

Chapter 10

Enterprise Resource Planning



What is an Enterprise?



- An Enterprise is a group of **people** and **other resources** working together to achieve a common goal.
- An Enterprise consists of different departments with their own **duties** and **responsibilities**(Eg. Marketing, Sales, Finance etc.) and different types of **resources**(Eg. Money, Manpower, and Machinery etc).



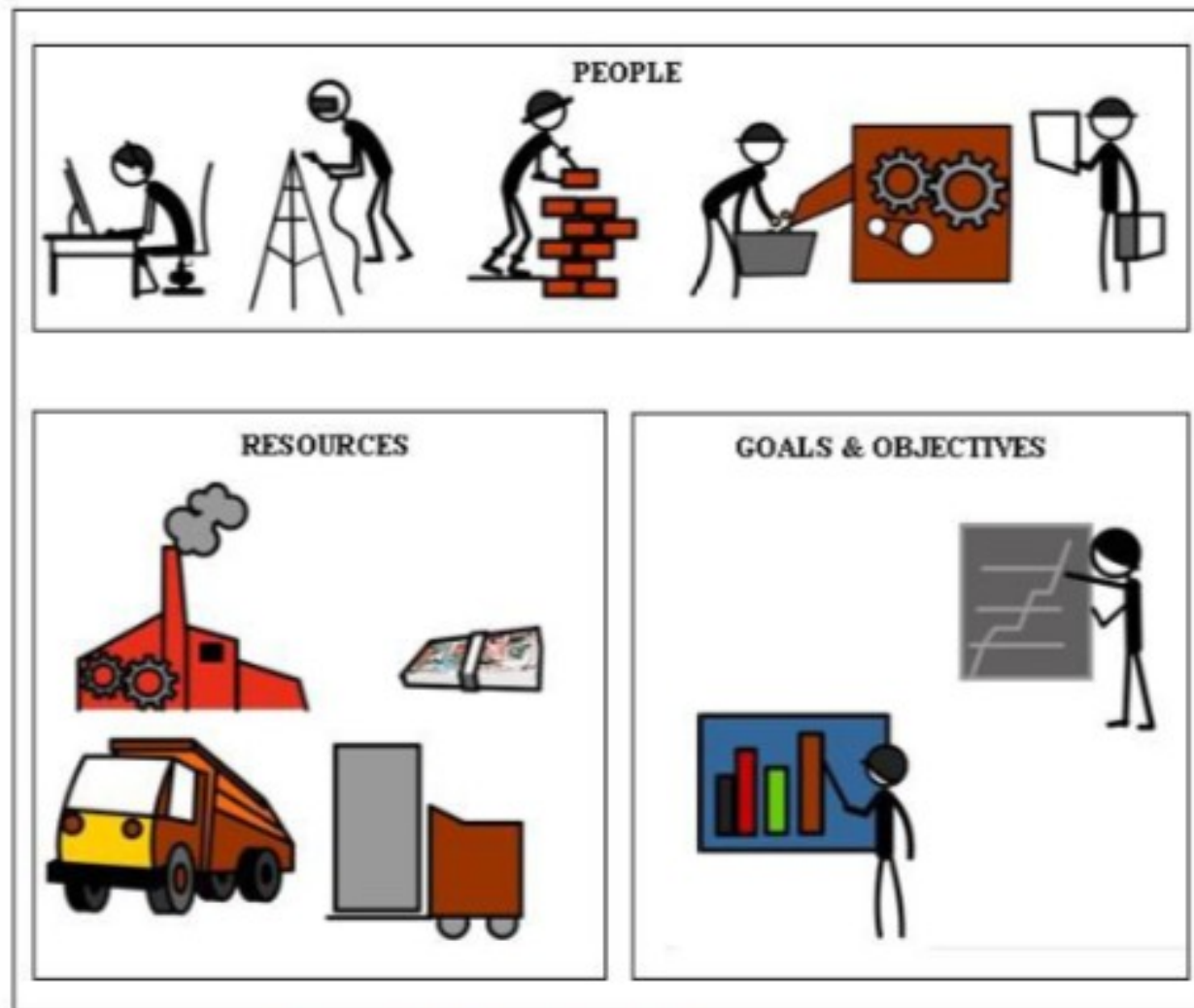


Fig 10.1: An Enterprise

What is the use of Enterprise Resource Planning (ERP) ?



