Internet, Intranet and Extranets-

What is Internet ? -

- It is a **Global network of computers,** (servers or clients) to **exchange information.**
- It is a **"network of networks"** that includes **millions** of private and public, academic, business, and government networks (local or Global), **linked** by copper wires, wireless connections, and other technologies.

Hardware and Software of Internet -

Variety of **hardware** and **software** are used *to* make **Internet functional**.

- **Modem**
  Device that enables computers to communicate through phone lines.
  When we start internet the **our modem communicates** to **modem of ISP**.
- **Computer**
  In addition to a modem, you need a client capable of handling **multiple data types**.
- **Software**
  Two types of **software's** required to enable your PC as an Internet PC.
    - **Communication software** *to* establish connection
    - **Client software** *for* browsing, e-mail, news.

Applications Of Internet -

- Download programs and files
- E-Mail
- Voice and Video Conferencing
- E-Commerce
- File Sharing
- Information browsing
- Search the web addresses for access through search engine
- Chatting and many more…

Disadvantages of Internet -

- **Theft of personal information** such as name, address, credit card number etc.
- **Virus threats** nothing but a program which disrupts the normal functioning of your system.
- **Spamming** refers to receiving unwanted e-mails in bulk, which provide no purpose and needlessly obstruct the entire system.
  Though, internet can also create havoc, destruction and its misuse can be very fatal,
  the *advantages* of it outweigh its *disadvantages*.

What is Intranet ? -

- Internal company network that uses Internet standards (HTML, HTTP & TCP/IP protocols) & software.
- Accessed only by authorized persons, especially members or employees of the organization

Intranet Security -

Two levels of Security required:

- Internal
  It can be imposed by Public Key Security & Encryption Key.
- External
  Through Firewall.

What is Firewall ? -

- Security device located between firm's internal network (intranet) & external network (internet).

- Regulates access into & out of a company's network based on a set of rules.

Applications of Intranet -

- Sharing of company policies/rules & regulations
- Access employee database
- Distribution of circulars/Office Orders
- Access product & customer data
- Sharing of information of common interest
- Launching of personal/departmental home pages
- Submission of reports
- Corporate telephone directories

Disadvantages

Disadvantages

Management problem	• **A company may not have person to update their Intranet on a routine basis** • **Fear of sharing information and the loss of control** • **Limited bandwidth for the business**
Security problem	• **Unauthorized access** • **Abuse of access** • **Denial of service**
Productivity problem	• **Information overload lowers productivity** • **True purpose of the Intranet is unknown to many employees/departments** • **Hidden or unknown complexity and costs**

What is Extranet ? -

- Extranet is an Intranet for outside authorized users using same internet technology.
- Inter-organizational information system.
- enable outsiders to work together with company's employees.
- open to selected suppliers, customers & other business partners.

Examples..

- Dealers/distributors have access to product files such as :-

1. product specification,
2. pictures,
3. images, etc.

to answer the queries of the customer.

Components of extranets ..

Some basic infrastructure components such as the internet Including :-

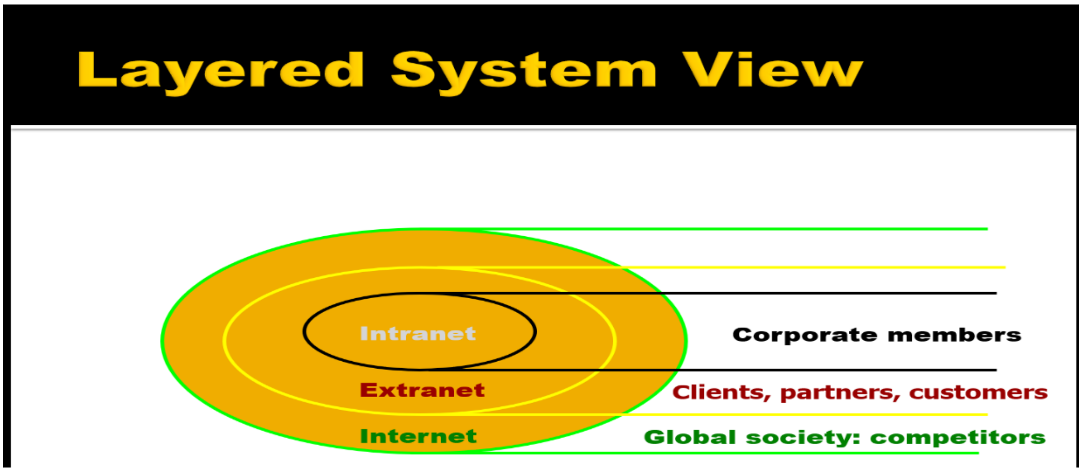
- TCP/IP protocols,
- E-mail,
- Web-browsers,
- External business partners &
- Tele-commuting employees place order, check status & send E-mail.

