Supply Chain Management
Chapter 7

Objectives
- Supply Chains
- Suppliers
- Procurement
- Distribution
- Transportation

Supply Chain

- Cash
- Information
- Customers: Total satisfaction with quality, price, delivery, and service
- Distributors: Package and delivery
- Producers: Finished goods, end products and services
- Inventory
- Suppliers: Materials, parts, sub-assemblies, and services
Supply Chain Management

- Uncertainty
  - Forecasting demand, order lead times, late and incomplete orders, bull-whip effect
  - Inventory as a form of insurance
  - Trade-off between acceptable level of uncertainty and inventory holding cost

Supply Chain Management

- Information flows
  - Link suppliers, producers, distributors and customers
  - Information access and data exchange
  - Improved cooperation and communication
  - Centralized coordination and integration

Information Technology

- Electronic Data Interchange – EDI
- Computerized exchange of business documents
- Internet, intranets, extranets
  - Make EDI communication more accessible
- Bar codes and RFT
Suppliers

- Purchasing
  - Materials, parts, and services
  - On-time, low cost, high quality
- Sourcing
  - Suppliers integrated in supply chains
  - Reduced number of suppliers
- E-Procurement
  - Lower prices, reduced clerical and transaction costs, faster delivery

Centralized Supply at Honda America
**Distribution**

- Transportation & logistics
- Movement and handling of products
  - Shipping, receiving, storing, packing
- Distribution centers / warehouses
  - Large and highly automated facilities
  - Putaway, picking, packing, sorting
- Warehouse optimization
- Vendor Managed Inventory (VMI)
  - Increased speed, less error, better service

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**Transportation**

- Railroads
  - Low cost, high volume, row material, long distance, inflexible
- Trucking
  - Low cost, flexible, long/short haul
  - Full truckload (FT), less-than-truckload (LTL)
Transportation

- Water
  - Low cost, high volume, slow
  - Heavy bulk items, raw materials, standardized shipping containers, international
- Air
  - Lightweight, small items, quick, reliable, most expensive
  - Electronics, computer parts, perishables, medical supplies

Package carriers
- Several modes of transportation, networks of DCs and hubs
- Intermodal
  - Truck/rail/truck
  - Truck/water/rail/truck
- Pipelines
  - Oil fields and refineries, high capital investment, low operating costs

Transportation Problem

- Sources have fixed supplies
- Destinations have fixed demand
- How much to ship from each supplier to each destination to minimize the total transportation cost?
SCM Software

- ERP - Enterprise Resource Planning software
  - Enables every function within an organization to act in coordinated manner
  - SCM viewed as a subset of ERP

- Examples
  - mySAP.com from SAP
  - The effect of a sales transaction throughout the company

Global Supply Chain

- Nations form free trade groups
- Freely transport goods across borders
- No tariffs or duties
- National and regional differences
- Customs, business practices, and regulations