Enterprise Applications

Reading:
Laudon & Laudon
chapter 8

Additional Reading:
Brien & Marakas
chapter 7
Outline

- Enterprise Systems
- Supply Chain Management Support
- Customer Relationship Management Systems
- Enterprise Applications
  - New Opportunities and Challenges
Enterprise Systems

➢ E-Business
  ■ Use of Internet and other networks and IT to support
    ♦ E-commerce, enterprise communications, collaborations, web-enabled business process – within and with customers/partners

➢ Cross-Functional Enterprise Applications
  ■ Cross the boundaries of traditional business functions – reengineer all vital business process across enterprise
  ■ Moved from functional, mainframe-based legacy systems → Integrated, cross-functional client/server applications
    ♦ Typically involved installing ERP, SCM, CRM software from SAP America, Oracle, or others

➢ Enterprise Application Architecture
  ■ Overview of the major cross-functional enterprise applications
Enterprise Systems

- Aka enterprise resource planning (ERP) systems
- Suite of integrated software modules, a common central database
- Collects data from many divisions of firm for use in nearly all of firm’s internal business activities
- Information entered in one process is immediately available for other processes
Enterprise Systems

Enterprise Software

- Built around thousands of predefined business processes that reflect best practices
  - Finance/accounting: General ledger, accounts payable, etc.
  - Human resources: Personnel administration, payroll, etc.
  - Manufacturing/production: Purchasing, shipping, etc.
  - Sales/marketing: Order processing, billing, sales planning, etc.
Enterprise Systems

➢ Enterprise Software
  ■ In order to implement this software firms
    ✷ Select functions of system they wish to use
    ✷ Map business processes to predefined business processes in software
      ■ Use software’s configuration tables for customizing
      ■ Can rewrite some of software → support their business process
      ■ Excessive customization → Degrade system performance, compromising info and process integration benefits
      ■ Max benefits from software → Must change the way they work to confirm
  ■ Major Vendors
    ✷ SAP, Oracle (PeopleSoft), SSA Global
    ✷ Versions for small business, versions from service providers over web

➢ Business Value of Enterprise Systems
  ■ Increase operational efficiency
  ■ Provide firmwide information to support decision making
  ■ Enable rapid responses to customer requests for information or products
  ■ Include analytical tools to evaluate overall organizational performance
Supply Chain Management Systems

SCM

- A cross-functional interenterprise system
- To help support and manage the links between a company’s key business processes
- And those of its suppliers, customers and business partners

Supply Chain

- Interrelationships with suppliers, customers, distributors, and other businesses that are needed to design, build and sell a product
- Supply chain process should add a value to product/service → Value chain (discussed earlier)

Goals

- Fast, efficient, low-cost network of business relationships or supply chain to get a company’s products from concept to market
Supply Chain Management Systems

SCM

Supply Chain Life Cycle

Commit → Schedule → Make → Deliver

SCM Functional Processes

- Strategic Sourcing and Procurement
- Forecast and Demand Planning
- Customer Order Fulfillment/Service
- Distribution Network and Warehouse Operations
- Production Logistics
- Transportation and Shipment Management

SCM Integrated Solution

The Internet

Shared Market Data → Collaborative Fulfillment

Supplier → Manufacturer → Retailer → Customer
Supply Chain Management Systems

Nike’s Supply Chain

Upstream

Contract Supplier

Capacity, inventory level, delivery schedule, payment terms

Nike

Distributor

Retailer

Customer

Downstream

Orders, return requests, repair and service requests, payments

Tier 3 Suppliers
Tier 2 Suppliers
Tier 1 Suppliers
Supply Chain Management Systems

Information and Supply Chain Management

- Inefficiencies cut into a company's operating costs
  - Can waste up to 25% of operating expenses

- Just-in-time strategy
  - Components arrive as they are needed
  - Finished goods shipped after leaving assembly line

- Safety stock
  - Buffer for lack of flexibility in supply chain

- Bullwhip effect
  - Information about product demand gets distorted as it passes from one entity to next across supply chain
Supply Chain Management Systems

➢ The Bullwhip Effect
Global Supply Chain and Internet

- Before Internet, supply chain coordination hampered by difficulties of using disparate internal supply chain systems
- Enterprise systems supply some integration of internal supply chain processes but not designed to deal with external supply chain processes

Intranets and Extranets

- **Intranets**: To improve coordination among internal supply chain processes
- **Extranets**: To coordinate supply chain processes shared with their business partners
Supply Chain Management Systems

➢ Global Supply Chain Issues
  ■ Global supply chains typically span greater geographic distances and time differences
  ■ More complex pricing issues (local taxes, transportation, etc.)
  ■ Foreign government regulations

