

# Enterprise Systems: From Supply Chains to ERP to CRM

## Management Information



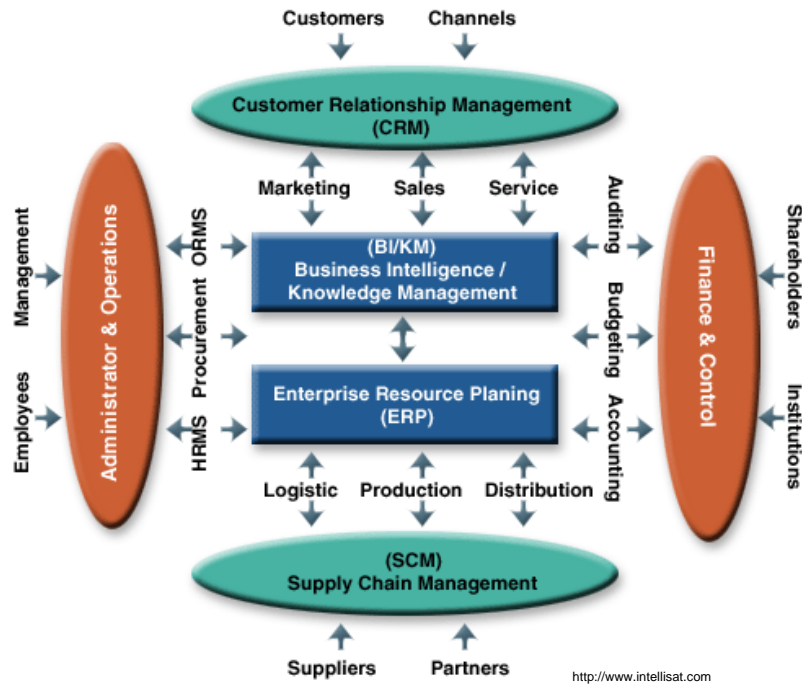
- Code: 164292-02
- Course: Management Information
- Period: Autumn 2013
- Professor: Sync Sangwon Lee, Ph. D
- D. of Information & Electronic Commerce

## 00. Contents

- 01. Enterprise Systems
- 02. Enterprise Resource Planning
- 03. Supply Chain Management
- 04. Customer Relationship Management

# 01. Enterprise Systems

- Overview of Enterprise Systems

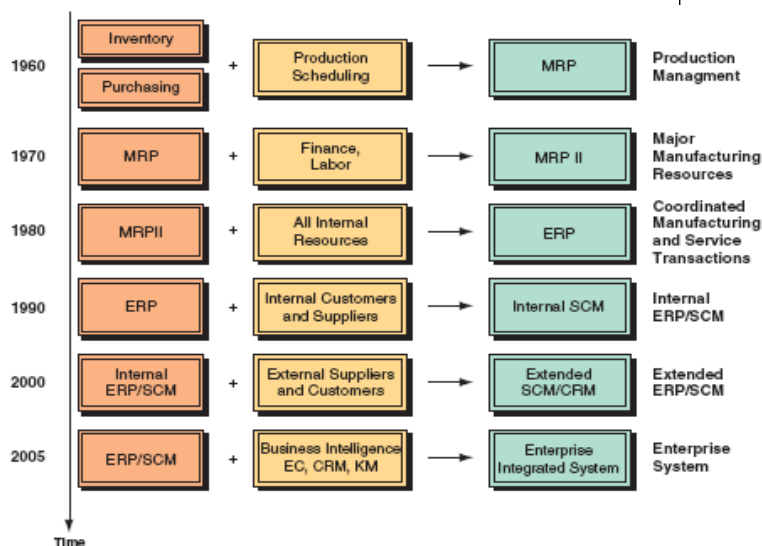


# 01. Enterprise Systems

- Evolution Is Continuing



<http://www.beyondplm.com>



## 02. Enterprise Resource Planning

- Enterprise Resource Planning (ERP)
  - ERP or enterprise systems control all major business processes with a single software architecture in real time.
  - It increases efficiency, improves quality, productivity, and profitability.



