Outline

• Overview of major IT applications

• Examples of enterprise systems
  – Enterprise Resource Planning (ERP)
  – Customer Relationship Management (CRM)
  – Supply Chain Management (SCM)

• Trends and business issues in IT applications
Major IT applications in business

Executive Support Systems

Management Information Systems

Knowledge Worker Systems

Transaction Processing Systems

Sales and Marketing Manufacturing Finance Accounting Human resources

5-year sales trend forecasts 5-year operating plan 5-year budget forecasts Profit planning Manpower planning

Sales management Inventory control Annual budgeting Capital investment analysis Relocation analysis

Sales region analysis Production scheduling Cost analysis Pricing/profitability analysis Contract cost analysis

Engineering workstations Word processing Email Web viewing Spreadsheets

Public web sites Machine control Securities trading Payroll Compensation

Order tracking Plant scheduling Cash management Accounts payable Training & Development

Order processing Material movement control Cash management Accounts receivable Employee records

Enterprise Systems

• **IT applications that**
  – serve key corporate functions, and
  – involve centralized information shared by many users

• **Include**
  – one or more databases
  – programs to add, delete, change, analyze, or otherwise act upon data elements in those databases

Adapted from “Siebel Systems, Inc.”, Stanford University Graduate School of Business Case No. EC-18, November 1999.
Enterprise Resource Planning (ERP) systems

Sales force and customer service reps

Customers

Central database

Managers and stakeholders

Reporting applications

Financial applications

Back-office administrators and workers

Manufacturing applications

Inventory and supply applications

Employees

Service applications

Human resource management applications

Suppliers

Sales and delivery applications

Enterprise Resource Planning (ERP) systems

- Integrate many software applications and business functions using a common database

- Potential benefits
  - Cycle time reduction
  - Faster information transactions
  - Better financial management
  - Laying the groundwork for electronic commerce
  - Encourages organizations to manage processes more explicitly

• Potential risks
  – Difficult to implement
    » Often easier to adapt business processes to the software than vice versa
  – Inflexible
    » “… like wet cement”
  – Overly hierarchical?
Customer Relationship Management (CRM) Systems

• Sales Force Automation (pre-sales)
  – managing leads and contacts
  – generating proposals
  – configuring products, telemarketing

• Customer Service and Support (post-sales)
  – help desks
  – call centers
  – field service operations

• Marketing automation
Customer Relationship Management (Web-based selling)

- **On-line sales**
  - product catalogs
  - shopping carts
  - credit cards
  - shopping lists
  - product configurator for complex products

- **On-line service**
  - help

- **on-line marketing analysis**
  - track on-line activities
Supply Chain Management (SCM) Systems

- Managing interrelated activities “from your suppliers’ suppliers to your customers’ customers.”

- May involve:
  - changing information flows and decision-making within a firm
  - changing information flows and decision-making between firms
  - using new software tools to enable these changes
    » ERP systems
    » Cross-organizational planning, scheduling, and optimization tools
Supply Chain Management (SCM) Systems (cont.)

- Increase responsiveness to supply and demand fluctuations without sacrificing margins
  - linking with suppliers, customers, and transportation providers

- Reduce inventory

- Improve reliability of delivery commitments
  - ATP (Available To Promise)

- Manage changes in product mix
  - including new product introductions
Other examples of enterprise systems

- EAI – Enterprise Application Integration
- Enterprise portals
- ERM – Employee Relationship Management
- Product Lifecycle Management (PLM)
- ...

...
Trends in IT applications

• **Web-based**

• **Mobile / wireless**

• **Integrated**
  – Across functions within a company
  – Across companies

• **Component-based**
Business issues with IT applications

• **Whether to buy?**
  – Analyzing costs and benefits
  – Business benefits vs. technical benefits
  – Buying early vs. buying late

• **What to buy?**
  – Matching capabilities and needs
  – Compatibility and standards

• **How to implement?**
  – Top management support
  – User involvement
  – Phased approach