- For better efficiency each department must communicate to other depts.. **ERP combines all the requirements of a company and integrated to a central database so that various departments can share information**



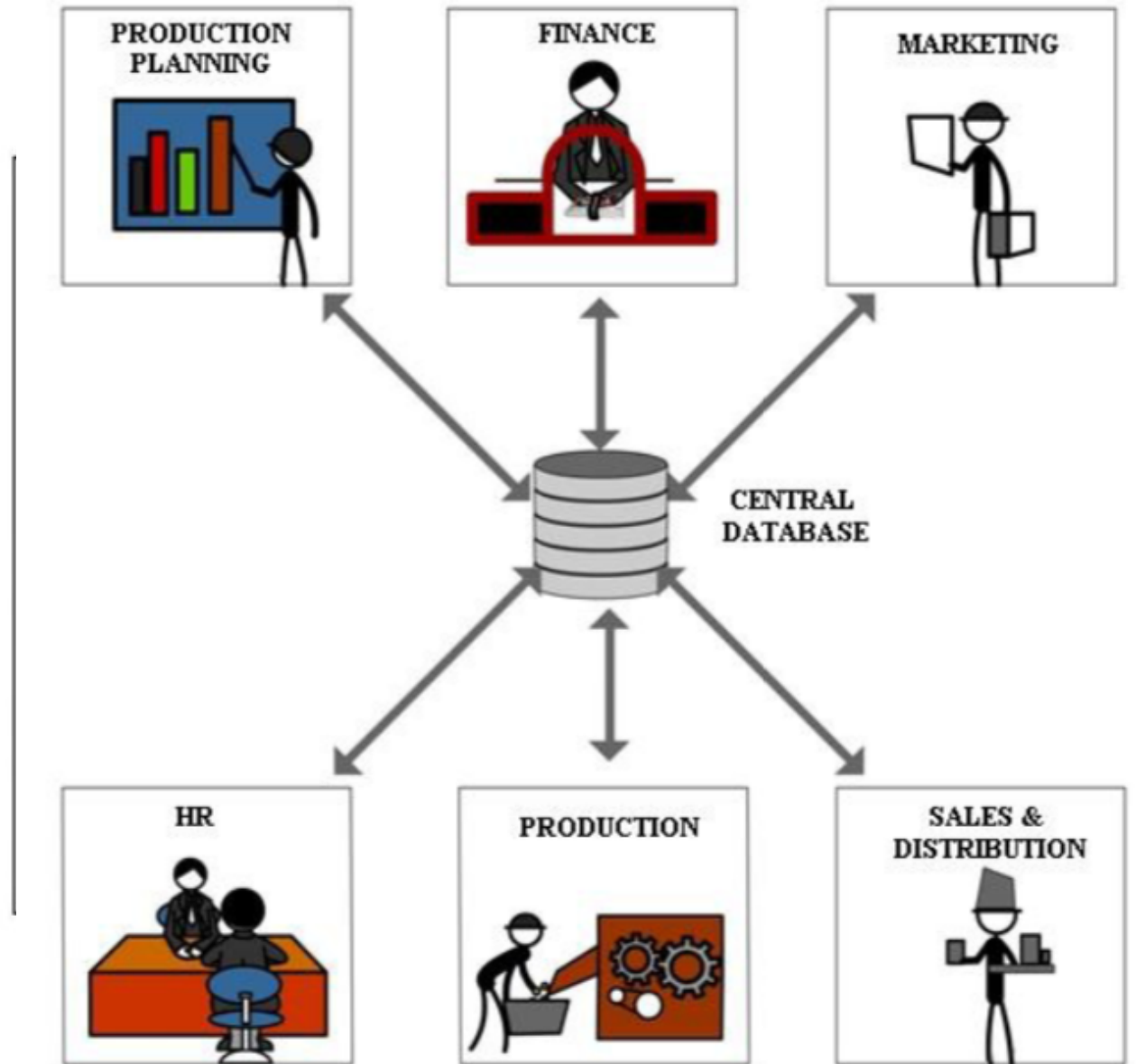


Fig. 10.3: An enterprise with Central Database

What are the Functional Units of ERP?



