Enterprise Resource Planning

What is an Erp?

- ERP is a software used by organizations to manage daily business activities like accounting, procurement, project management, risk management, and supply chain operations. It helps plan, budget, predict, and report financial results, ensuring data integrity and eliminating duplication from multiple sources.

Enterprise Resource Planning

- ERP systems are designed with a single, defined data structure, ensuring normalization and interconnectedness with business processes across departments. They integrate people, processes, and technologies, facilitating seamless integration across modern enterprises.

Example

- Consider a company that builds cars by procuring parts and components from multiple suppliers. It could use an ERP system to track the requisition and purchase of these goods and ensure that each component across the entire procure-to-pay process uses uniform and clean data connected to enterprise workflows, business processes, reporting, and analytics

What does ERP do?

- ERP applications facilitate efficient communication and information sharing among departments, enhancing self-awareness and eliminating duplicates. They link production, finance, distribution, and human resources data, eliminating incompatible technology and integrating systems like accounts payable, stock control, and customer databases into one.

How Does It Work?

- ERP has evolved from traditional software models to cloud-based, web-based systems. Businesses select applications, and the hosting company loads them onto the client's server. Integration of processes and data occurs, with data collected and available for use. Reports with metrics, graphs, and visuals help clients assess performance.

Brief History of ERP

- ERP, or enterprise resource planning, has a history dating back over 100 years. It began with the economic order quantity (EOQ) model in 1913, which was later adopted by Black and Decker in 1964. MRP II, developed in 1983, integrated core manufacturing components and shared enterprise data to improve operational efficiency. As technology evolved, concepts expanded to include finance, customer relationship management, and human resources data, creating the new category of business management software.

