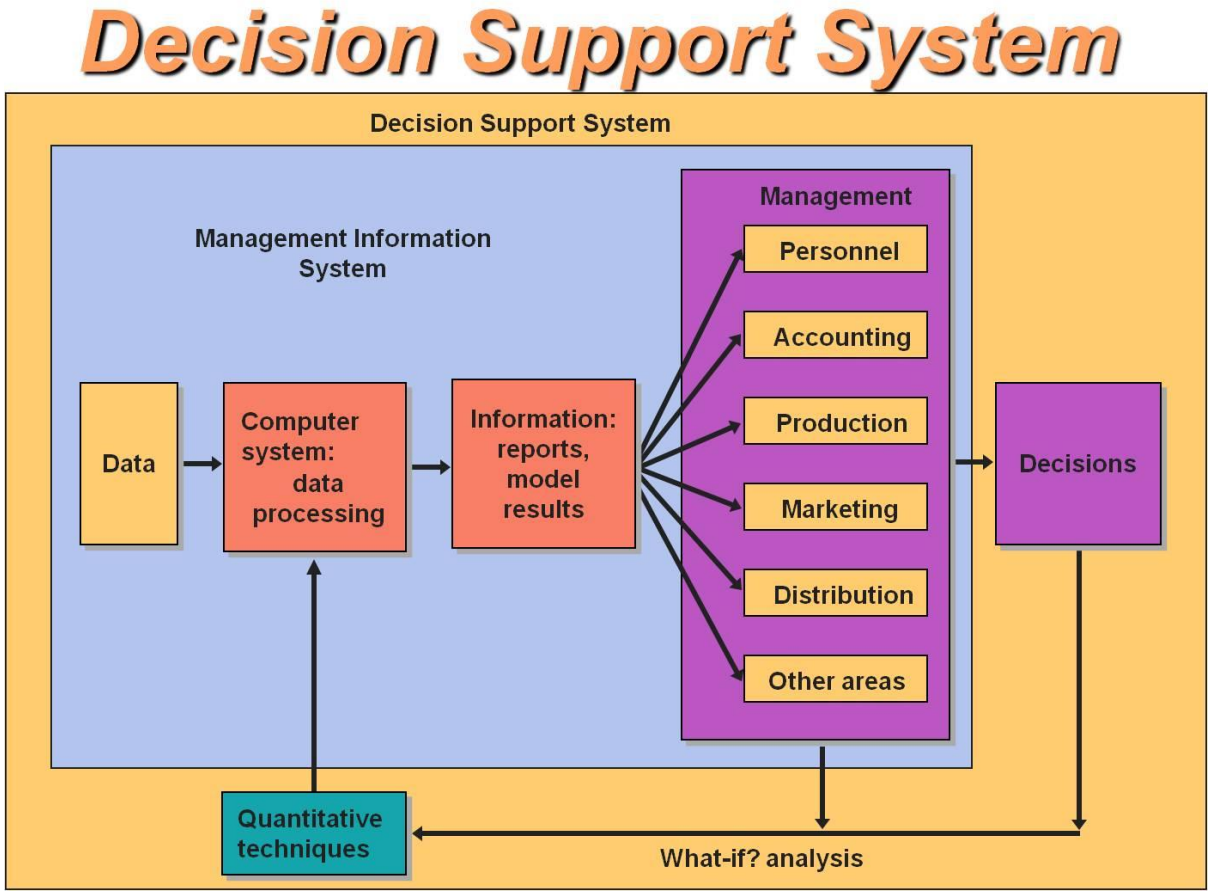
CLASSSOFOCATION OF DSS-



TYPES OF DSS-



MODEL OF DECISION SUPPORT SYSTEM-



BUSINESS INTELLIGENCE SYSTEM:

- **The term 'Business Intelligence' has evolved from the decision support systems and gained strength with the technology and applications like data warehouses, Executive information systems and Online Analytical Processing (OLAP)**

- **Business Intelligence system is basically a system is basically a system used for finding patterns from existing data from operations.**

CHARACTERISTICS OF BIS-

- **It is created by procuring data and information for use in decision-making**
- **It is a combination of skills, processes, technologies, applications and practices.**
- **It contains background data along with the reporting tools.**
- **It is a combination of a set of concepts and methods strengthened by fact-based support systems.**
- **It is an extension of extension of executive support system or executive information system.**
- **It collects, integrates, stores, analyzes, and provides access to business information**
- **It is an environment in which business users get reliable, secure, consistent, comprehensible, easily manipulated and timely information.**
- **It provides business insights that lead to better, faster, more relevant decisions.**

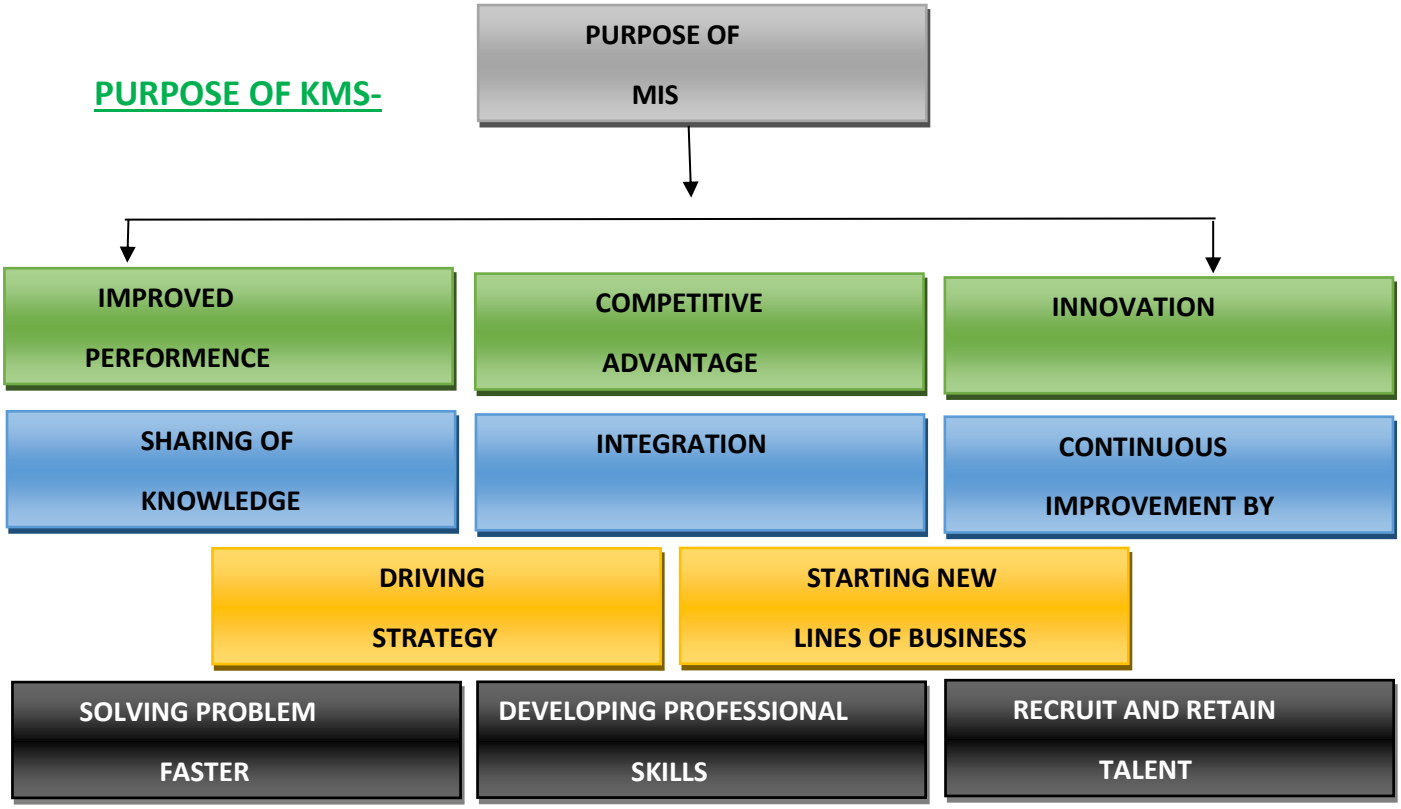
BENEFITS OF BIS-

- **Improved management processes.**
- **Planning, controlling, measuring, and / applying changes that results in increased revenues and reduced costs.**
- **Improved business operations.**
- **Fraud detection, order processing, purchases that results in increased revenue and reduced costs.**
- **Intelligence prediction of future.**

