7. An Overview of Enterprise Resource Planning (ERP)

ERP

- ERP system is a fully integrated business management system covering functional areas of an enterprise like logistics, production, finance, accounting and Human resources. It organizes and integrates operation processes and information flows to make optimum use of resources such as men, material, money and machine. ERP is a global tightly integrated closed loop business solution package and multifaceted.

➢ Characteristics of ERP

1. ***Flexibility***
   - An ERP should be flexible to respond to the changing needs of an enterprise. The client server technology enables ERP to run across various database back ends through open database connectivity.
2. ***Modular & Open***
   - ERP system has to have open system architecture. This means that any module can be interfaced or detached wherever required without affecting the other modules.
3. ***Beyond the Company***
   - It should not be confined to the organizational boundaries, rather support the on-line connectivity to the other business entities of the organization.
4. ***Best Business Practices***
   - It must have a collection of the best business process applicable worldwide. An ERP package imposes its own logic on a company's strategy, culture and organization.
5. ***Comprehensive***
   - It should be able to support variety of organizational functions and must be suitable for a wide range of business organization.

➢ Features of ERP

1. ***Multi Facility***
   - ERP provides multi-platform, multi-facility, multi-mode manufacturing, multi-currency etc.
2. ***Immediate Updating***
   - ERP update the information immediately upon entry of any information.
3. ***Supply Chain Management***
   - ERP has end to end supply chain management to optimize the overall demand and supply data.
4. ***Coverage***
   - ERP integrate information system to covering all the functional areas like manufacturing, financing and accounting, human resources, etc.
5. ***Perform Core Activities***
   - ERP performs core activities and increases customer service, thereby augmenting the corporate image.
6. ***Bride***
   - ERP bridges the information gap across organizations.
7. ***Beyond the Company Support***
   - ERP provides complete integration of system not only across departments but also across companies under the same management.

8. ***Better Project Management***
    - ERP is the solution for Better project management.
9. ***Use Latest Technologies***
    - ERP allows automatic introduction of the latest technologies like electronic fund transfer, Electronic data interchange, Internet, Video conferencing, E-commerce etc.
10. ***Eliminate Business Problems***
    - ERP eliminates most business problems like material shortages, customer services, cash management, inventory management, quality managementetc.
11. ***Intelligent Business Tools***
    - ERP Provides intelligent business tools like decisions support system, executive information system, data mining and easy working systems to enable better decisions.

➢ **Benefits of ERP**

1. ***Best Use of Resources***
    - It makes best use of various Business Resources.
2. ***Reduce Paper Work***
    - Reduce paper documents by providing on-line formats for quickly entering and retrieving information.
3. ***Improves Timeliness of Information***
    - By permitting posting daily instead of monthly.
4. ***Accuracy***
    - Greater accuracy of information with detailed content, better presentation, satisfactory for the auditors.
5. **Cost Control**
    - Improved cost control.
6. ***Quick Response***
    - Faster responses and follow-up on customers.
7. ***Efficient Cash Collection***
    - More efficient cash collection.
8. ***Quick Resolution***
    - Better monitoring and quicker resolution of queries.
9. ***Flexibility***
    - Enables quick responses to change in business operations and market conditions
10. ***Advantage in Competition***
    - Helps to achieve competitive advantage by improving its business process.
11. ***Improves Supply-Demand Linkage***
    - Improves supply-demand linkage with remote locations and branches in different countries. Provides a unified customer database usable by all applications.
12. ***Improves international operations***
    - Improves international operations by supporting a variety of tax structure, invoicing schemes, multiple currencies, multiple period accounting and languages.
13. ***Beyond the Company Support***
    - Improves information access and management throughout the enterprise.

➢ Why Companies Undertake ERP?

1. *Integrate Financial Information*
   - As the CEO tries to understand the company's overall performance, he may find many different versions of the truth. But in this system everyone use same software and truth find in single version.
2. *Integrate customer order Information*
   - In ERP, customer order lives at all the stages. Company can keep track of orders more easily.
3. *Standardize and speed up manufacturing process*
   - ERP systems come with standards method of manufacturing process. Those standardizing processes increase productivity and reduce headcount.
4. *Reduce inventory*
   - ERP helps the manufacturing process flow more smoothly and it improves visibility of the order fulfillment process inside the company. That can lead to reduced inventories of the materials and better plan deliveries to customers.
5. *Standardize HR information*
   - Especially in companies with multiple units, HR may not have a unified, simple method for tracking employees' time and communicating with them about benefits and services. ERP can fix that.