Enterprise Resource Planning (ERP) Evolution

ERPs Systems Evaluation Throughout the Years

01 Material Requirements Planning (MRP)

02 Manufacturing Resource Planning (MRP II)

03 Enterprise Resource Planning (ERP)

04 Web-Based ERP

05 Cloud-Based ERP

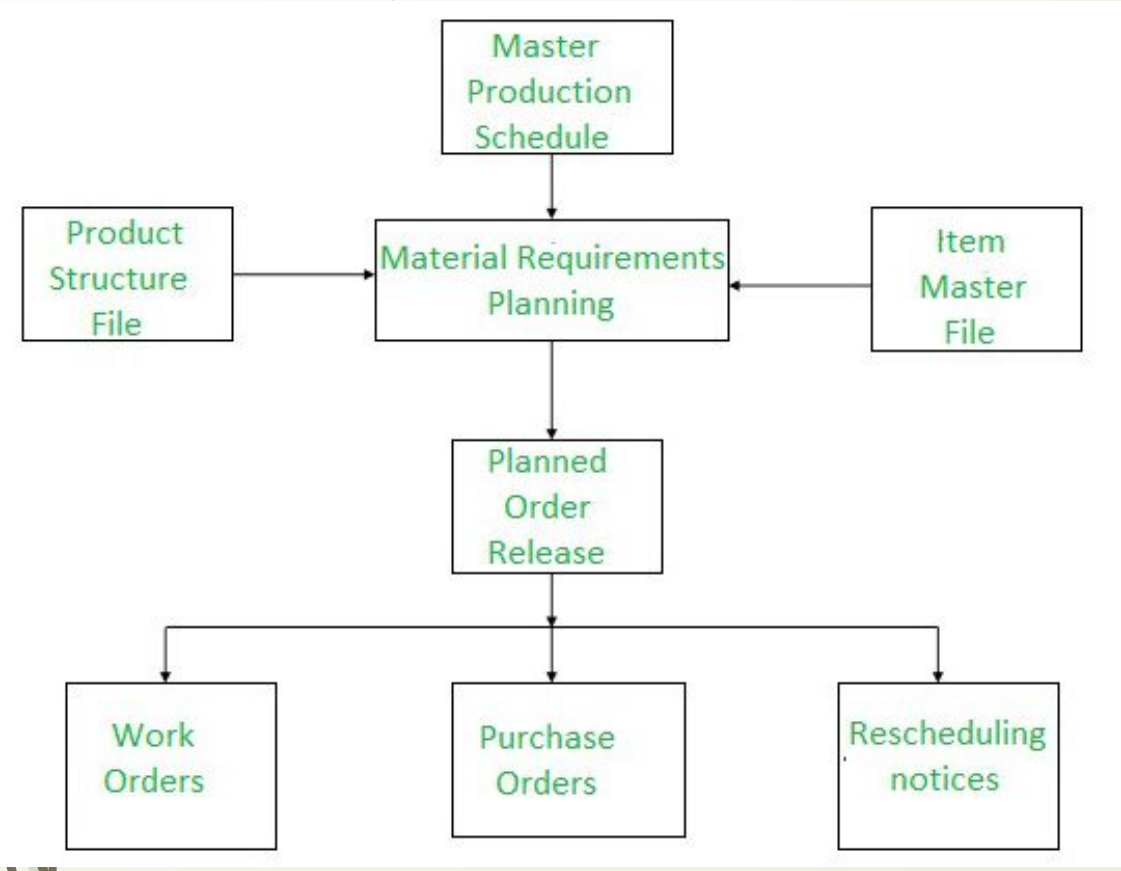
06 Mobile ERP

07 Integration and Analytics

08 Industry-Specific ERP

09 Intelligent ERP

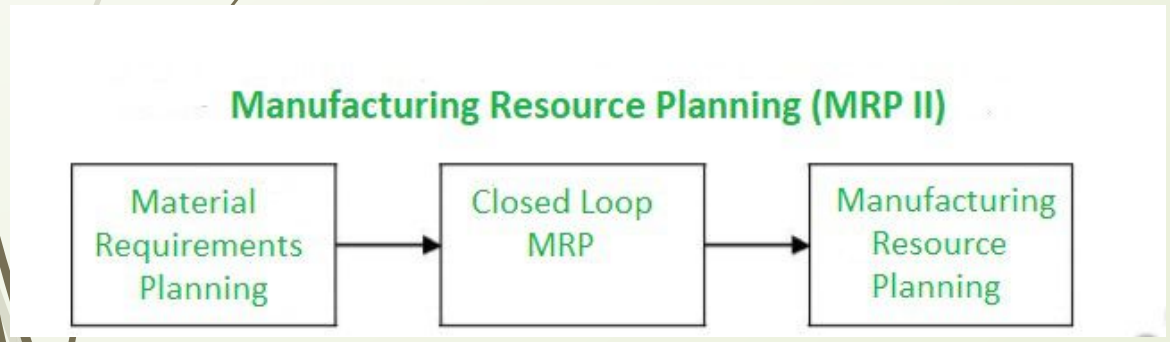
ERP EVOLUTION

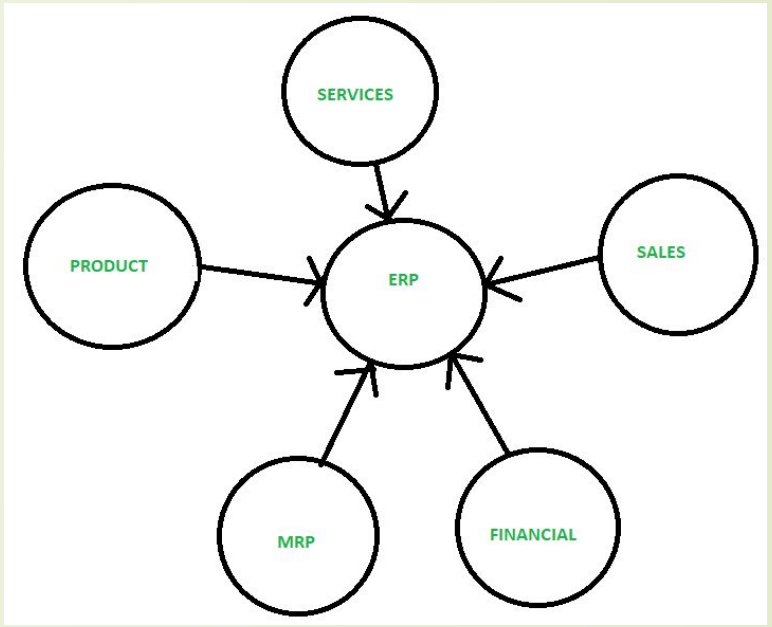


- **Early Systems (1960s–1970s): Material Requirements Planning (MRP)** systems, which were created in the **1960s** to manage manufacturing processes and inventory, are the ancestors of **ERP** systems. These early systems were mainly concerned with controlling and planning production.

ERP EVOLUTION

- **MRP II (1980s):** MRP II systems broadened their application in the **1980s** to incorporate more business operations like finance, human resources, and marketing. This served as the basis for **ERP** systems in the future

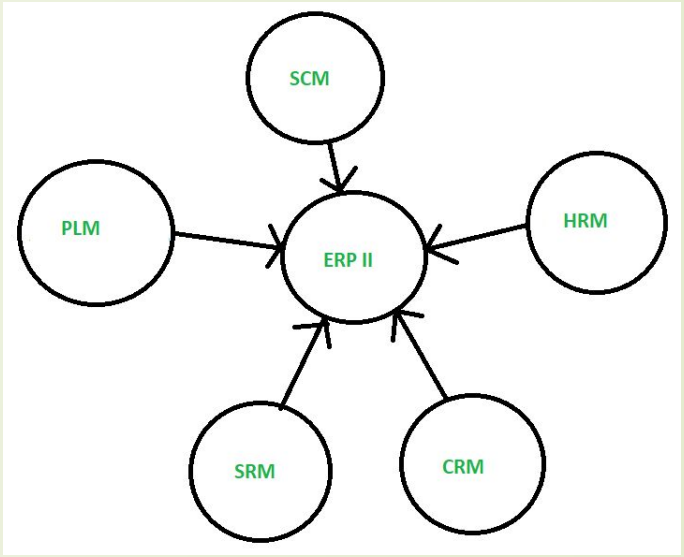




- **ERP's Emergence (1990s):** At the beginning of the **1990s**, the phrase "Enterprise Resource Planning" was first used. Various company processes were incorporated into a single software platform by **ERP** systems. During this time, systems like JD Edwards, Oracle Applications, and SAP R/3 rose to prominence