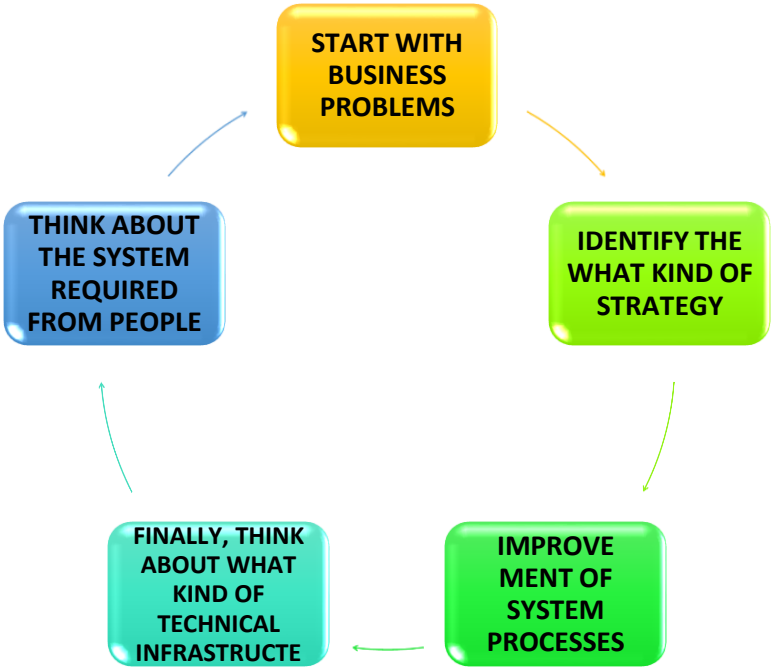
KNOWLEDGE MANAGEMENT SYSTEM:

- **A knowledge management system comprises a range of practices used in an organization to identify, create, represent, distribute, and enable adoption to insight and experience. Such insights and experience comprise knowledge, either embodied in individual or embedded in organizational processes and practices.**

PURPOSE OF KMS-



ACTIVITIES IN KNOWLEDGE MANAGEMENT-

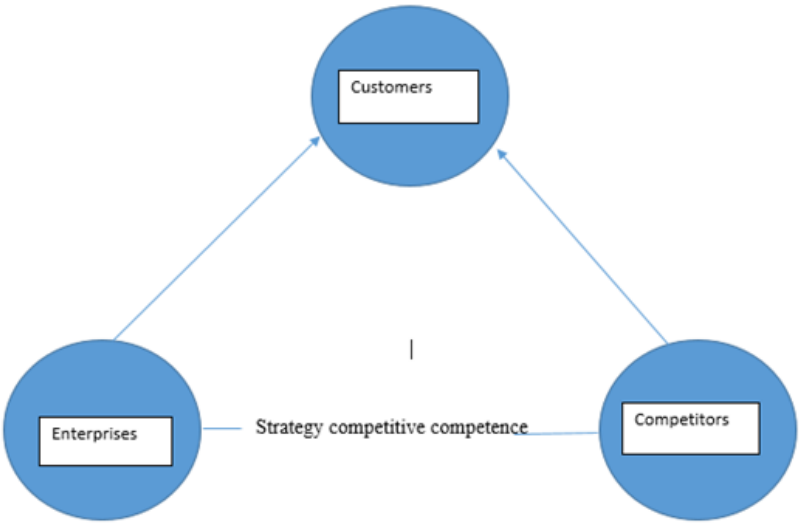


UNIT-3

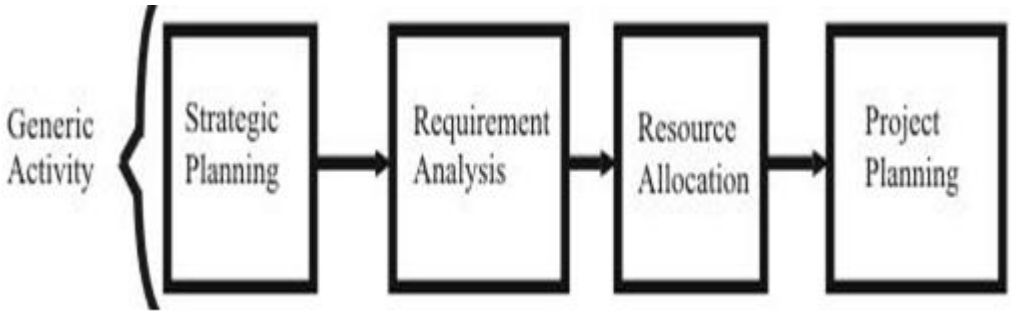
MANAGEMENT OF INFORMATION RESOURCES

INFORMATION SYSTEM PLANNING –

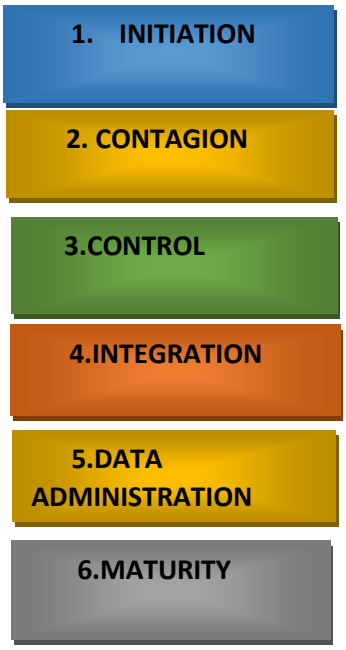
- **Planning is vital to success**
- **Organization that plans there IS rend to achieve better results than organizations that do not.**
- **Organizations that do not plan do it unsystematically.**
- **The IS plan is comprehensive one which is derived from the organizational strategic plan.**

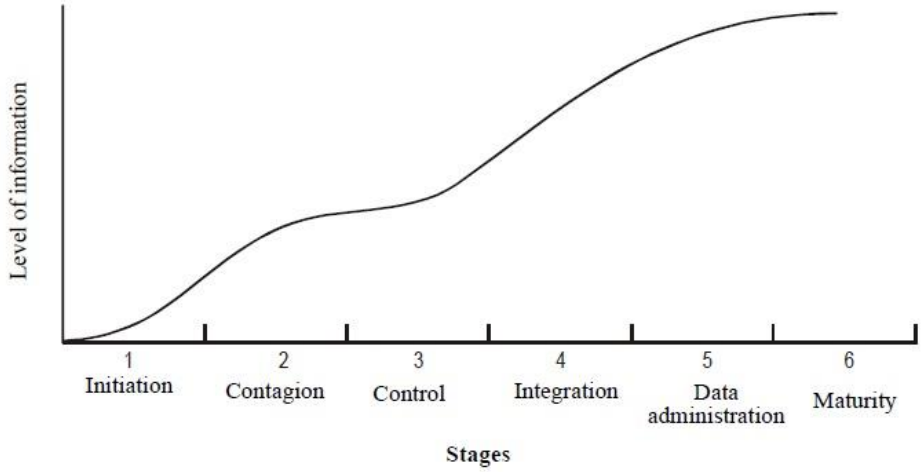


STAGE MODEL OF INFORMATION SYSTEM PLANNING:

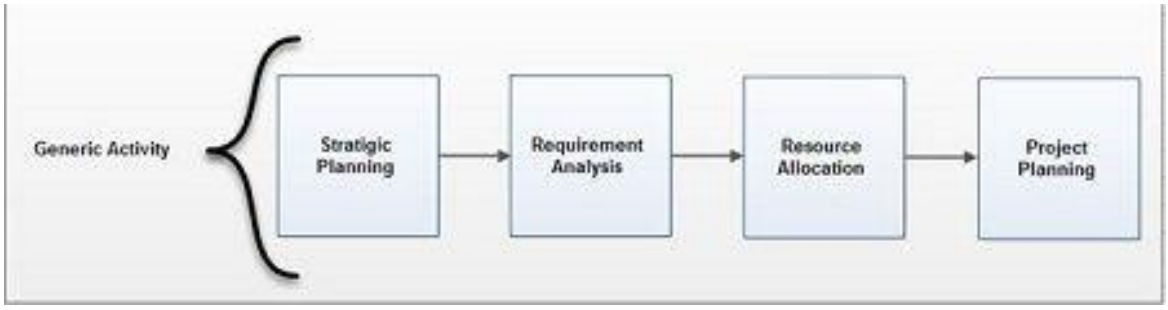


NOLAN STAGE MODEL-



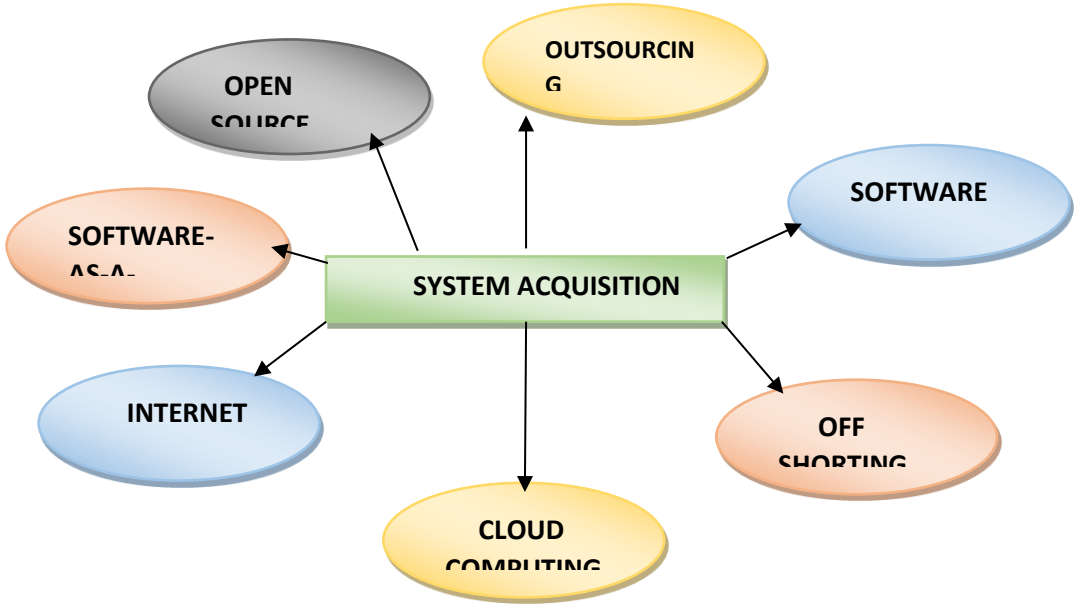


THE FOUR – STATGE MODEL OF IS PLANNING-

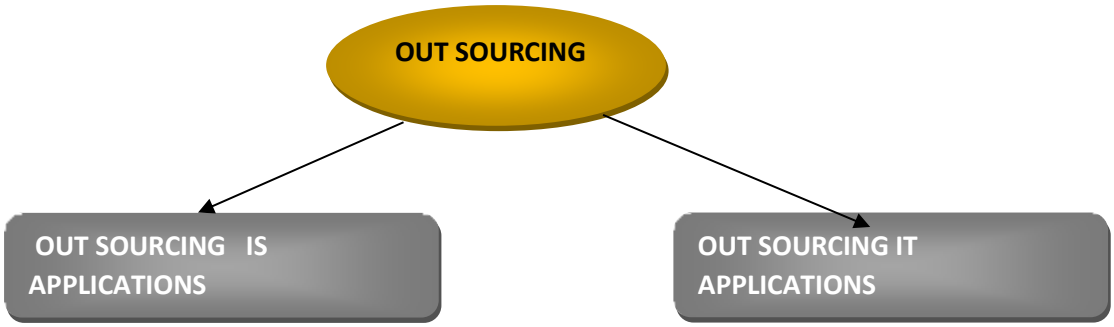


SYSTEM ACQUISITION-

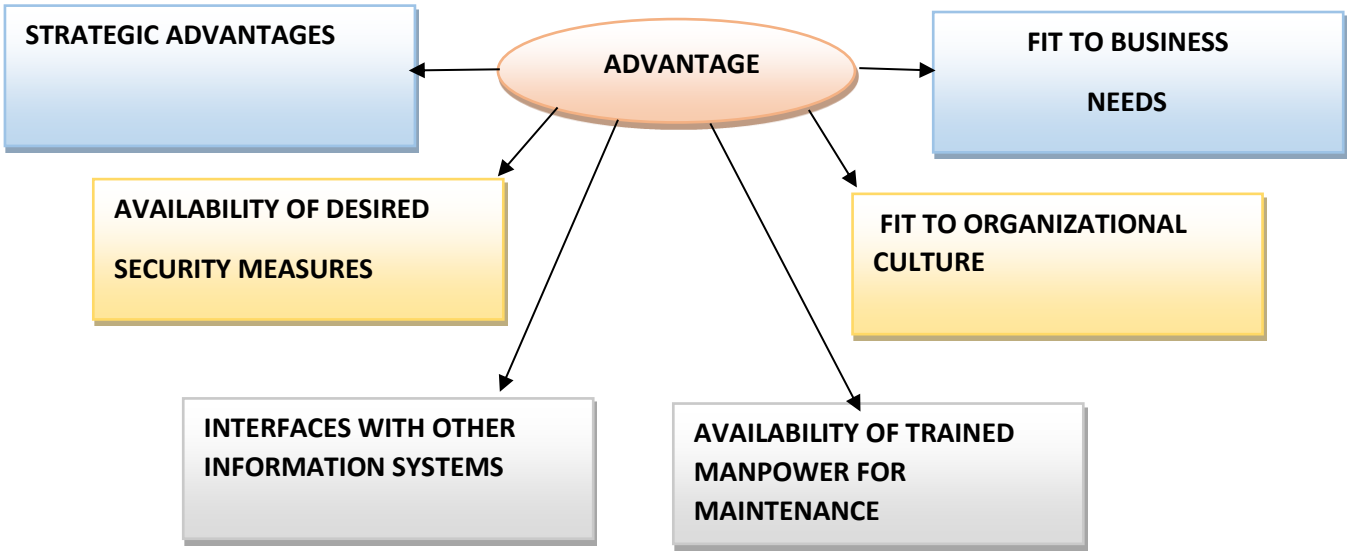
Developing a IS in house o engaging software development company may be a most expensive way to acquire IS