➢ Evaluation of Various ERP packages

- ERP Package should be analyzed and evaluated on the basis of following Factor:
  1. Cost Benefit
  2. Obsolescence Rate
  3. Market Target
  4. Post-Implementation Support
  5. Local Availability
  6. Ease of Implementation

ERP Related Terms

1. ***Business Process Reengineering (BPR)***
   - Every company that intends to implement ERP has to reengineer its processes in one form or the other, this process is knows as business process reengineering.
   - BPR is the fundamental rethinking and radical redesign of processes to achieve dramatic improvement, in critical and contemporary measures of performance such as cost, quality, service and speed.
   - Here -
     a) **Radical Redesign means** BPR is reinventing and not enhancing or improving.
     b) **Dramatic Achievement means** to achieve 80% to 90% reduction in say, delivery time, work in progress or rejection rate and not just 5%, 10% reduction.

2. ***Business Engineering***
   - Business engineering has come out of merging of two concepts namely. Business Process Reengineering and Information Technology. (i.e. BPR + IT)
   - Business engineering develops business process according to changing environment.
   - IT helps to develop business models which assist in redesigning of Business Process.

3. ***Business Management***
    - ERP merges very well with common business management issues like BPR, TQM, mass customization, service orientation, and virtual cooperation etc.

ERP Implementation

- ***Business Modeling***

    - It is the first step in implementation of the ERP Package.
    - Business Model refers to diagrammatic representation of business with interconnections of subsystems.
    - With the help of Business Model, it is possible to check as to how well the model fits in to the application.
    - Business Modeling is the basis by which on e can select and implement a suitable ERP Package.

➢ Key Planning and Implementation Decisions for ERP

1. ***ERP or Not to ERP?***
    - This is the most important planning decision. This describes whether organization should go for ERP implementation or not.
    - In this, cost benefits or need for ERP is evaluated.
    - This includes understanding the organization requirement and ERP benefits for that organization.

2. ***Follow ERP software process or customize?***
    - ERP software process is beneficial for small organization where the cost is a matter. E.g. Tally ERP software use in the organization without any modification in the organization.
    - ERP Customization process is beneficial for big organization where the proper functionality is matter than cost factor.

3. ***In-house or outsource?***
    - This depends on availability of skills with in the organization for ERP implementation.
    - Normally for Big Organization outsource decision is taken to use best available expertise for ERP implementation.

4. ***Big Bang or Phased implementation?***
    - Big Bang means, implement the ERP for all the functions at once in the organization.
    - Phased Implementation means, Implement the ERP for one or a group of function rather than implementation in whole of the organization at once.

➢ ERP implementation Methodology/Steps

1. Define needs for ERP
2. **Evaluating the "As is" situation of the business.** i.e., to understand the strength and weakness prevailing under the existing circumstances.
3. **Deciding the "would be" situation for the business**. i.e., the changes expected after the implementation of ERP.
4. Reengineering the business process to achieve the desired results in the existing processes.
5. Evaluating the Various available ERP packages to assess suitability.

6. Selection of the suitable ERP packages.
7. Installing the required hardware and networks for the selected ERP package.
8. Selecting the implementation consultants who will assist in implementation.
9. Implementing the ERP package.

- **Implementation Guideline for ERP**

1. Understand the corporate needs and culture of the organization and then adopt the implementation technique to match these factors.
2. Redesign business process prior to starting the implementation.
3. Establish a good communication network.
4. Providing a strong and effective leadership.
5. Find an efficient and capable project manager.
6. Create a balanced team of consultants who can work together as a team.
7. Select a good implementation methodology.
8. Train end users.
9. Adapting the new system and making the required changes in the working environment.

- **ERP Post-Implementation Scenario**

- Many organization have experienced failure in implementing ERP because of the following reasons:

- **Wrong Expectations like** -
  1. An improvement in processes
  2. Increment in productivity
  3. Total automation and no manual work.
  4. Total integration of function
  5. Improvement in all key performance indicators.
  6. Real time information system is available.

- **Employee Fear like –**
  1. Loss of Importance
  2. Loss of Authority
  3. Change in Job Profile
  4. Job Redundancy
  5. Great Transparency

- **Risk and Governance issues in an ERP**

- Organization faces several new business risks when they migrate to real-time, integrated ERP systems. Those risks include:
  1. Single Point of Failure
  2. Structural Changes
  3. Audit Expertise
  4. Privacy & Confidentiality
  5. Job Role Change
  6. Online, real time
  7. Broad System Access
  8. Change management
  9. Dependency on external assistance