➢ Internet helps companies manage many aspects of global supply chains
  ■ Sourcing, transportation, communications, international finance
Global Supply Chain and Internet

- Supply chain management systems
- Push-based model (build-to-stock)
  - Production schedules based on best guesses of demand
- Pull-based model (demand-driven)
  - Customer orders trigger events in supply chain
- Sequential supply chains
  - Information and materials flow sequentially from company to company
- Concurrent supply chains
  - Information flows in many directions simultaneously among members of a supply chain network
Supply Chain Management Systems

Global Supply Chain and Internet

**Push-Based Model**
- **Supplier**
  - Supply to forecast
- **Manufacturer**
  - Production based on forecasts
- **Distributor**
  - Inventory based on forecasts
- **Retailer**
  - Stock based on forecasts
- **Customer**
  - Purchase what is on shelves

**Pull-Based Model**
- **Supplier**
  - Supply to order
- **Manufacturer**
  - Produce to order
- **Distributor**
  - Automatically replenish warehouse
- **Retailer**
  - Automatically replenish stock
- **Customer**
  - Customer orders
Supply Chain Management Systems

Future Internet-Driven Supply Chain

Digital logistics nervous system, autonomic, multidirectional communication
Supply Chain Management Systems

- Business Value of Supply Chain MS
  - Match supply to demand
  - Reduce inventory levels
  - Improve delivery service
  - Speed product time to market
  - Use assets more effectively
  - Reduced supply chain costs lead to increased profitability
  - Increased sales
Knowing the Customer

- In large businesses, too many customers and too many ways customers interact with firm

Customer relationship management (CRM) systems

- Capture and integrate customer data from all over the organization
- Consolidate and analyze customer data
- Distribute customer information to various systems and customer touch points across enterprise
- Provide single enterprise view of customers
CRM Applications

➢ Contract and Account Management
  - Helps sales, marketing and service professionals
  - Capture and track data about past and planned contacts with customers and prospects
CRM Applications

➢ Sales

- Provides sales reps with software tools and data they need to support and manage sales activities
- Sales Force Automation (SFA)
  - Sales prospect/contact information, sales quote generation
  - Salesperson efficiency ↑, Cost per sale ↓
- Tools to optimize cross-/up-selling
  - Cross-selling is trying to sell a customer of one product with a related product
  - Up-selling is trying to sell customer a better product than they are currently seeking

➢ Marketing and Fulfillment

- Help marketing professionals accomplish direct marketing campaigns
- Qualifying leads for targeted marketing and scheduling and tracking direct marketing mailings
CRM Applications

- Customer Service and Support
  - Provides sales reps with software tools and database access (customer database) shared by sales and marketing professions
  - Helps create, assign and manage requests for service
  - Call center software → *Routes* calls to customer support agents based upon their skills and type of call
  - Help desk software → Provides relevant *service data/suggestions* for resolving problems for customer service representatives helping customers with problems
Retention and Loyalty Programs

- **Motivation**
  - It costs 6 times more to sell to a new customer than an existing one.
  - A typical dissatisfied customer tells 8-10 people about their experience.
  - Profit can be boosted up to 85% by increasing annual customer retention by 5%.
  - 70% of firms’ products are purchased again if quickly taken care of their problems.

- **Try to help a company identify, reward, and market to their most loyal and profitable customers.**

- **Customer data warehouse**

- **Data mining tools, analytical software → Identify profitable customers**
CRM Applications

- CRM Supports Customer Life Cycle

![Diagram showing the customer life cycle and CRM applications](image-url)
Benefits of CRM

- Identify and target best customers
- Track when a customer contacts a company
- Increased customer satisfaction
- Reduced direct-marketing costs
- More effective marketing
- Lower costs for customer acquisition/retention
- Increased sales revenue

Churn rate

- Number of customers who stop using or purchasing products or services from a company.
- Indicator of growth or decline of firm’s customer base
Benefits of CRM

- Reasons of CRM Failure
  - Rely on application to solve a problem without first changing the business processes
  - Business stakeholders not participating and not prepared
  - Lack of understanding and preparation
  - Some firms experiences enormous operating problems and losses → Organizational changes
    - Kmart (SCMS from i2 Technologies) – problems with promotion driven business model, spikes, number of products
Enterprise Application Challenges

> Challenges

- Highly expensive to purchase and implement
- May take several years to complete
- Total cost may be 4 to 5 times the price of software
- Technology changes
- Business process changes
- Organizational changes
- Employees must accept new functions & responsibilities
- Switching costs, dependence on software vendors
- Data standardization, management, cleansing