

MANAGEMENT INFORMATION SYSTEMS 8/E
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Chapter 15

Enterprise Information Systems

What is an Enterprise Information System (EntIS)?

- Computer-based system that can perform all standard accounting tasks for all of the organizational units in an integrated and coordinated fashion
- System purpose is to collect and disseminate data to all processes of the organization
- Also called enterprise resource planning (ERP)

EIS Sitting Atop Business Area ISs

Planning and
Control

Aggregation
of Data



EIS

Marketing Information
Systems

Information Resources
Information Systems

Human Resource
Information Systems

Financial Information
Systems

Manufacturing Information
Systems



EntIS

Transaction Recording

Data Details

Evolution of EntIS

- First ISs in 1960's were TPSs
- MISs
- Manufacturing requirements planning (MRP)
 - Developed to deal with complex issues of inventory control
- MRP II
 - Information systems that encompass the flow of material from vendors, through manufacturing, and to the firm's customers

Evolution of EntIS (cont.)

- ERPs were next logical step
 - All information about organizational processes is consolidated
 - Requires large commitment of hardware resources, sophisticated software, database management systems, and well-trained users

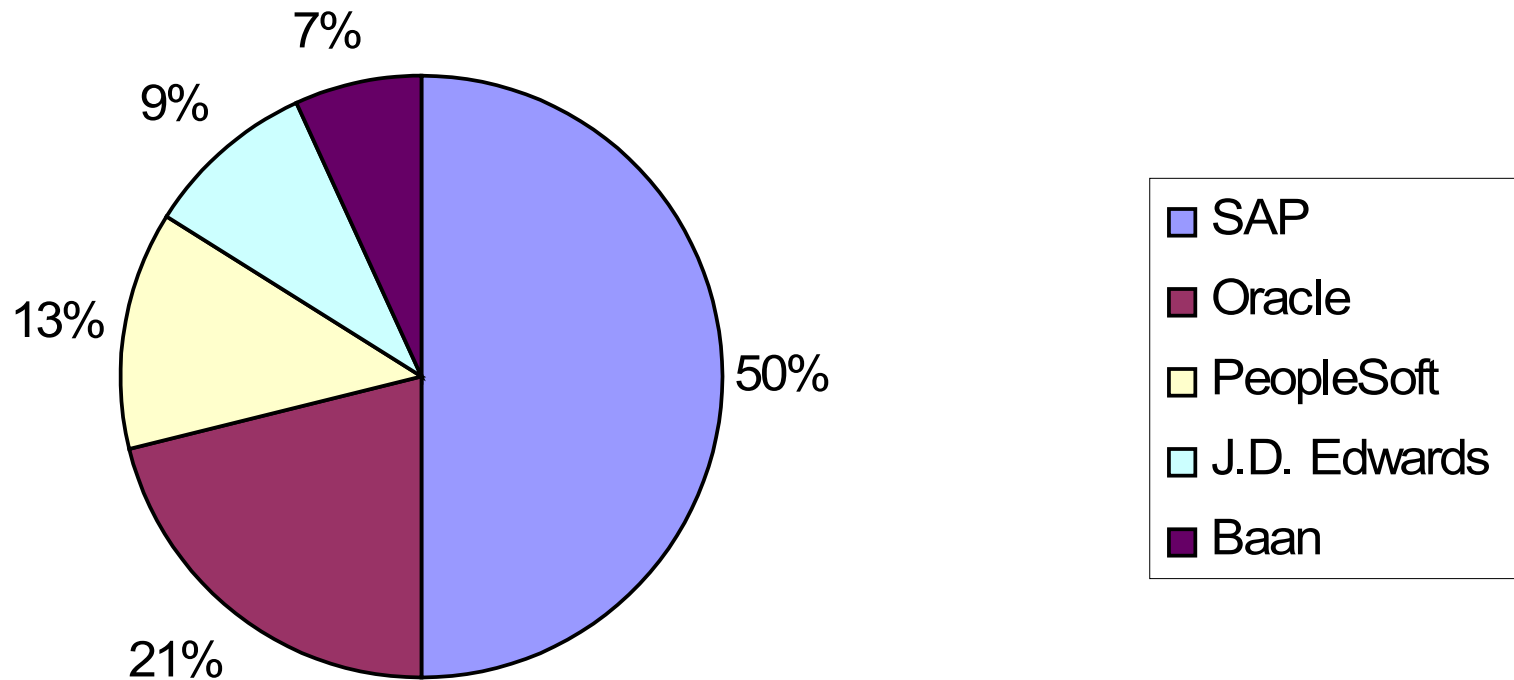
Driving Forces Behind ERP Popularity

- Fears about Y2K problems
- Difficulty in achieving enterprisewide systems
- Recent flurry of corporate mergers
- Follow-the-leader competitive strategies

ERP Software Industry

- Only limited number of vendors
- Five largest vendors had combined sales of \$10 billion in 1998
- Largest vendor is SAP (www.sap.com)
- Training and consulting are also big expenditures in this area