- 1)**Financial Module:** This module collects financial data from various department and generate various reports like Balance sheet, Trial balance, General ledger etc.
- 2)**Manufacturing Module:** This module manages and provides information for the entire production process
- 3)**Production Planning Module:** This module is used for the utilization of resources in an optimized way so as to Maximize the production and minimize the loss. Optimization means to use resources effectively for the production.
- 4)**HR Module:** HR module maintain an updated and complete employee details database which consists of information like personal details, salary details, attendance and promotion.
- 5)**Inventory Control module:** This Module manages the stock requirement for an organization.
- 6)**Purchasing Module:** This module is responsible for the availability of raw material in the right time at the right price. This module generates purchase orders for the suppliers, billing etc. **Marketing Module:** This module is used for monitoring customer orders, increasing customer satisfaction, eliminating credit risks etc...
- 7)**Sales and Distribution Module:** This module manages the sales and distribution activities. This module includes inquiries, order placement etc.. This module integrates with e-commerce web site.
- 8)**Quality Management Module:** This Module deals with Quality Planning, Quality Inspection and Quality Control.

What is Business Process Re engineering (BPR)



- It is the analysis and redesign of workflow within an enterprise. Reengineering may result in efficient time management, reduced cost, and effective utilization of resources.
- Business Process consists of 3 elements:
 - 1)Inputs**-I/p data for Processing like Data, Materials etc.
 - 2)Processing**- A set of activities to produce an o/p
 - 3)Outcome**- The output of processing.
- The different phases of BPR:
 - a). Identification of business process,
 - b). Analysis of current business process
 - c). Designing a revised process
 - d).Implementing a revised process.

What is the Connection between ERP and BPR ?



- Before implementing ERP we need to conduct a BPR to determine the changes in the structure of business process. This helps to an enterprise to avoid unnecessary modules in ERP.

ERP solution Providers/ERP Packages



- a) **Oracle**- Head quarters at Redwood shores, California, USA.. It also provide Customer Relationship Management(CRM) software and Supply Chain management software(SCM).
- b) **SAP**- Stands for Systems Applications and Products. It is German Company. They develop ERP solutions for both small and large organizations. It also provide Customer Relationship Management(CRM) , Supply Chain management(SCM) and Product Life Cycle Management(PLCM) software etc.
- c) **Odoo**- It is an **open source ERP**. It can be customized based the requirements of organization. It was formerly known as Open ERP.
- d) **Microsoft Dynamics**- US company with head quarters at Redmond, Washington. Provides ERP package to mid sized organization. It can be installed and used easily with good user interface. They also provide CRM software.
- e) **Tally ERP**- **Indian Company** with head Quarters at Bangalore Provide ERP solution for accounting, inventory and payroll.

Implementation Of ERP



- 1)**Pre evaluation screening** – By selecting appropriate modules from those available in the market, we can limit the number of modules to be evaluated.
- 2)**Package Selection**- An ERP system needs huge investments, once a package is selected ,it is not easy to switch on to another package. So the package selection will decide the success and failure of the project.
- 3)**Project Planning**- In this stage the implementation of process is planned and designed. The time schedule, roles and responsibilities of various persons etc are identified and assigned..
- 4)**Gap Analysis**- There is not a single complete ERP package available for meeting all the requirements of an organization. Even the best ERP can meet 80% of needs of an organization. So the Gap should be analysed and considered for the following phases.
- 5)**Business Process Re-engineering(BPR)**- Re-engineering may result in efficient time management, reduced cost, and effective utilization of resources. It is the analysis and redesign of workflow with in an enterprise.