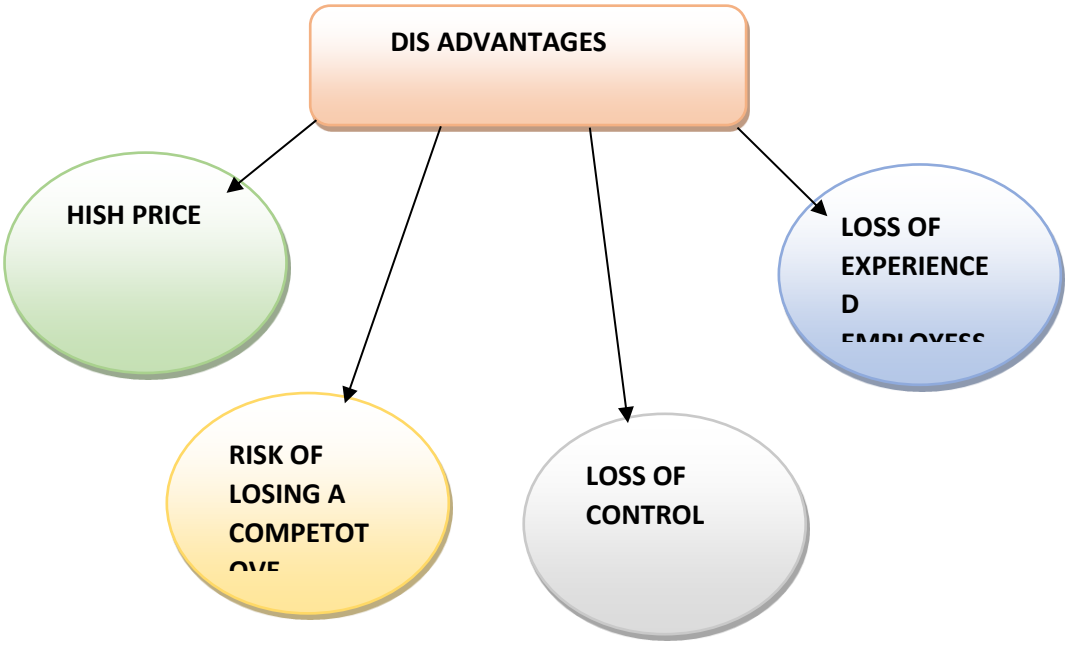
OUT SOURCING-



ADVANTAGES-

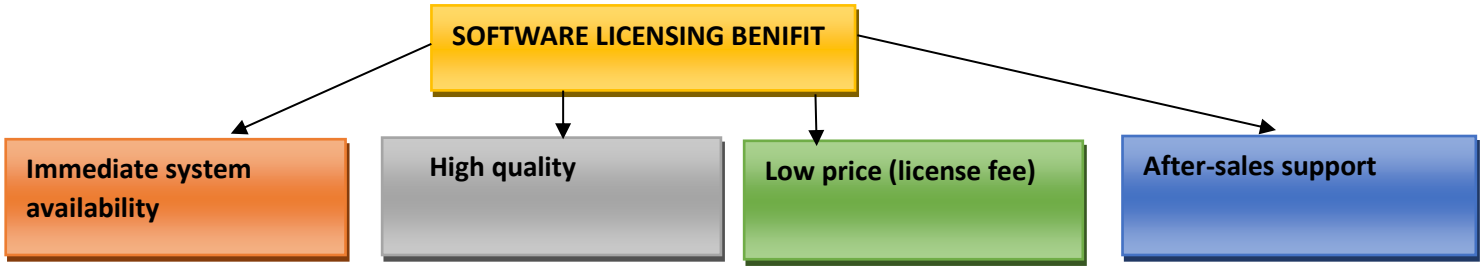


DISADVANTAGES-

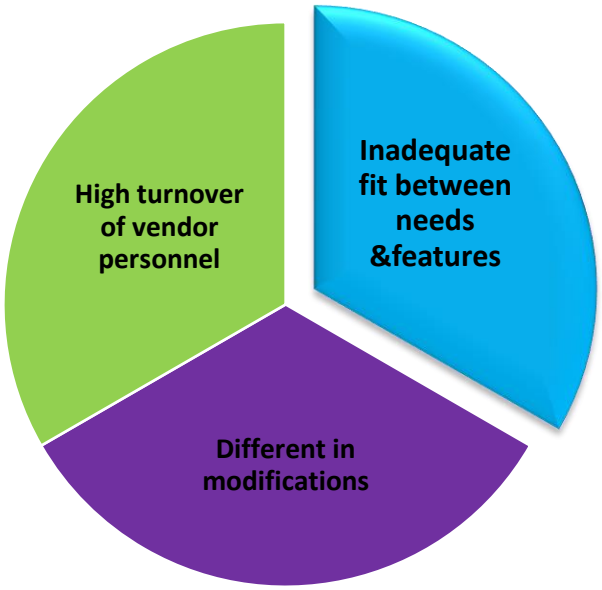


SOFTWARE LICENSING-

The purchaser actually purchases a license to use the software itself. Thus, the term "licensing" means purchasing a license to use.



