ERP

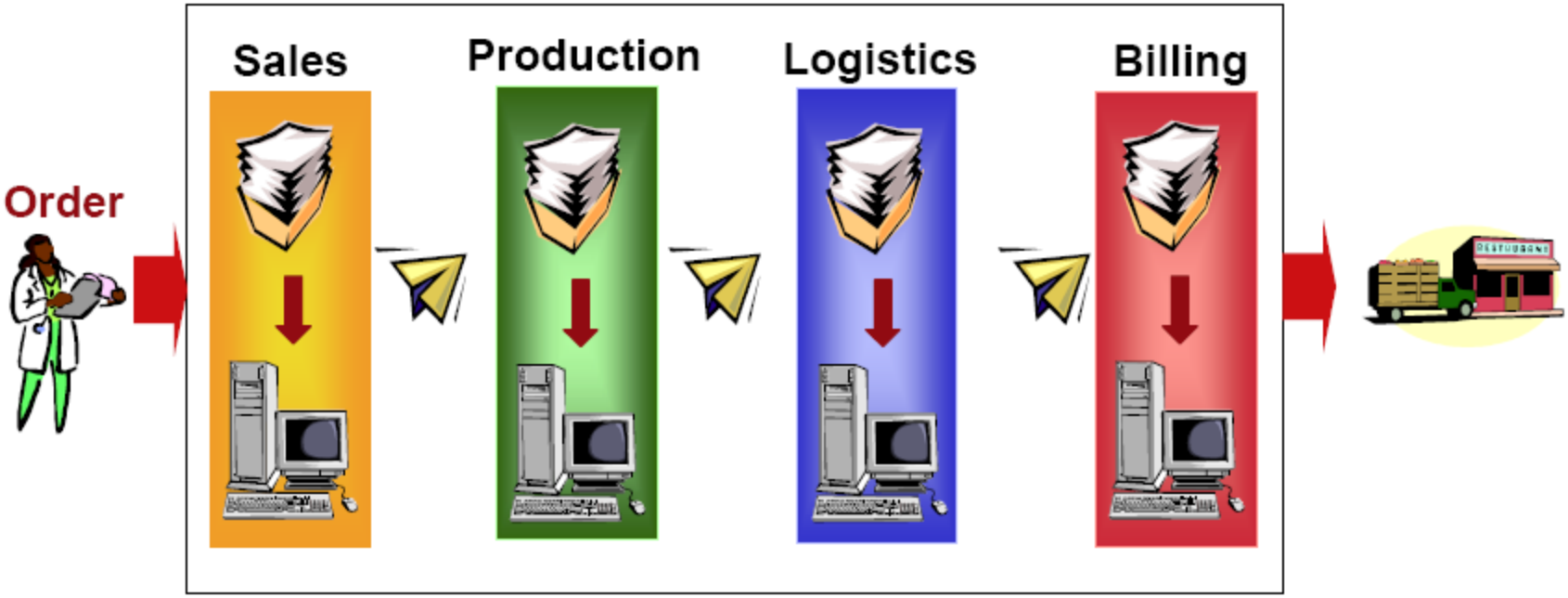
Past, Present and Future

ERP – Enterprise Resource Planning

PLANNING the RESOURCES of an ENTERPRISE

- ERP is a way to integrate the data and processes of an organization into one single system with modules that support core business areas such as manufacturing, distribution, financials and human resources.
- ERP allows managers from most or all departments to look vertically and horizontally across the organization to see what they must see (information) to be productive in their managerial roles.
- ERP captures data from historical activity and current operations . That data can be transformed into information that, along with external information, is useful in planning and controlling operations, and in developing business strategies.
- ERP is evolving into a Multi-Module Application Software Package that automates inter-organizational business processes across the supply chain which involve business partners, suppliers, customers, and more.