Implementation Of ERP



- 6) Installation and Configuration-** This is the main functional phase of ERP. Before installing a new ERP package the whole process of the enterprise should be analysed in detail. Instead of replacing the old system with new ERP system ,a prototype of the actual ERP is develop and testing of the prototype is done to find its weakness.
- 7)Implementation and Team Training-** This is the phase where the company trains its employees to implement and works on the system. The company should select appropriate employees with right attitude, willingness to change and learn new things and who are not afraid of technology.
- 8)System Testing-** The software is tested to ensure that it works properly
- 9)Going live-** This is the phase where ERP is made available to the entire organization. After Configuring, Testing and Removing errors, the system become live to perform its operations.
- 10) End User Training-**This is the phase where the actual users of the ERP system need to be trained. The employees need to be trained based on their skills to use the new system.
- 11)Post Implementation-** This the phase where we checked whether the objectives set for the ERP system has met.

What are the benefits of ERP System?



- 1)Improved resource utilization:** reduce the wastage of resources and improve resource utilization
- 2)Better Customer Satisfaction:** customer can place orders and make payments from home.
- 3)Provides Accurate Information:**
- 4)Decision Making Capability:-** Accurate and relevant information helps to make better decisions for a system.
- 5)Increased Flexibility:-**ERP system can adapt new changes easily.
- 6)Information Integrity:-** information about enterprise is stored in central database. **high security, business intelligence unified reporting system, high speed delivery of product or services etc. ..**

What are the Risks of ERP implementation ?



- 1) High Cost:-** The cost of Implementation of ERP is high. The cost of various modules and license fees are high.
- 2) Time Consuming:-** it may take months to years for the complete installation of ERP.
- 3) Requirement of additional trained staff:-** trained and experienced persons are necessary.
- 4) Operational and Maintenance issues:-** Implementation of ERP needs major changes in the current process of an enterprise.

ERP related technologies



- 1)Product Life Cycle Management (PLM)**
- 2)Customer Relationship Management (CRM)**
- 3)Management Information System (MIS)**
- 4)Supply Chain Management (SCM)**
- 5)Decision Support System (DSS)**



1) Product Life Cycle Management (PLM):



- PLM is the process of managing the entire life cycle of a product.
 - A product has 4 stages:
 - 1)It's introduction,**
 - 2)It's Growth in the market**
 - 3)It's Maturity**
 - 4)It's decline.**
 - PLM is used for **increasing quality of product, increasing marketing opportunities, and for use of latest technology**
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2) Customer Relationship Management (CRM):



- It covers the policies used by the enterprise to manage their relationship with customers. It includes capture, storage and analysis of customer information.



3) Management Information System (MIS)



- Information system **collects, stores and distributes** information from an organization. It is also used for **decision making, communication, coordination, control and analysis** of an enterprise.
- Information system **transforms raw data into a useful information.**
- All categories of employees like clerks, assistants, officers and managers uses MIS.



4) Supply Chain Management (SCM)



- It consists of all activities associated with moving goods from the supplier to the customer.
- It begin with collecting raw material and ends with delivering goods to customer.
- SCM aim to fast delivery of goods to customers thus increase the customer satisfaction.



5) Decision Support System (DSS)



- It is a computer program that **analysis business data and present it so that users can make business decisions more easily.**
- It provides information in the form of various reports with the help of DBMS.



Previous Questions



- 1. is an open source ERP
- 2. Write short note on Management Information System
- 3. Explain the benefits of ERP system
- 4. Expand MIS
- 5. How Business Process Re-Engineering is related to Enterprise Resource Planning (ERP) ?





- 6. Explain the merits of ERP system
- 7. Define BPR
- 8. Define the following ERP related technologies
 - (a) CRM
 - (b) SCM
- 9. Write short note on SAP