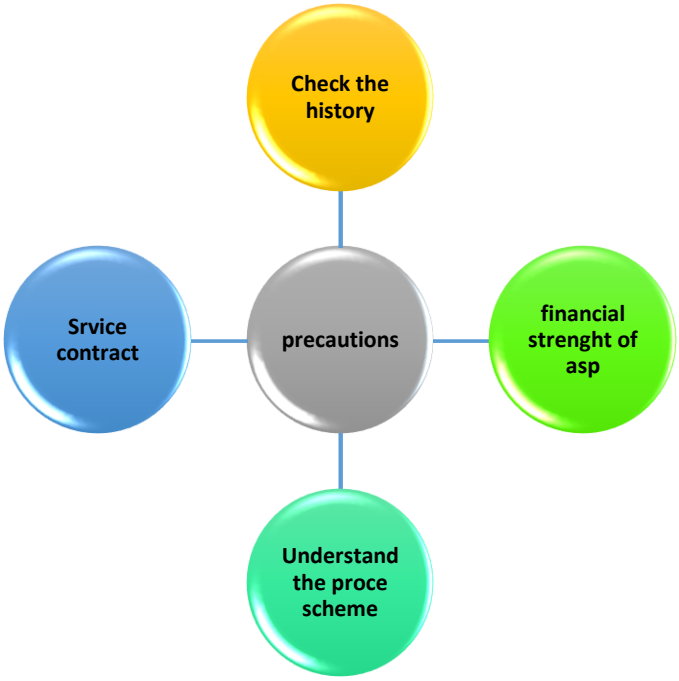
SOFTWARE LICENSING RISKS-



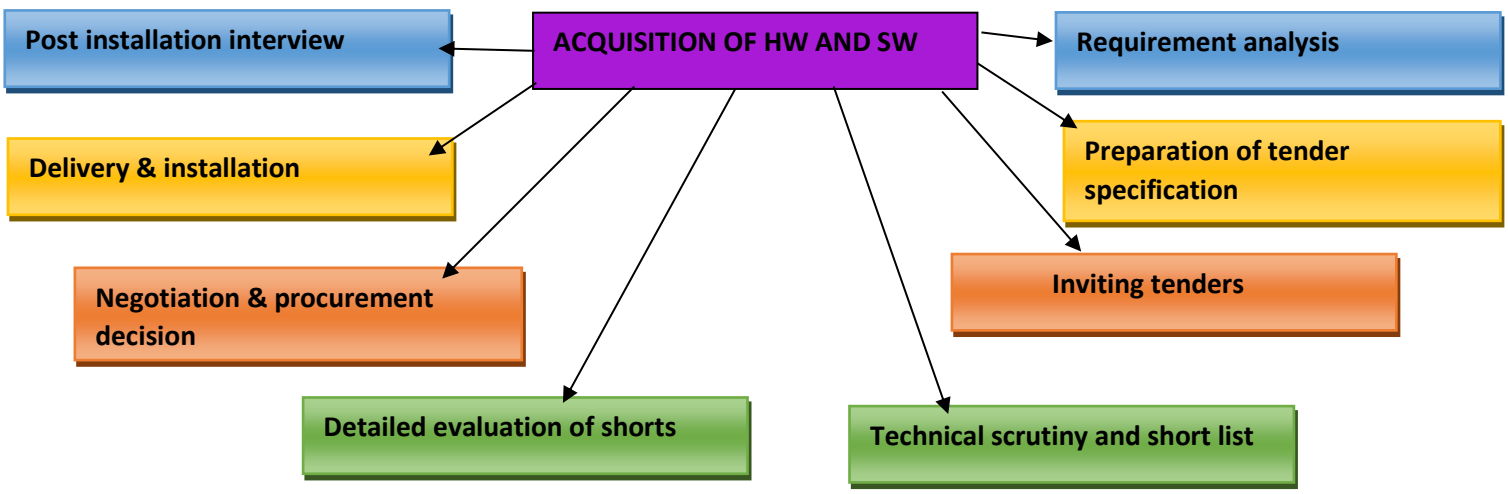
SOFTWARE AS A SERVICE (SAAS)-

SOFTWARE AS A SERVICE (SAAS)-

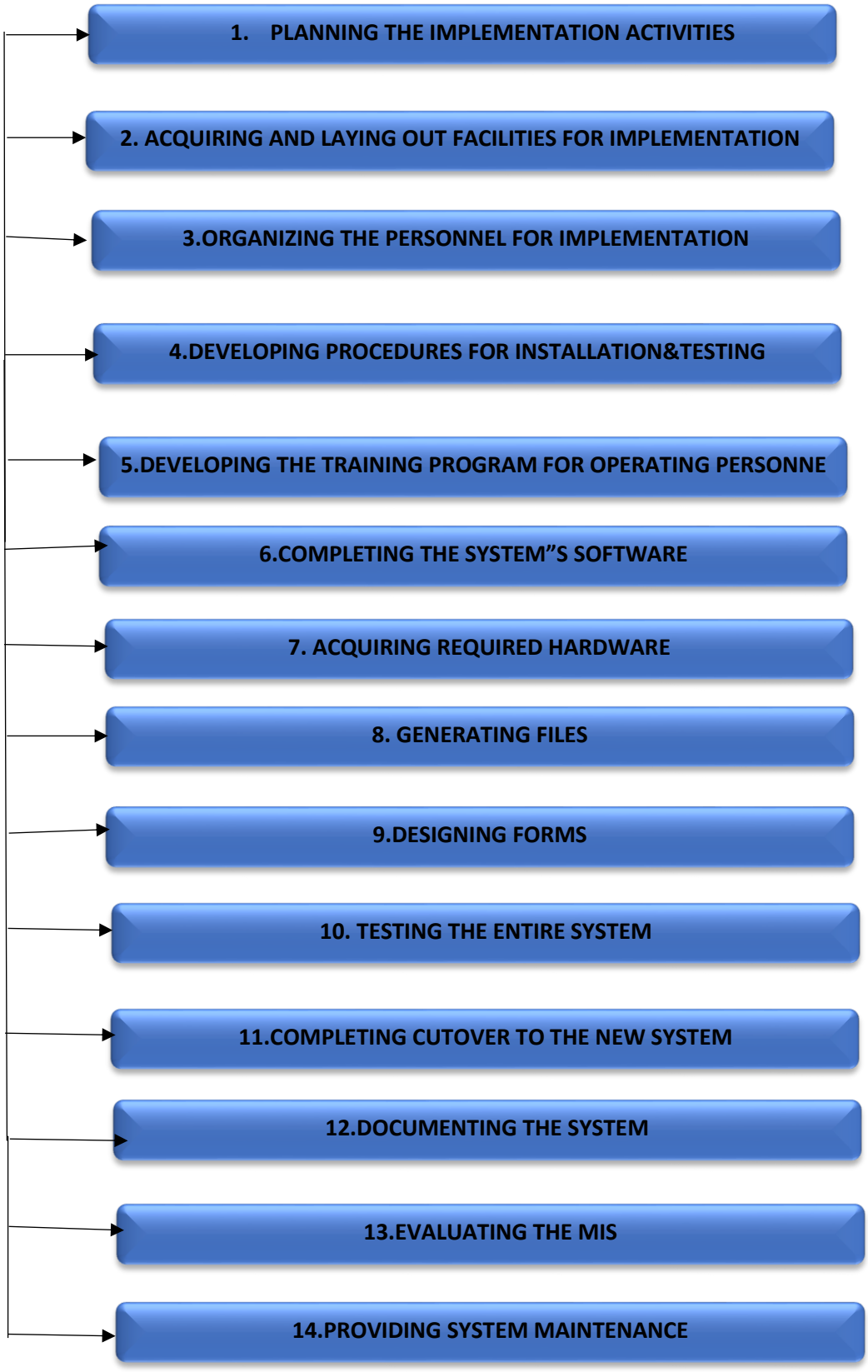
PRECAUTIONS:



ACQUISITION OF AND SOFTWARE:

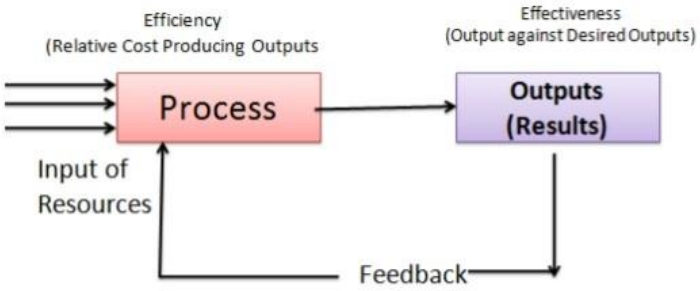


THE MAJOR IMPLEMENTATION TASKS CONSISTS OF-



EVALUATION:

Evaluation of MIS is an integral part of the management control process, in which the organizations determine or appraise the quality or worth of their information system.in other words, evaluation of MIS is a process of measuring performance or organizational information systems.



Relationship between Efficiency and Effectiveness

UNIT-4

INTRODUCTION TO ENTERPRICE RESOURCE PLANNING(ERP)

