EVOLUTION OF ERP SYSTEMS

A Historical Perspective

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ERP comprises of a commercial software package that promises the *seamless integration* of all the information flowing through the company—financial, accounting, human resources, supply chain and customer information

Davenport (1998)

a method for the **effective planning** and controlling of all the resources needed to **take, make, ship** and account for customer orders in a manufacturing, distribution or service company

American Production and Inventory Control Society (2001)

WHAT IS ERP?

❖ ENTERPRISE RESOURCE PLANNING

❖ INTEGRATION OF MODULES

❖ SOLVE INFORMATION FRAGMENTATION

INFORMATION FRAGMENTATION

❖ **Separate computer systems**

  ➤ Individual function

  ➤ Business unit

  ➤ Region

  ➤ Factory

  ➤ Office

❖ **Redundant data**

❖ **Interoperability problems**

INFORMATION INTEGRATION

❖ **ERP SOFTWARE PACKAGE**

➢ SINGLE APPLICATION

➢ SINGLE COMPREHENSIVE DATABASE

➢ SINGLE USER INTERFACE

➢ OPERATE IN REAL-TIME

ERP SOFTWARE MODULES

❖ FINANCIALS

❖ HUMAN RESOURCES AND PAY ROLL

❖ DISTRIBUTION/LOGISTICS

❖ SALES & MARKETING

❖ MANUFACTURING

- ✓ PRODUCT DATA MANAGEMENT
- ✓ MATERIAL PLANNING
- ✓ RESOURCE & CAPACITY PLANNING
- ✓ SHOP FLOOR MANAGEMENT
- ✓ QUALITY MANAGEMENT, ETC.

EVOLUTION OF ERP

1960s	• Inventory Management and Control
1970s	• Material Requirements Planning (MRP)
1980s	• Manufacturing Resources Planning (MRP II)
1990s	• Enterprise Resource Planning (ERP)
2000s	• Extended ERP

EVOLUTION OF ERP

1960s

- **Inventory Management and Control**

❖ IT + Business Processes

❖ Maintain level of stock

  ➢ Identify requirements & Set targets

  ➢ Provide replenishment techniques & options

  ➢ Monitor item usage
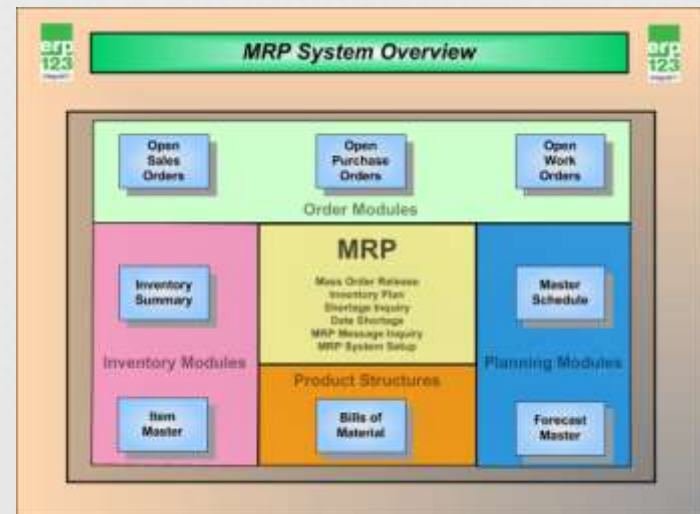
  ➢ Reconcile balances

  ➢ Report status

EVOLUTION OF ERP

1970s

- Material Requirements Planning (MRP)

❖ SCHEDULING PRODUCTION PROCESSES

- ❖ OPERATIONS
- ❖ RAW MATERIAL PURCHASES
- ❖ PRODUCTION STRUCTURE
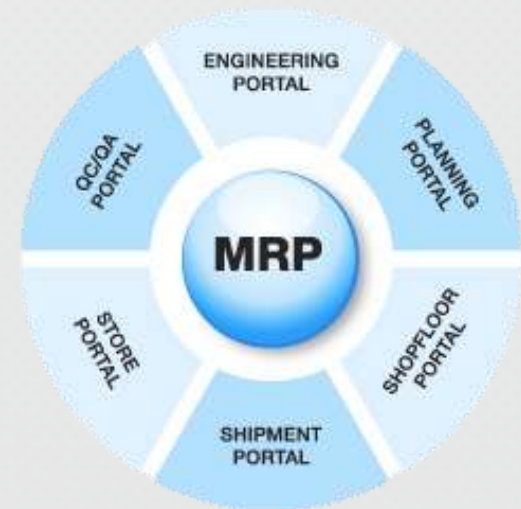- ❖ INVENTORY LEVELS
- ❖ LOT SIZING PROCEDURE

EVOLUTION OF ERP

1980s • **Manufacturing Resources Planning (MRP II)**

❖ COORDINATING MANUFACTURING PROCESSES

   ❖ PRODUCT PLANNING

   ❖ PARTS PURCHASING

   ❖ INVENTORY CONTROL

   ❖ PRODUCT DISTRIBUTION

EVOLUTION OF ERP

1990s • **Enterprise Resource Planning (ERP)**

❖ MULTI-MODULE APPLICATION SOFTWARE
- ❖ IMPROVE INTERNAL BUSINESS PROCESSES PERFORMANCE
- ❖ CROSS FUNCTIONS
- ❖ INTEGRATED WITH
  - ✓ MARKETING
  - ✓ FINANCE
  - ✓ ACCOUNTING
  - ✓ HUMAN RESOURCES

EVOLUTION OF ERP

2000s

• Extended ERP

❖ BASED ON ERP

❖ CONNECTED TO VALUE CHAIN AND MORE

   ❖ SUPPLY CHAIN MANAGEMENT

   ❖ CUSTOMER RELATIONSHIP MANAGEMENT

   ❖ PRODUCT LIFECYCLE MANAGEMENT

   ❖ E-COMMERCE

❖ IP BASED INFRASTRUCTURE