Benefits of Extranet

- Improved quality.
- lower travel costs.
- lower administrative & other overhead costs.
- reduction in paperwork.
- delivery of accurate information on time.
- improved customer service.
- better communication.
- overall improvement in business effectiveness.

Disadvantages

- The suppliers & customer who don't have technical knowledge feel problem.
- Faceless contact.
- Information can be misused by other competitors.
- Fraud may be possible.
- Technical Employees are required.



- intranets, extranets and e-commerce have in common the use of Internet protocols to connect business users.
- intranets are more localized and can therefore move data faster than more distributed extranets.

ELECTRONIC COMMERCE -:

WHAT IS E-COMMERCE?

- E-commerce consists of the buying and selling of products or services over electronic systems such as the Internet and other computer networks.
- E-Commerce – online exchange of goods, services, and money between firms and between firms and their customers**.**
- **Electronic commerce was identified as the facilitation of commercial transactions electronically, using technology such as Electronic Data Interchange (EDI) and Electronic Funds Transfer (EFT).**
- **What is EDI?**
- **What is EFT?**

Electronic Data Interchange:

- **EDI** is the structured transmission of data between organizations by electronic means. It is used to transfer electronic documents or business data from one computer system to another computer system.

Electronic Funds Transfer:

- **EFT** is the electronic exchange or transfer of money from one account to another.

History of E-Commerce

- The growth and acceptance of credit cards, automated teller machines (ATM) and telephone banking in the 1980s were also forms of electronic commerce.
- By the end of 2000, many European and American business companies offered their services through the World Wide Web.
- Since then people began to associate a word "E-Commerce" with the ability of purchasing various goods through the Internet using secure protocols and electronic payment services.

Advantages of E-commerce

- Faster buying/selling procedure, as well as easy to find products.
- Buying/selling 24/7.
- Low operational costs and better quality of services.
- Easy to start and manage a business.
- No need of physical company set-ups.
- Customers can easily select products from different providers without moving around physically.

Disadvantages of E-commerce

- There is no guarantee of product quality.
- There are many hackers who look for opportunities, and thus an ecommerce site, service, payment gateways, all are always prone to attack.

1) BUSINESS TO BUSINESS (B2B)

- B2B can be open to all interested parties or limited to specific, pre-qualified participants (private electronic market).
- Companies doing business with each other such as manufacturers selling to distributors and wholesalers selling to retailers.

2) BUSINESS TO CONSUMER (B2C)

- Businesses selling to the general public typically through catalogs utilizing shopping cart software.
- B2C is the indirect trade between the company and consumers.
- It provides direct selling through online.
- If you want to sell goods and services to customer so that anybody can purchase any products directly from supplier's website.

3) CONSUMER TO BUSINESS (C2B)

- A consumer posts his project with a set budget online and within hours companies review the consumer's requirements and bid on the project.
- The consumer reviews the bids and selects the company that will complete the project.
- C2B empowers consumers around the world by providing the meeting ground and platform for such transactions.

4)CONSUMER TO CONSUMER (C2C)

- It facilitates the online transaction of goods or services between two people.
- Though there is no visible intermediary involved but the parties cannot carry out the transactions without the platform which is provided by the online market maker such as eBay.

E-COMMERCE EXAMPLES:

- An individual purchases a book on the Internet.
- A government employee reserves a hotel room over the Internet.
- A business buys office supplies on-line or through an electronic auction.
- A manufacturing plant orders electronic components from another plant within the company using the company's intranet.

E-commerce vs. E-business –

- E-commerce -It is the process through which the buying, selling, dealing, ordering and paying for the goods and services are done over the internet is known as e-commerce.

types of e-commerce

- **B2B** – The process where buying and selling of goods and services between businesses is known as Business to Business. **Example**: Oracle.
- **B2C** – The process whereby the goods are sold by the business to customer.
- **Example**: Intel, Dell etc.
- **C2C** – The commercial transaction b/w customer to customer. **Example**: OLX.

- **C2B** – The commercial transaction between customer to the business.