1998 ERP Sales of Top Five Vendors



Back Office Systems

- Another name for ERP
- Traditionally ERP focused on internal entities
- EntIS is evolving outside the firm

EntIS Feasibility

- ERP is a large investment and must be treated as such
- Investment entails more than cash outlays
 - Commitment to focus on interacting business processes
- Benefits are not always economic
- Many feasibility issues need consideration

Economic Feasibility

- Concerned with justifying an expenditure by considering both costs and benefits in monetary terms
- Investment costs for ERP
 - Very high: \$10 million for a moderate sized application
 - High likelihood of negative ROI
- Tangible and intangible benefits must be considered
- Opportunity costs of NOT implementing ERP

Technical Feasibility

- EntIS must be viewed as technically complex systems resting organizational database management systems
- EntIS may reside on single computer or be distributed
 - May strain computing resources
 - May strain communications resources
- Usually requires latest technology particularly in larger organizations

Operational Feasibility

- Persons in the organization must be willing and able to achieve the change from current IS to an EntIS
- Is business process standardization desirable?
 - Loss of personalization of customer data
 - Cultural changes
- Need for EntIS Champion

EntIS Champion

- Person or group who serves as driving force behind the organization's change to EntIS
- Variety of people can be EntIS champion
- Lead the organization to a fundamental revamping of core business processes

Possible EntIS Champions

1. Chief executive officer
2. Teams of senior management
 - a) Chief information officer
 - b) Vice president of manufacturing
 - c) Chief financial officer
 - d) Other senior managers
3. Collection of well-respected middle managers from a wide spectrum of organization operations

EntIS Implementation

- Particular attention must be paid to software vendors, training, and cutover
- Takes months
 - Average is about two years
 - Due to complexity and legacy systems developed years earlier
- Variety of approaches can be taken

EntIS Vendor Selection

- Choice of vendor is important
- Underlying business concepts in vendor's system should be major criteria
- After major ERP pieces are in place, firm may want to consider bolt-on systems
 - Software that takes advantage of ERP features
 - » Customer relations management
 - » Demand forecasting
 - » Logistics

User Training

- Cannot be an afterthought
- Must be part of the initial design
- Requires users to understand business processes beyond their normal jobs
- ERP vendors provide training services
- SAP is a leader in Training

Training Related to ERP Software

Type of Training	When Training Should Occur
Learning ERP Vendor Software	Before the EntIS is planned and designed
Training by ERP Vendor (or company specializing in ERP training)	As the is being designed and implemented; also after the system is implemented
Peer-to-peer training such as conferences	Especially helpful after the implementation of EntIS projects

SAPPHIRE

- SAP's user support group
- Composed of SAP employees, customers, vendors of products that work with SAP
- Purpose is NOT to sell SAP
 - Learn its features
 - Make better use of its capabilities

ERPWorld Organization (www.erpworld.com)

ERPWorld.COM is an International Industry Analyst group focusing on eBusiness and Enterprise application projects

Not affiliated with any particular vendor

Promotes knowledge and understanding of ERP

EntIS Implementation Cutover Approaches

■ Immediate

- Extremely dangerous
- Failure could stop all organizational information processing

■ Phased

- Segments related to various business processes are implemented in sequence of importance
- Most viable method

EntIS Implementation Cutover Approaches (cont.)

- Parallel, often proceeded with a pilot effort
 - EntIS and original system operate together for a period of time until EntIS is proven to work
 - Often too costly
 - May require more computing resources than a firm can acquire

Minimizing EntIS Failures

1. Understand the organization's span of complexity
2. Recognize processes where value cannot be maintained if standardization is imposed
3. Achieve a consensus in the organization before deciding to implement an enterprise information system

EntIS and the Web

- Ease of use
 - Web browsers are a viable interface for EntIS
 - Users don't have to learn a new interface
 - WWW can provide a portal for an ERP vendor's applications
 - Organization can be given location in an electronic mall provided by vendor
 - Benefits entities outside the boundaries of the organization

EntIS and the Web (cont.)

- Customer concerns
 - EntIS are large and complex
 - Challenge to EntIS firms is to standardize sales processes
 - Organizations may choose to only allow business-to-business transactions to interface with their EntIS

Future of EntIS

- EntIS industry is currently growing at a rate exceeding 30% per year
- Two directions
 - Rapid development
 - Enterprise resource management
- User-friendly software
- Converging database and Enterprise systems

Accelerated ERP Development Tools

- Two-year implementation efforts are just too long
- Accelerated ERP model
 - Simplification of the enterprise resource planning steps
 - SAP's is called ASAP
- First order of business is to become a competent user of ERP vendor's software

Summary

■ EntIS

- Integrates all organizational units

■ ERP enables the management of an organization's resources

- Deals with internal processes

■ EntIS history

- Part of IS evolution beginning in 1960's
- Currently growing at exceptional rate

Summary (cont.)

- EntIS considerations
 - Cost
 - Training
 - Success versus failure
- EntIS future
 - Move beyond firm's boundaries
 - Focus on the Web environment