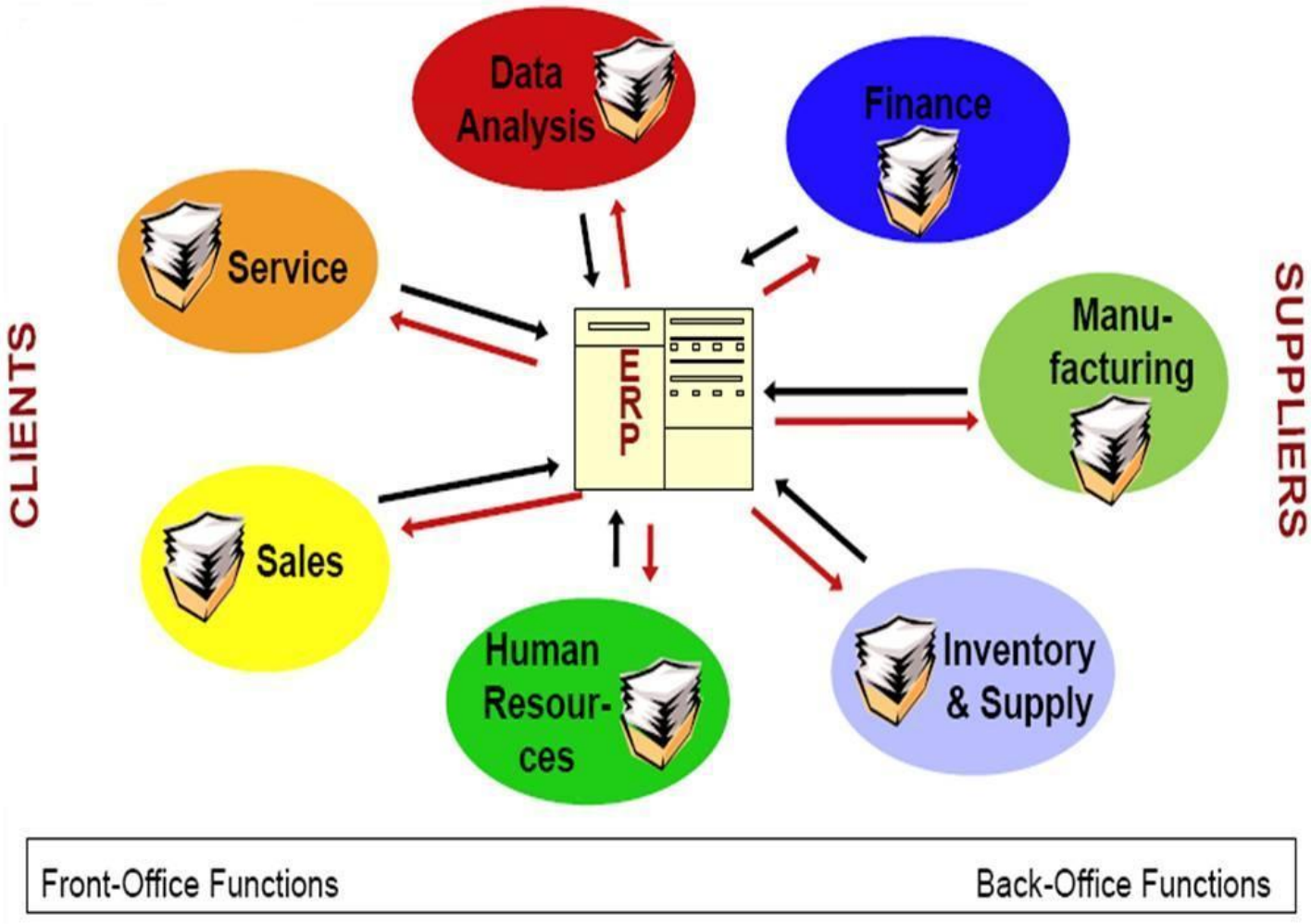
BEFORE ERP



Problems:

Delays, Lost Orders, Keying into different computer systems invites errors

AFTER ERP


Data Analysis
Finance
Service
ERP
Manu-facturing
CLIENTS
SUPPLIERS
Sales
Human Resour-ces
Inventory & Supply
Front-Office Functions
Back-Office Functions

EVOLUTION OF ERP

- 1960s – Inventory Control
- 1970s – MRP (Material Requirement Planning).
  - This system helped in translating the master production schedule into requirements for individual units like sub assemblies, components and raw materials. MRP systems helped determine what to order, how much to order, when to order and when to schedule delivery.
- 1980s – MRPII (Manufacturing Resource Planning)
  - MRPII supported efforts to optimize the entire plant production system by supporting capacity planning, shop floor control, and distribution management activities. MRPII was further extended to support areas like Finance, Human Resources, Engineering, Project Management etc. As MRPII like systems were adopted by non manufacturing enterprises like banks and airlines to support cross-functional coordination and integration of business processes, the “M” no longer fit, thus the name ERP was coined.
- 1990s – ERP
  - Today, ERP is the foundation system for domestic and global business operations, supporting most or all functional areas in their daily operations. For some organizations, ERP is a source of competitive advantage.
- 21st century – ERPII
  - ERPII is the name some now use to describe ERP like systems that are evolving to support inter-organizational business processes across the supply chain.