  E-business- it is the online presence of business. It can also be defined as the business which is done with the help of internet or electronic data interchange known as E-business. E-commerce is one of the important components of e-business, but it is not an essential part.

types of e-business –

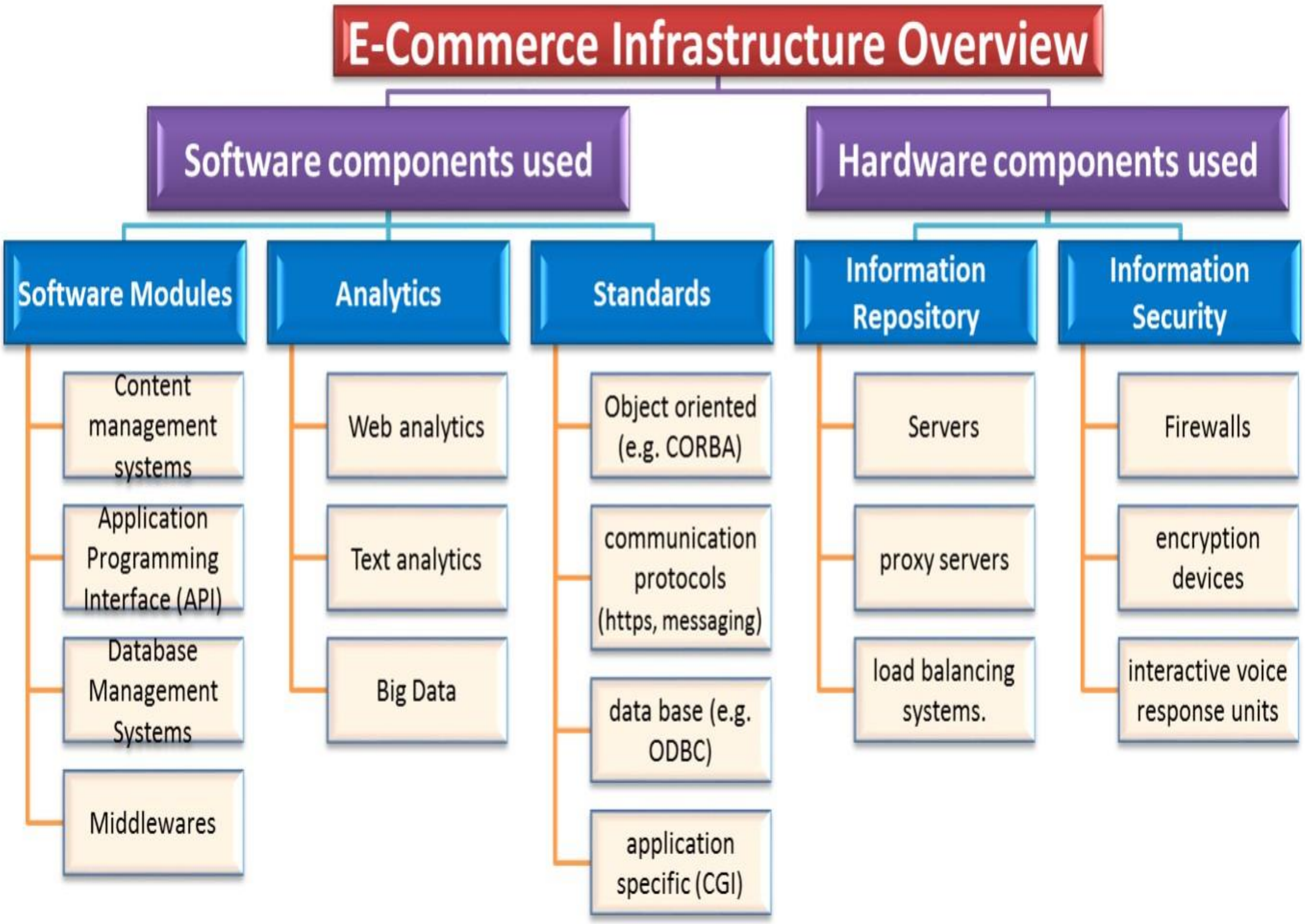
- **Pure-Play**: The business which is having an electronic existence only. **Example**: Hotels.com
- **Brick and Click**: The business model, in which the business exists both in online (electronic) and offline physical mode.

Key Differences Between e-commerce and e-business

- e-commerce is a major component of e-business.
- e-commerce requires a website that can represent the business. e-business requires a website, Customer Relationship Management and Enterprise Resource Planning for running the business over the internet.
- e-commerce uses the internet to connect with the rest of the world. In e-business, the internet, intranet and extranet are used for connecting with the parties.
- Buying and Selling of goods and services through the internet is known as e-commerce. Unlike e-business, which is an electronic presence of business.