ERP EVOLUTION

- **Internet and E-Business (Late 1990s to Early 2000s):** As the internet expanded, ERP systems began to include e-business features, allowing for integrated online transactions. Also around this time period, cloud-based ERP solutions started to appear.

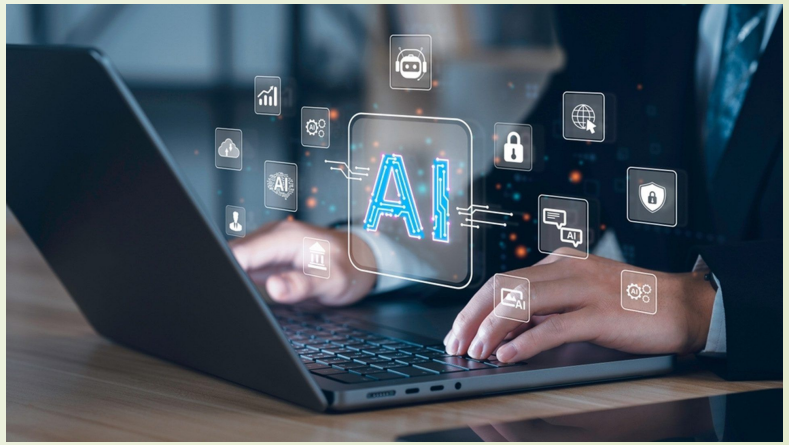


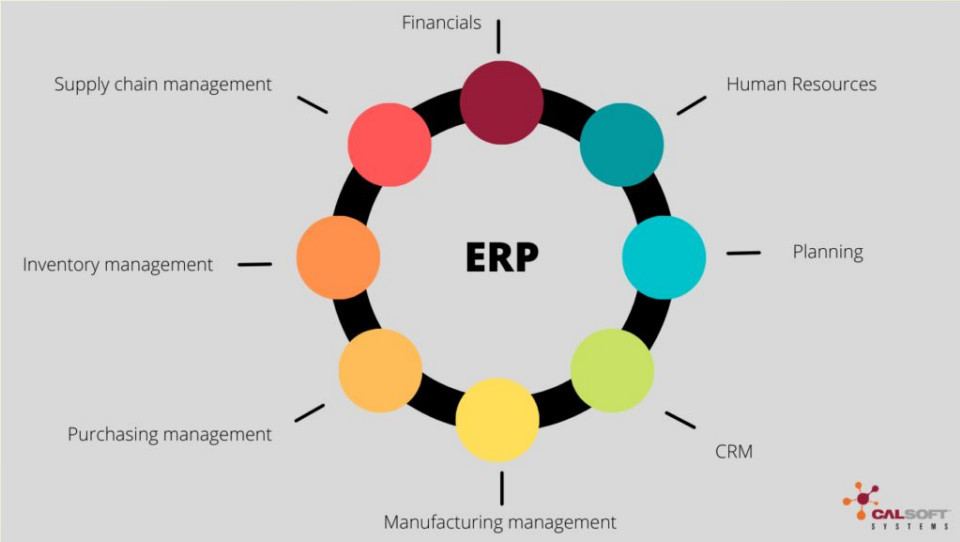
- **Mobile and Cloud ERP (2010s):** ERP systems have moved in favor of being mobile and cloud-based in the 2010s. This improved ERP's usability, scalability, and affordability for companies of all sizes. Users were able to access ERP data while on the go through mobile apps

ERP EVOLUTION

- **AI and Analytics (Late 2010s–Present):** ERP systems are progressively integrating advanced analytics and artificial intelligence. Machine learning, predictive analytics, and automation powered by AI have improved organizational productivity.

- **Industry-Specific ERP (Present):** Modern ERP programs frequently provide industry-specific features. For instance, there are ERP systems with features and compliance tailored to the healthcare, manufacturing, retail, and other industries.





ERP EVOLUTION

- **Integration with IoT and Big Data (Present–Future):** By integrating with the Internet of Things (IoT) and utilizing big data for more insightful analysis, ERP systems continue to advance. This enables businesses to streamline their processes and react to real-time data

- **Sustainability and Environmental ERP** (Emerging): Some ERP systems are including tools to assist firms analyze and manage their environmental impact, including carbon emissions and resource usage, as sustainability becomes an increasingly important concern.