Unit 3

ENTERPRISE SYSTEM
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ERP IMPLEMENTATION

* **1. ERP Implementation Strategies**
* **Big Bang:** The entire ERP system is deployed at once across the organization.
  * **Advantage:** Shorter implementation time.
  * **Challenge:** Higher risk of disruption.
* **Phased Approach:** ERP is implemented module by module or department by department.
  * **Advantage:** Easier to manage and less disruptive.
  * **Challenge:** Longer implementation timeline.
* **Parallel Adoption:** ERP runs alongside legacy systems for a period until fully adopted.
  * **Advantage:** Reduces the risk of failure.
  * **Challenge:** Higher costs due to maintaining both systems.

MATERIAL REQUIREMENTS PLANNING (MRP)

- **Definition**: A planning tool within ERP systems that calculates material requirements based on production schedules.

- **Functions**:
  - Inventory control.
  - Ensuring materials are available for production when needed.
  - Reducing waste and excess inventory.

BILL OF MATERIALS (BOM)

- **Definition**: A hierarchical list of all components, sub-assemblies, and raw materials needed to manufacture a product.

- **ERP Integration**: Automates the creation and maintenance of BOMs, ensuring accuracy in production planning and costing.

SHOP FLOOR CONTROL

* **Purpose**: Monitors and manages operations on the shop floor.
* **Features in ERP**:
  + Real-time tracking of production activities.
  + Work-in-progress (WIP) monitoring.
  + Machine performance and labor productivity tracking.

SALES CONFIGURATION

* **Definition**: Customizes products to meet customer specifications during the sales process.
* **ERP Functionality**:
  * Automates pricing and quotation processes.
  * Ensures alignment between sales, production, and inventory.

QUALITY MANAGEMENT

* **Purpose**: Ensures that manufactured goods meet quality standards.
* **ERP Features:**
  + Tracks quality inspections and audits.
  + Manages non-conformances and corrective actions.
  + Provides real-time reporting for compliance.

PURCHASE ORDER MANAGEMENT

× **Functions in ERP:**

  + Automates procurement processes, from requisitions to purchase orders.

  + Tracks supplier performance and delivery schedules.

  + Ensures transparency in the procurement cycle.

INVENTORY MANAGEMENT

× **ERP Capabilities:**
  + Tracks stock levels in real-time.
  + Manages reorder points and safety stock levels.
  + Reduces stockouts and overstock situations.

PRODUCTION PLANNING AND CONTROL

× **Functions:**

+ Plans production schedules based on demand forecasts.

+ Allocates resources efficiently.

+ Tracks production performance and adjusts schedules dynamically.

PLANT MAINTENANCE

× **ERP Integration:**

  + Schedules preventive and corrective maintenance activities.

  + Tracks equipment performance and downtime.

  + Manages spare parts inventory and maintenance costs.

BUSINESS PROCESS REENGINEERING (BPR)

Fundamental Concepts

* **Definition:** BPR involves fundamentally redesigning business processes to achieve significant improvements in performance, such as cost, quality, service, and speed.
* **Key Goals:**
  + Eliminate redundancies.
  + Streamline workflows.
  + Leverage technology for process improvement.
* **12. BPR Methodology**
* **Preparation:**
  + Define objectives and scope.
  + Secure leadership support.
* **As-Is Analysis:**
  + Map existing processes.
  + Identify inefficiencies and bottlenecks.
* **To-Be Design:**