E-Commerce Infrastructure

- **E-Commerce Infrastructure** identifies the functionalities of the Hardware and Software components, specifies the corresponding service level requirements, and describes the management and operations of the whole system. It may comprise briefly of the following components at a very abstract level.
- Information superhighway infrastructure
  - Internet, LAN, WAN, routers, etc.
  - telecom, cable TV, wireless, etc.
- Messaging and information distribution infrastructure
  - HTML, XML, e-mail, HTTP, etc.
- Common business infrastructure
  - Security, authentication, electronic payment, directories, catalogs, etc.
- Software components used: Content management systems, Web analytics, Text analytics, Application Programming Interface (API), Database server, Middlewares etc. Object oriented (e.g. CORBA), Transaction processing, communication (https, messaging), data base (e.g. ODBC), application middleware (CGI**)**
- Hardware components used: Servers, proxy servers, load balancing systems. Firewalls, encryption devices and interactive voice response units etc.



Enterprise Collaboration System –

- An Enterprise Collaboration System (ECS) is an information system used to facilitate efficient sharing of documents and knowledge between teams and individuals in an enterprise. ECS tools include the Internet, groupware, various forms of software and hardware and internal and external networks.

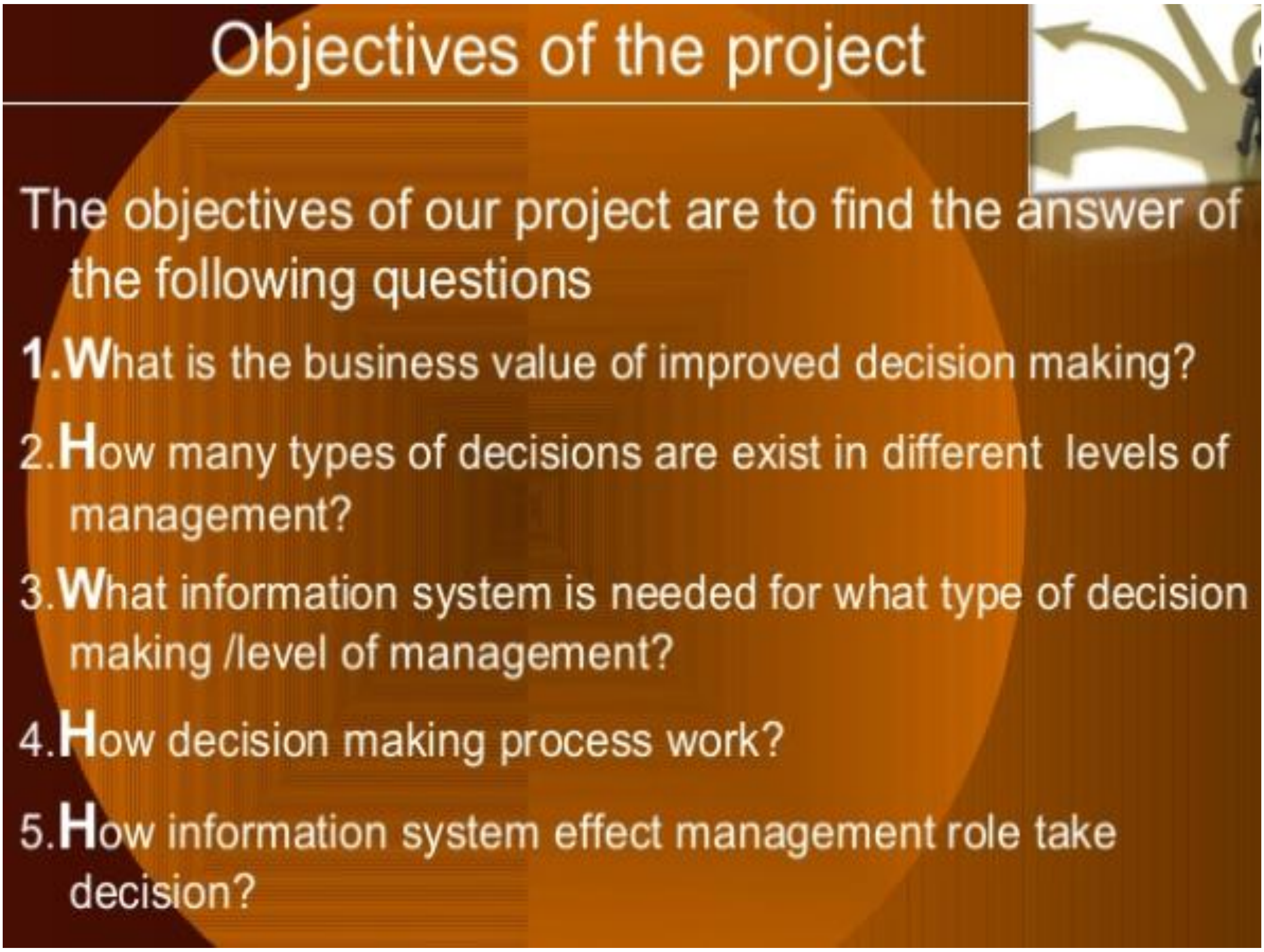
Importance of Information Systems in an Organization :-