The Evolution of ERP

System	Primary Business Need (s)	Scope	Enabling Technology
MRP	Efficiency	Inventory Management and Production planning and control.	Mainframe computers, batch processing, traditional file systems.
MRPII	Efficiency, Effectiveness and integration of manufacturing systems	Extending to the entire manufacturing firm (becoming cross functional).	Mainframes and Mini computers, real-time (time sharing) processing ,database management systems (relational)
ERP	Efficiency (primarily back office), Effectiveness and integration of all organizational systems.	Entire organization (increasingly cross functional), both manufacturing and non-manufacturing operations	Mainframes, Mini and micro Computers, Client server networks with distributed processing and distributed databases, Data warehousing, and mining, knowledge management.
ERPII	Efficiency, Effectiveness and integration within and among enterprises.	Entire organization extending to other organizations (cross functional and cross enterprise--partners, suppliers, customers, etc.)	Mainframes, Client Server systems, distributed computing, knowledge management, internet technology (includes intranets and extranets).
IRP **Enterprise Suite, or whatever label gains common acceptance**	Efficiency, Effectiveness and Integration within and among all relevant constituents on a global scale.	Entire organization and its constituents (increasingly global) comprising supply chain from beginning to end as well as other industry and government constituents	Internet, Web Service Architecture, wireless networking, mobile wireless, knowledge management, grid computing, artificial intelligence.

ERP TODAY

- Today's focus seem more to be external as organizations look for ways to support and improve relationships and interactions with customers, suppliers, partners and other stakeholders.
- The focus of ERP in increasingly on Front-Office Applications and inter-organizational business processes, thus making it visible to "OUTSIDERS"
- The increasing importance of E-Commerce and Globalization of business makes support of inter-organizational processes more important.
- ERP Vendors
  - SAP
  - PeopleSoft
  - Oracle
  - Microsoft Business Solutions
  - SSA Global
- ERP vendor products reflect the evolving business needs of clients and the capabilities of IT, perhaps most notably internet related technologies.
- ERP helps Organization to
  - improve competitiveness
  - increase profits
  - prosper in the global economy.

ERPII—The Future of ERP

- ERPII is a business strategy and a set of collaborative operational and financial processes internally and beyond the enterprise
- New multi-enterprise business models like Value Collaboration Networks, customer-centric networks that coordinate all players in the supply chain, are becoming popular as we enter the 21st century
- These new business models reflect an increased business focus on external integration
- There is movement away from Client-Server System to Internet Based Architecture

New Technologies in ERPII

- E-Commerce (Electronic Commerce)
- M-Commerce (Mobile & Wireless Technologies)
- C-Commerce (Collaborative Commerce)
- Middleware
- Enterprise Portal Technologies
- Web Services
- RFID
- Analytical Capabilities (Data Warehousing & Data Mining)
- CRM, SCM, SRM
- Knowledge Management
- Business Intelligence

Difference Between ERP & ERPII

Six key differences between ERP and ERP II Systems

Keys	ERP	ERPII
Role	Traditional ERP was concerned with optimizing an enterprise, Internal optimization.	ERP II systems are about optimizing the supply chain through collaboration with trading partners.
Domain	ERP systems focused on manufacturing and distribution.	ERP II systems will cross all sectors and segments of business.
Function	As ERP systems cross sectors and segments, they will no longer be able to present all things to all people.	ERP II vendors to pick the industries in which they're going to play, and focus on providing deep functionality for those users.
Process	In ERP systems, the processes were focused on the four walls of the enterprise.	ERP II systems will connect with trading partners, to take those processes beyond the boundaries of the enterprise.
Architecture	Old ERP systems were monolithic and closed.	ERP II systems will be Web-based, open to integrate and interoperate with other systems that allow users to choose just the functionality they need.
Data	Information in ERP systems is generated and consumed within the enterprise.	In an ERP II system, that same information will be available across the supply chain to authorized participants.

CONCLUSION

- Enterprise systems are evolving because organizations are changing.
- To know what the future of ERP holds, one must look to the changing environment of business and changing business needs.
- Systems will evolve to meet the business needs. Based on current trends, these will be increasingly inter-organizational and global.
- Inter-organizational systems (ERPII) will pose challenges beyond the ones faced with ERP because of the need to integrate the diverse systems of different organizations.
- Global supply chains mean inter-organizational systems that span different cultures and countries. That will bring even greater challenges due to cultural differences, legal issues, and more.