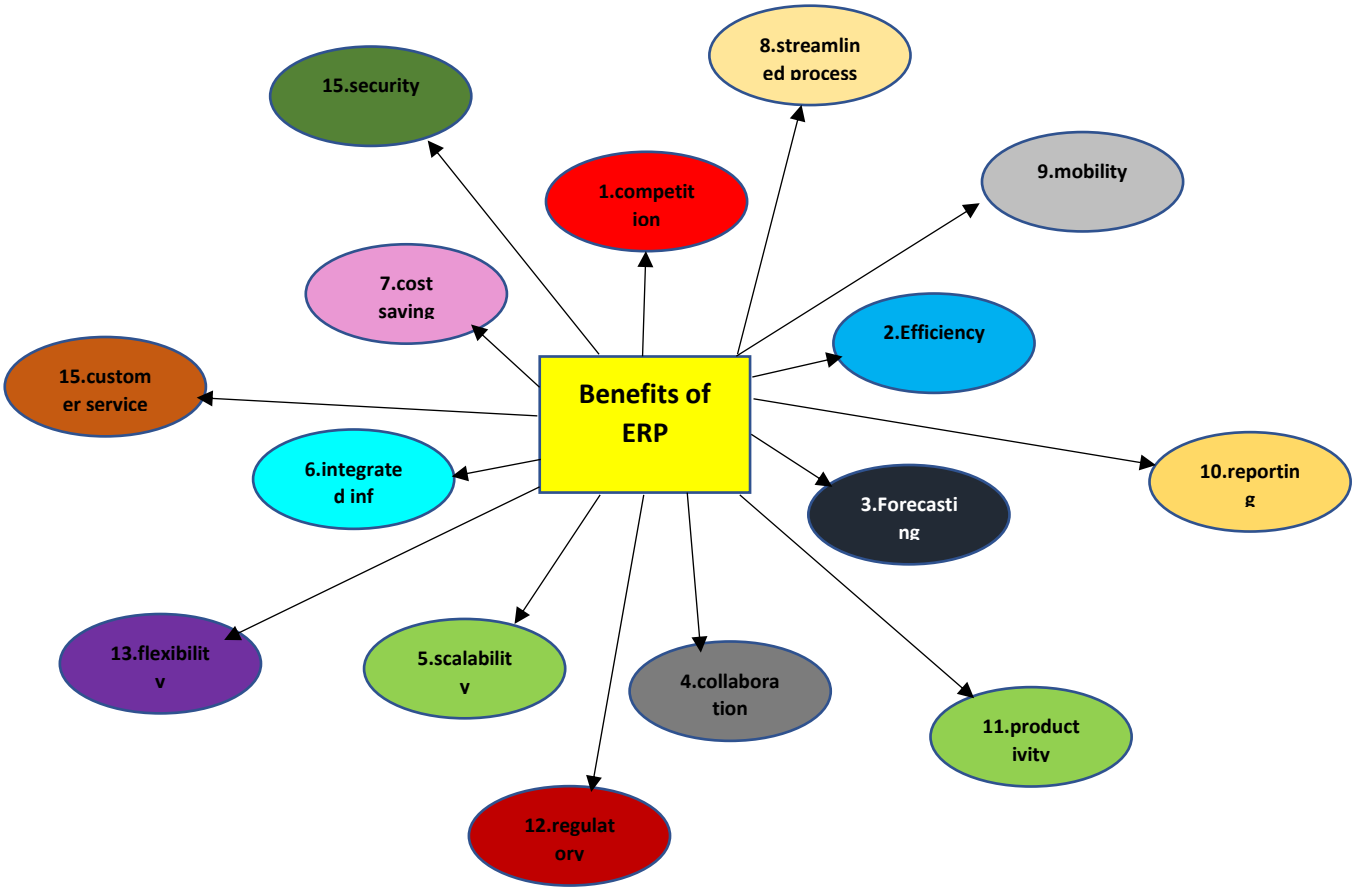
INRODUCTION:

Enterprise resource planning (ERP) is a software that is built to organizations belonging to different industrial sectors, regardless of their size and strength.

FUCTIONAL AREAS:

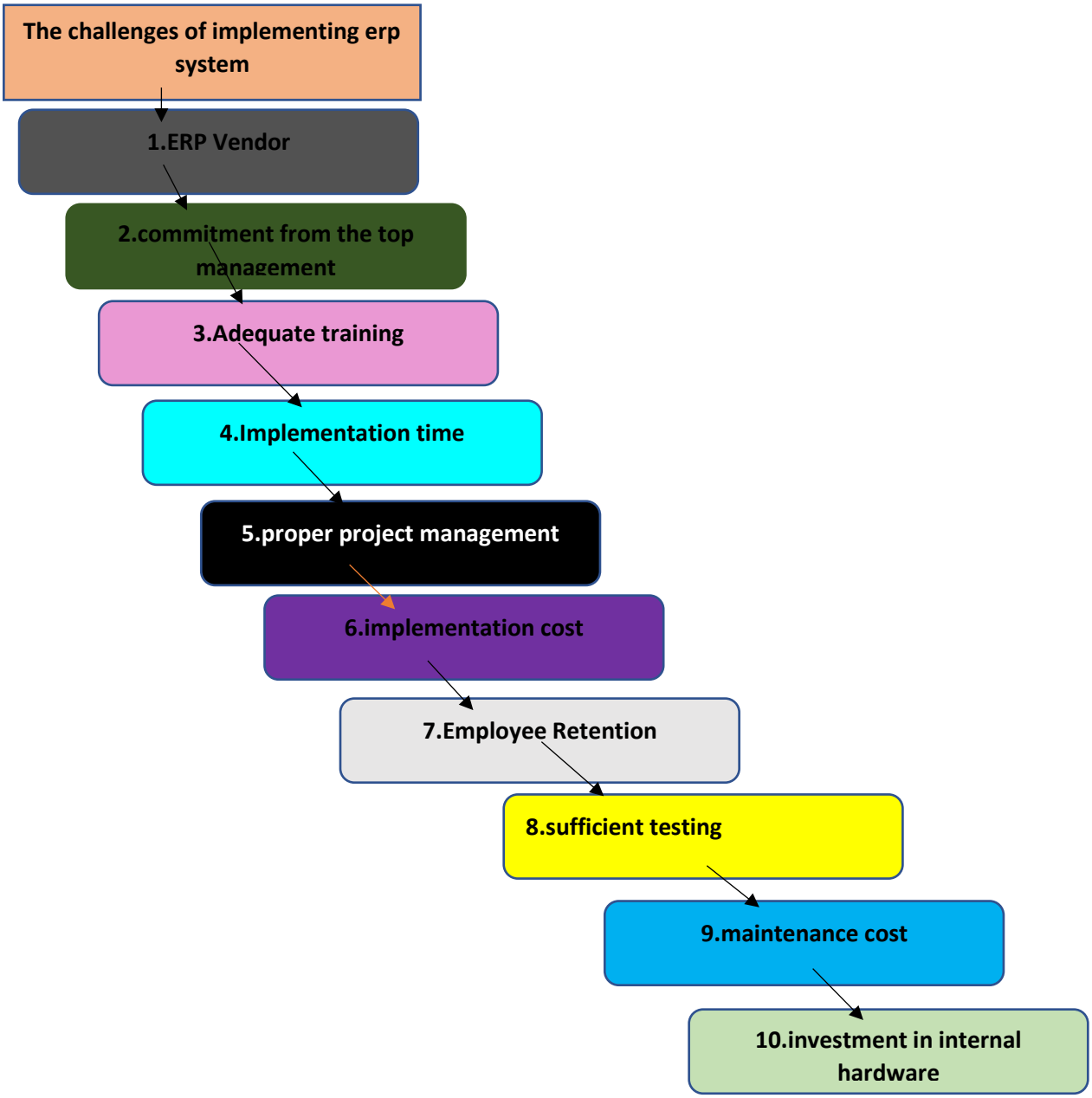
- **Financial accounting**
- **Human resource**
- **Customer relationship management**
- **Sales and distribution**
- **Logistics and warehouse management**
- **Manufacturing and material management**
- **Supply change management**
- **Business intelligence**

BUSINESS BENEFITS OF ERP:



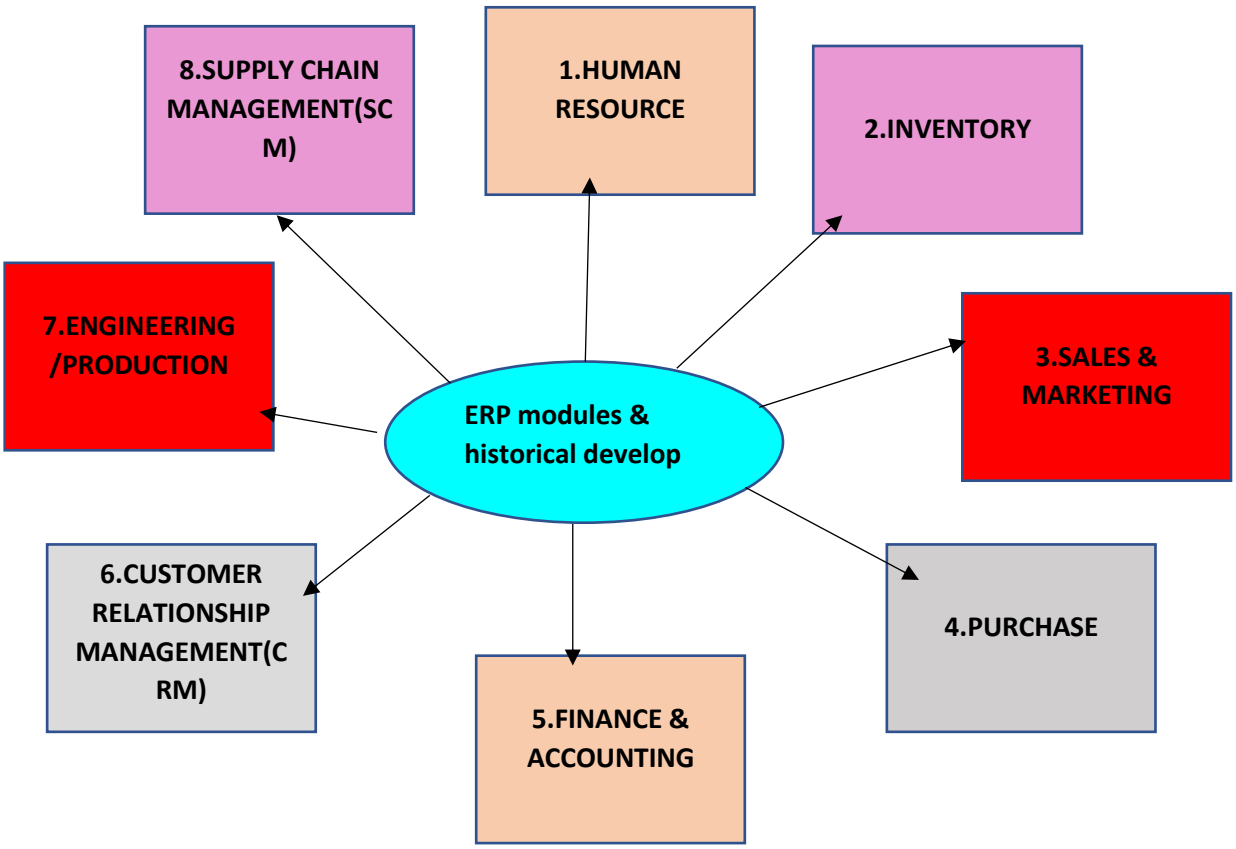
- Competition
- Efficiency
- Forecasting
- Collaboration
- Scalability
- Integrated information
- Cost savings
- Streamlined processes
- Mobility
- Reporting
- Productivity
- Regulatory compliance
- Flexibility
- Customer services
- Security

VENDOR ANALYSIS:



- ✓ ERP vendors
- ✓ Commitment from the top management
- ✓ Adequate training
- ✓ Implementation time
- ✓ Proper project management
- ✓ Implementation cost
- ✓ Employee retention
- ✓ Sufficient testing
- ✓ Maintenance cost
- ✓ Investment in internal hardware

ERP MODULE AND HISTORICAL DEVELOPMENT:

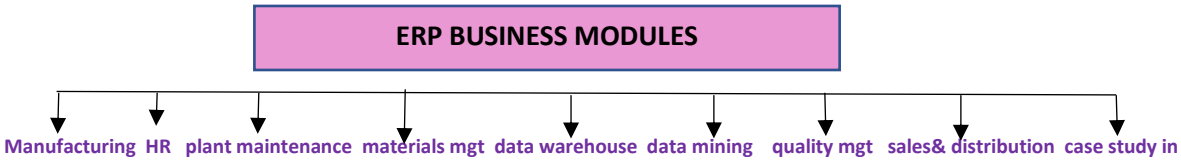


- Human resource
- Inventory
- Sales and marketing
- Purchase
- Finance and accounting
- Customer relationship management (CRM)
- Engineering /production
- Supply chain management (SCM)

UNIT-5

ERP MODULES

BUSINESS MODULES IN AN ERP PACKAGE-



- **Manufacturing**
- **Human resources**
- **Plant maintenance**
- **Materials management**
- **Data warehousing**
- **Data mining**
- **Quality management**
- **Sales and distribution**
- **Case study in banking sector**

HUMAN RESOURCES:

- ✓ **Inventory**
- ✓ **Sales and marketing**
- ✓ **Purchase**
- ✓ **Finance and accounting**
- ✓ **Customer relationship management (crm)**
- ✓ **Engineering / production**
- ✓ **Supplu chain management (scm)**

MANUFACTURING MODULES:

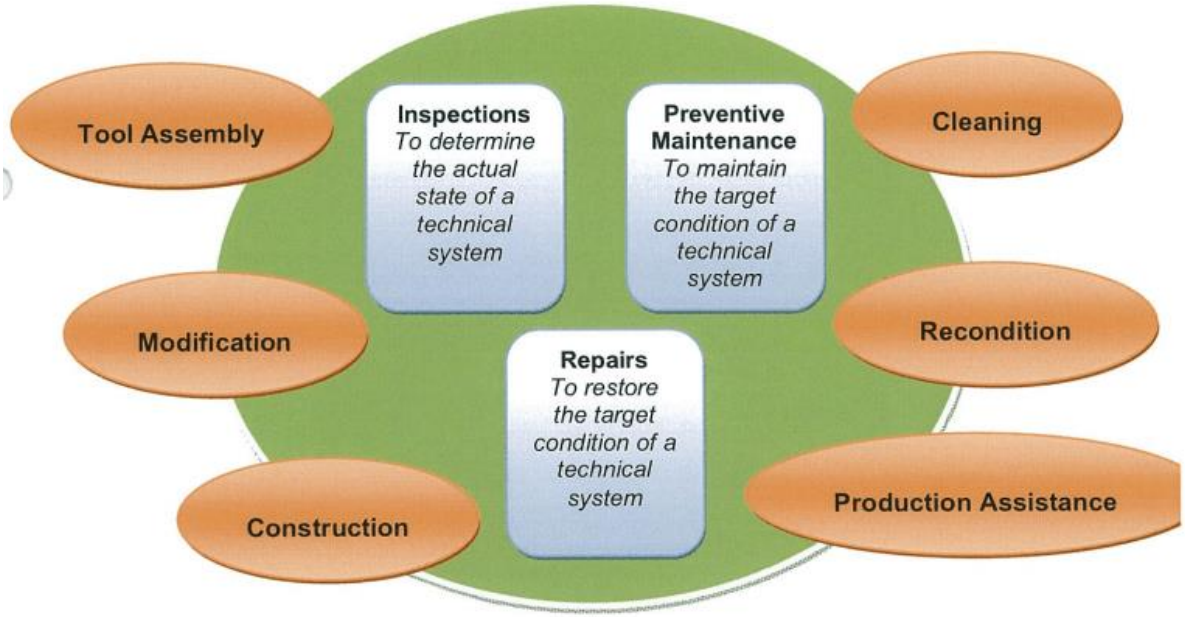
- **Material and capacity planning**
- **Quality floor control**
- **Quality management**
- **Jit /repetitive manufacturing**
- **Cost management**
- **Engineering data management**
- **Engineering change control**
- **Configuration management**
- **Serialization / lot control, tooling, etc.**