The Role of Information Systems in Business

- Business firms invest heavily in information systems to achieve four strategic business objectives:
    1. Operational excellence
    2. New products, services, and business models
    3. Improved decision making
    4. Competitive advantage
- Operational excellence:
    1. Improvement of efficiency to attain higher profitability
    2. Information systems, technology an important tool in achieving greater efficiency and productivity

- New products, services, and business models:
    1. Business model: describes how company produces, delivers, and sells product or service to create wealth
    2. Information systems and technology a major enable tool for new products, services, business models
- Improved decision making
    1. Without accurate information:
        - Managers must use forecasts
        - Poor outcomes raise costs, lose customers
- Competitive advantage
    1. Delivering better performance
    2. Responding to customers and suppliers in real time

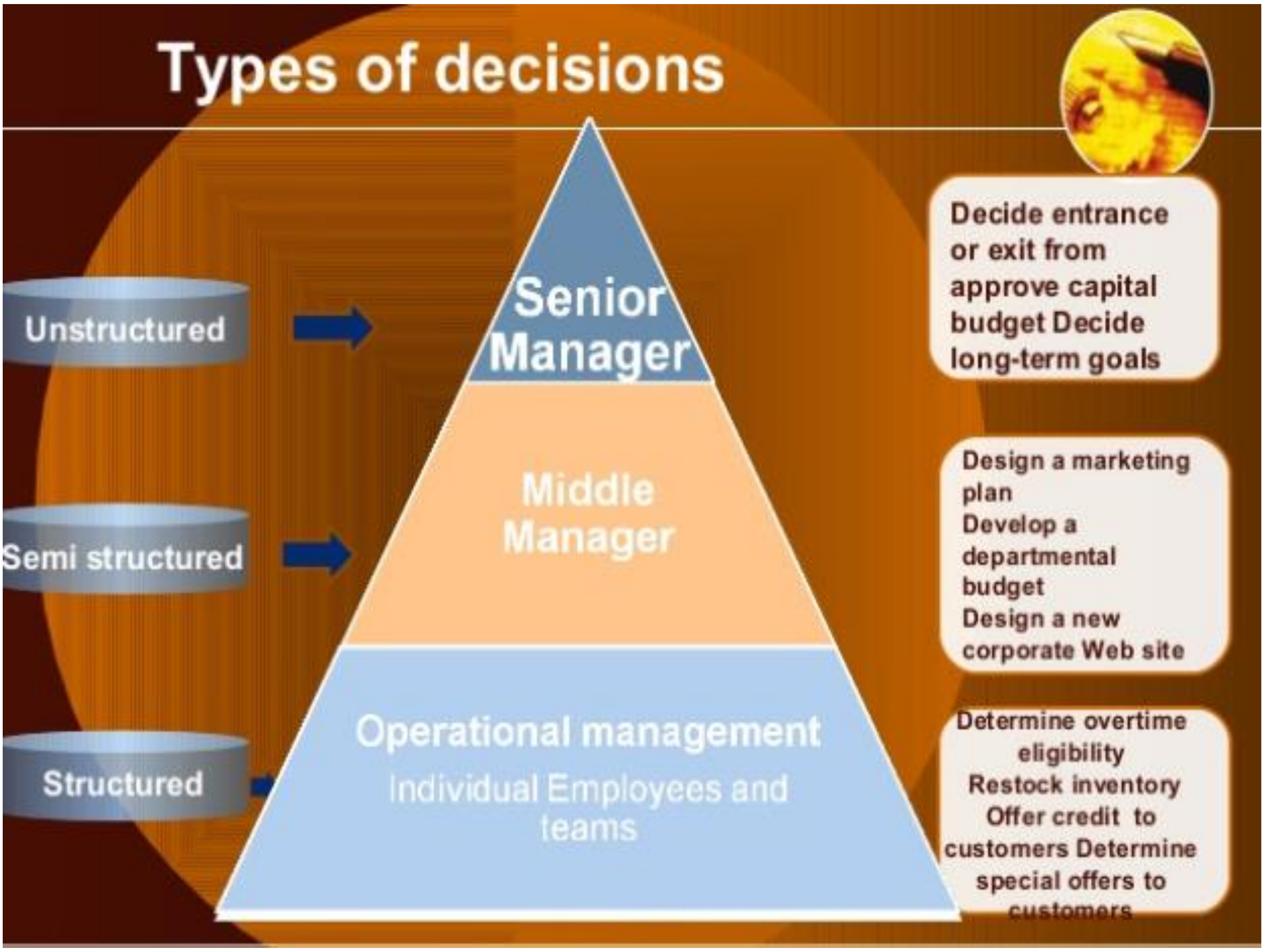
Information System For Managerial decision Support

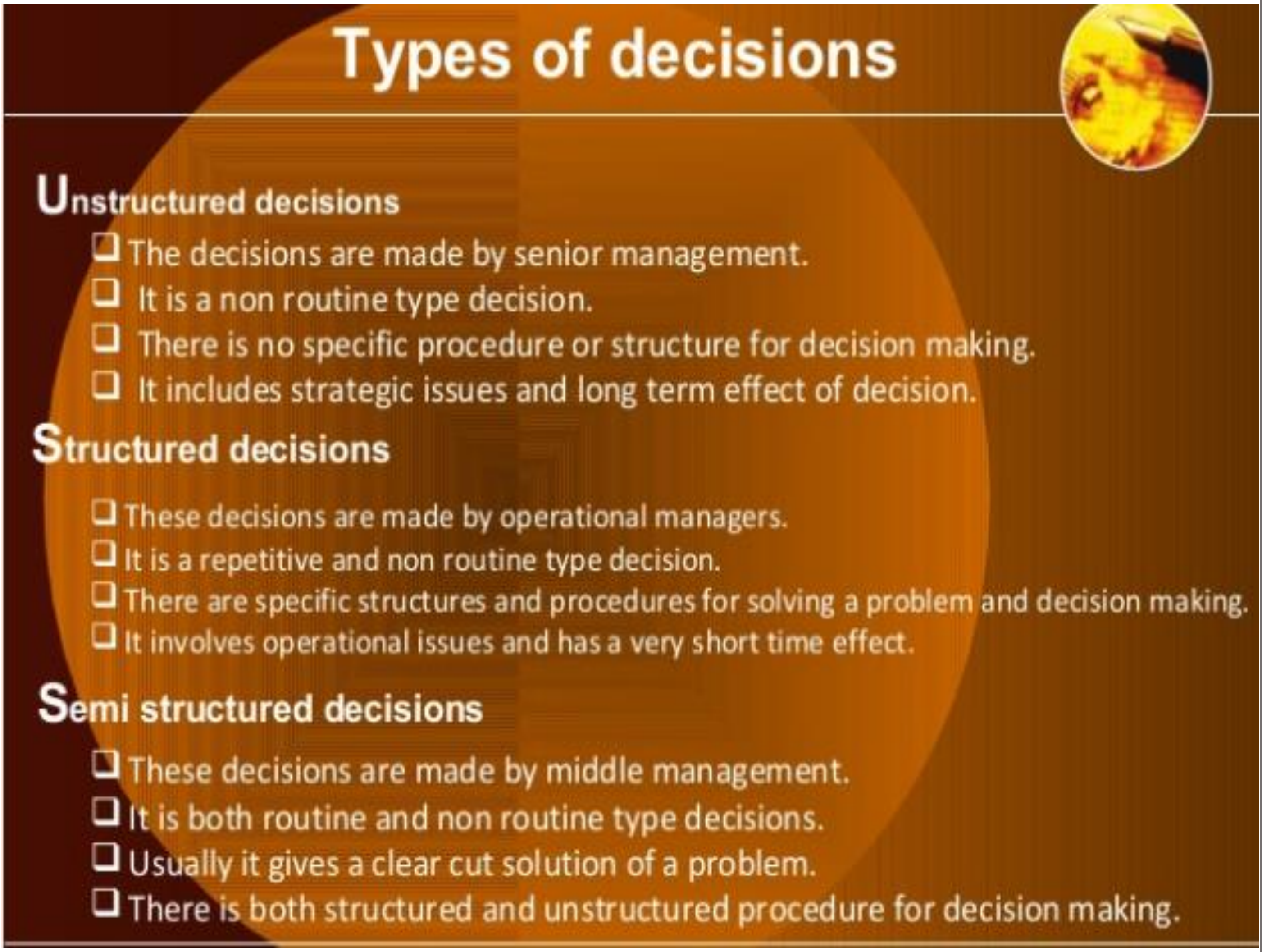


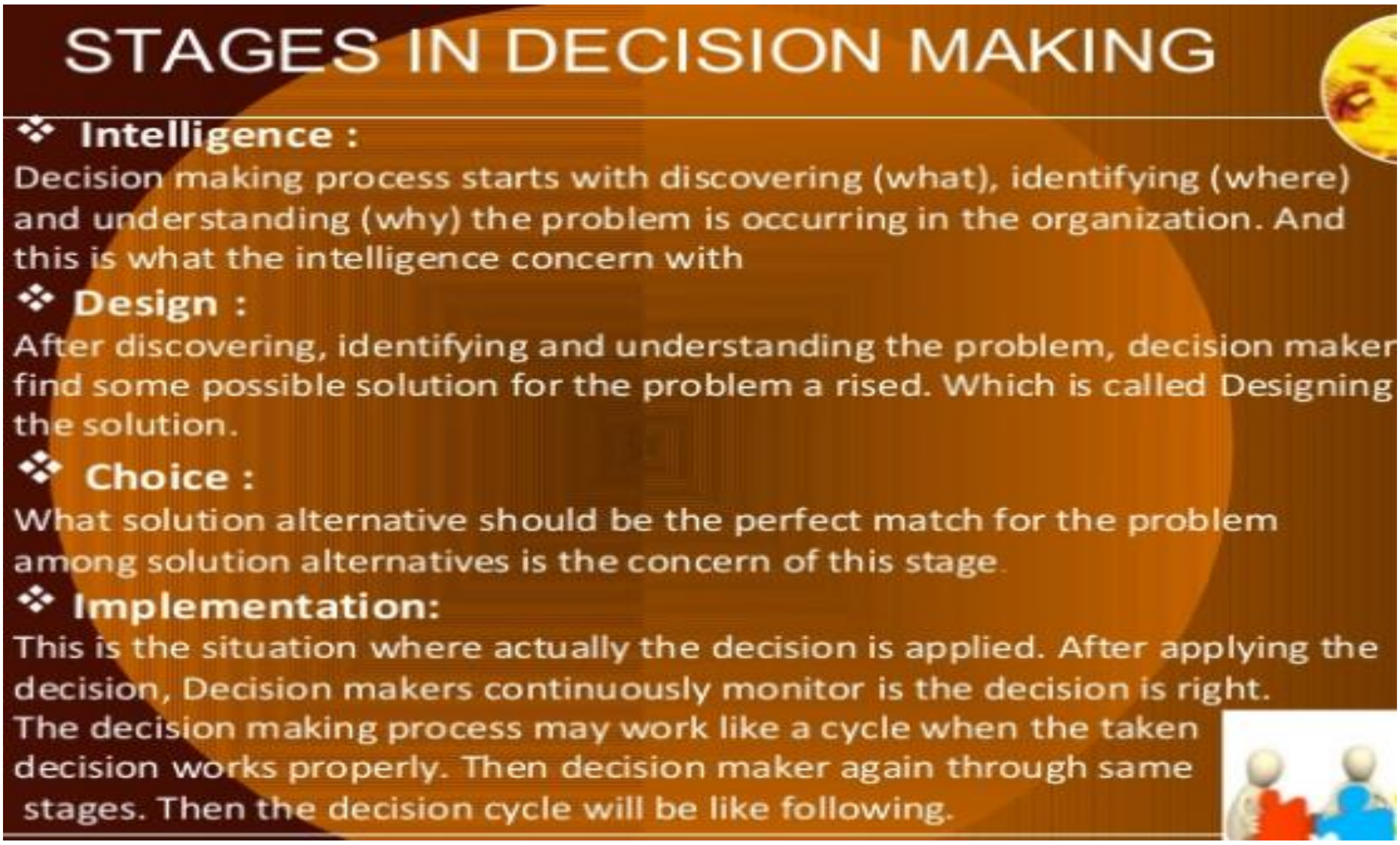
- **Senior managers:**
    - Make many unstructured decisions
- **Middle managers:**

- Make more structured decisions but these may include unstructured components

- **Operational managers:**
    - Make more structured decisions
- **Business value of improved decision making**
    - Improving hundreds of thousands of “small” decisions adds up to large annual value for the business
- **Types of decisions:**
    - **Unstructured:** Decision maker must provide judgment, evaluation, and insight to solve problem
    - **Structured:** Repetitive and routine; involve definite procedure for handling so they do not have to be treated each time as new
- **Semi structured:** Only part of problem has clear-cut answer provided by accepted procedure