HUMAN RESOURCE MODULE:

- **Personnel management**
- **Organizational management**
- **Payroll accounting**
- **Time management**
- **Personnel development**

PLANT MANAGEMENT:

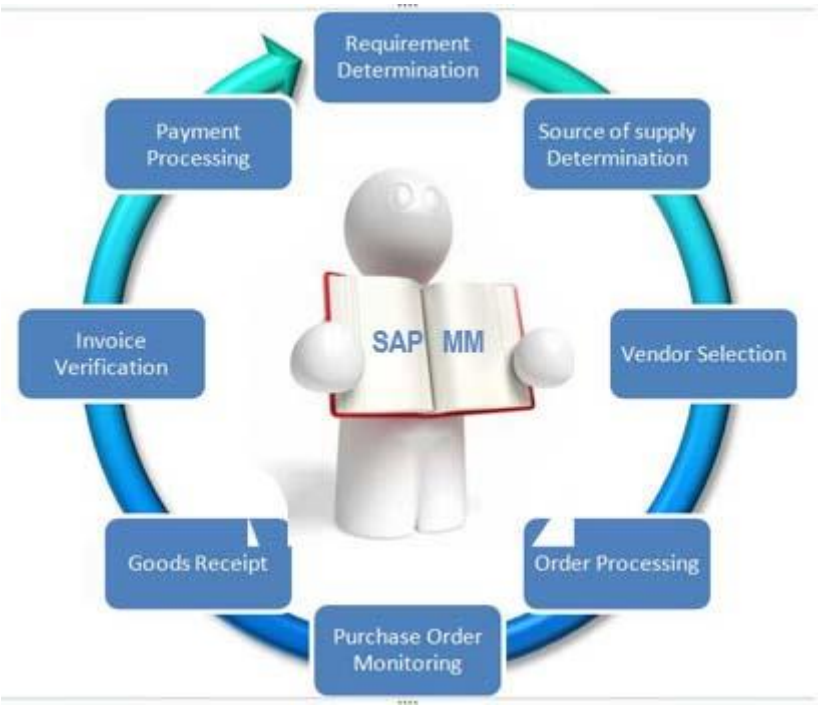
Plant maintenance provides technical and business reports and various presentation options, according to criteria used.



- **Preventing maintenance control**
- **Equipment tracking**
- **Component tracking**
- **Plant maintenance calibration tracking , plant maintenance warranty claims tracking etc.**

MATERIALS MANAGEMENT MODULES:

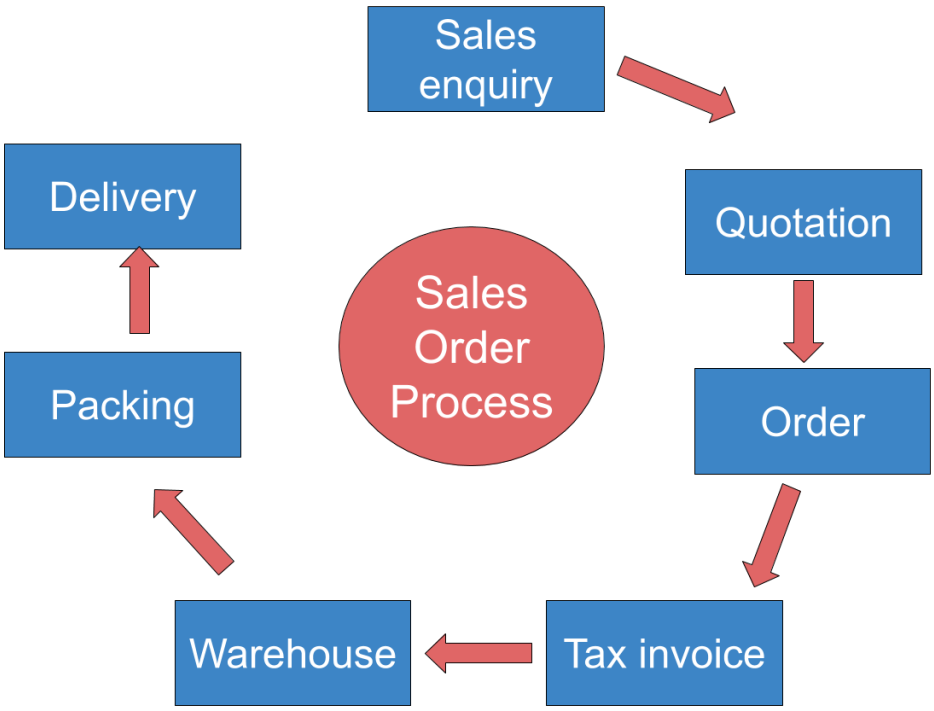
This module facilitates the process of maintaining the appropriate level of stock in the warehouse.



- ✓ **The main modules are**
- ✓ **Pre-purchasing activities**
- ✓ **Purchasing**
- ✓ **Vendor evaluation**
- ✓ **Inventory management**
- ✓ **Invoice verification and material inspection, etc**

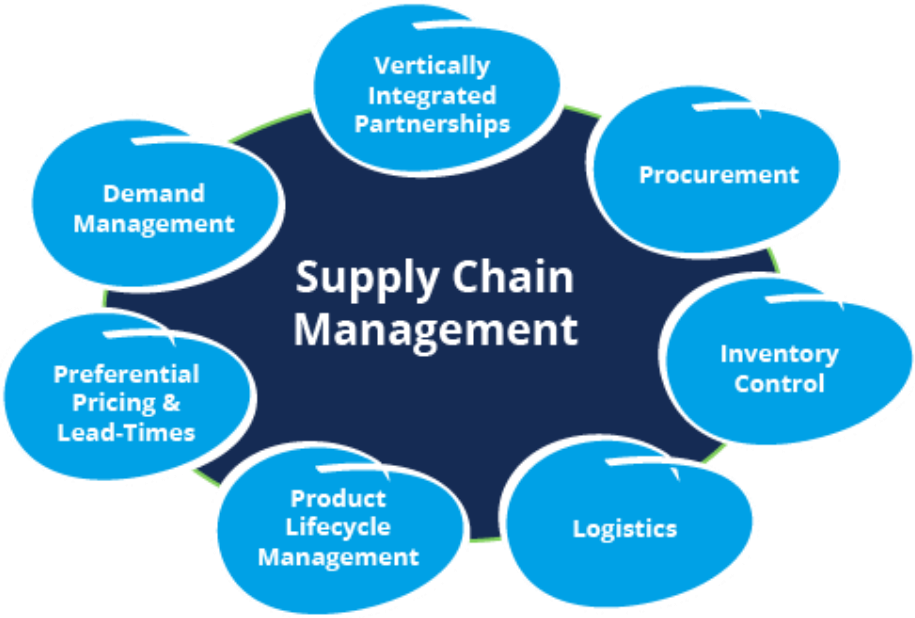
SALES MODULE:

Typical sales process includes processes like sales queries and enquiry analysis and handling, quotation drafting, accepting sales orders, drafting sales invoices with proper taxation, dispatch/shipment of material or service, tracking pending sales order.



SUPPLY CHAIN MANAGEMENT (SCM)

Supply chain management (SCM) involves planning, execution, control, and monitoring of supply activities. An ERP solution takes care of physical aspects of supply that includes storage and transportation and the market aspect of effectively managing demand and supply to meet customer demands.



SALES AND DISTRIBUTION:

An ERP system can improve the sales order process in several ways, as they use common database thus minimizing data entry use common data thus minimizing data entry errors and provides accurate information in real time to all users.