Types of decisions
Unstructured decisions
The decisions are made by senior management.
It is a non routine type decision.
There is no specific procedure or structure for decision making.
It includes strategic issues and long term effect of decision.
Structured decisions
These decisions are made by operational managers.
It is a repetitive and non routine type decision.
There are specific structures and procedures for solving a problem and decision making.
It involves operational issues and has a very short time effect.
Semi structured decisions
These decisions are made by middle management.
It is both routine and non routine type decisions.
Usually it gives a clear cut solution of a problem.
There is both structured and unstructured procedure for decision making.


STAGES IN DECISION MAKING
Intelligence :
Decision making process starts with discovering (what), identifying (where) and understanding (why) the problem is occurring in the organization. And this is what the intelligence concern with
Design :
After discovering, identifying and understanding the problem, decision maker find some possible solution for the problem a rised. Which is called Designing the solution.
Choice :
What solution alternative should be the perfect match for the problem among solution alternatives is the concern of this stage
Implementation:
This is the situation where actually the decision is applied. After applying the decision, Decision makers continuously monitor is the decision is right.
The decision making process may work like a cycle when the taken decision works properly. Then decision maker again through same stages. Then the decision cycle will be like following.

- **Four stages of decision making**
    1. **Intelligence**
        - Discovering, identifying, and understanding the problems occurring in the organization
    2. **Design**
        - Identifying and exploring solutions to the problem
    3. **Choice**
        - Choosing among solution alternatives
    4. **Implementation**
        - Making chosen alternative work and continuing to monitor how well solution is working

- There are four kinds of systems that support the different levels and types of decisions:

- Management Information Systems (MIS)
- Decision-Support Systems (DSS)
- Executive Support Systems (ESS)
- Group Decision-Support Systems (GDSS)

Decision Making in the Real World

- Information quality: Accuracy, integrity, consistency, completeness, validity, timeliness, accessibility
- Management filters: Biases and bad decisions of managers

Components of DSS

- **DSS database:** A collection of current or historical data from a number of applications or groups
- **DSS software system:** Contains the software tools for data analysis, with models, data mining, and other analytical tools
- **DSS user interface:** Graphical, flexible interaction between users of the system and the DSS software tools

Web-Based Customer Decision-Support Systems

- What Is a GDSS?
- Group Decision-Support System (GDSS) is an interactive computer-based system used to facilitate the solution of unstructured problems by a set of decision makers working together as a group.

Three Main Components of GDSS:

- Hardware (conference facility, audiovisual equipment, etc.)
- Software tools (Electronic questionnaires, brainstorming tools, voting tools, etc.)
- People (Participants, trained facilitator, support staff)

Information Systems for Strategic Advantage

Strategy

- Strategy is the determination of the **basic long-term purpose and objectives** of an enterprise and the adoption of courses of action and allocation of resources necessary for carrying out these goals.

- SIS are **computer systems at any level of the organization that change goals, operations, products, services, or environmental relationships to help the organization gain a competitive advantage**.
- Used to achieve strategic goals of an organization.
- Information systems that provide a firm with competitive products and services which give it a strategic advantage over its competitors in the marketplace.
    - Information systems that promote business innovation, improve operational efficiency.

Strategic Advantage and Strategic Necessity :-

- Strategic advantage refers to obtaining a sustainable competitive edge over competitors. The ability to obtain a greater than normal return on investment.
- A strategic necessity is a system that must be installed to remain competitive and stay in business.

Strategic Roles for Information Systems

- Improving business operations
- Promoting business innovation
- Locking in customers and suppliers

Competitive Advantage

What is meant by '*Competitive Advantage*'?

"An advantage over a competitor such as lower cost or quicker deliveries"

Competitive Strategies

- **Cost leadership strategies:**

➢ Become a low cost producer of products and services

➢ Find ways to help suppliers or customers reduce their costs

- **Differentiation strategies:**

➢ Developing ways to differentiate a firm's products and services from its competitors

➢ Reduce the differentiation advantages of competitors.

- **Innovation strategies:**

➢ Finding new way of doing business, enter new market.

- **Growth strategies:**

➢ expanding into global market

➢ diversifying into new products and services

➢ integration into related products or services

- **Alliance strategies:**

➢ Establish alliances with customer, suppliers, competitors, other company.