<http://www.ges.rs>

## 02. Enterprise Resource Planning

- History of ERP
  - Material requirements planning (MRP) essentially integrates production, purchasing, and inventory management of interrelated products.
  - Manufacturing resource planning (MRP II), enhanced MRP methodology by adding labor requirements and financial planning.
  - Enterprise resource planning (ERP) further integrates the transaction processing as well as other routine activities in the entire enterprise



<http://www.kossaerospace.com>

## 02. Enterprise Resource Planning

- Components of ERP
  - It includes front-end operations such as:
    - POS
    - Field Sales
    - Service



<http://www.carolinabarcode.com>

## 02. Enterprise Resource Planning

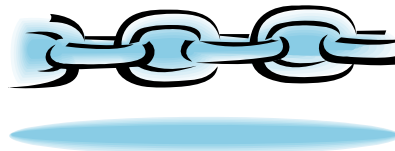
- Components of ERP
  - It is comprised of a set of applications that automate routine back-end operations: such as
    - Financial management
    - Inventory management
    - Accounts payable and receivable.
    - Scheduling
    - Order fulfillment
    - Cost control



<http://www.wordlinklab.com>

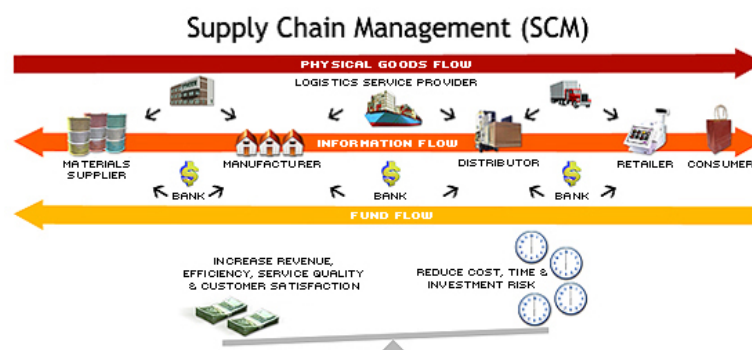
## 03. Supply Chain Management

- Supply Chain Management (SCM)
  - Supply chain refers to the flow of materials, information, payments, and services from raw material suppliers, through factories and warehouses (Value Chain), to the final consumer (Demand Chain).
  - It includes tasks such as purchasing, payment flow, materials handling, production planning & control, logistics & warehousing, inventory control, and distribution.
  - When it is managed electronically it is referred to as an e-supply chain.
  - Supply Chains contribute to increased profitability and competitiveness



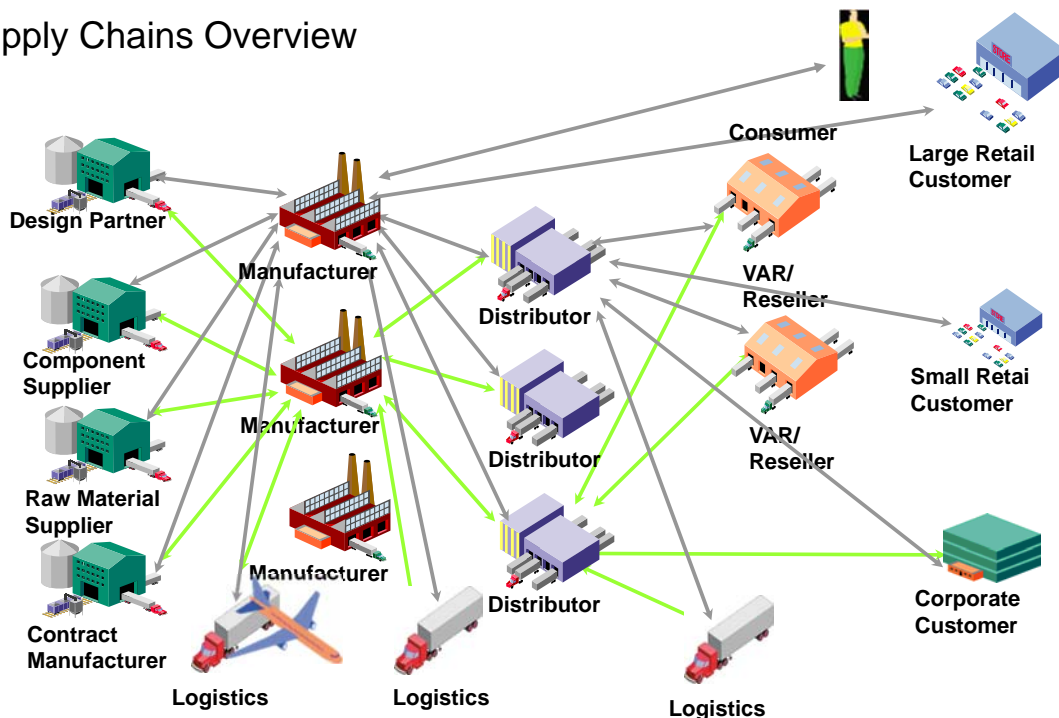
## 03. Supply Chain Management

- Supply Chain Flows
  - Materials flows are all physical products, new materials, and supplies that flow along the chain.
  - Information flows relates to all data associated with demand, shipments, orders, returns and schedules.
  - Financial flows include all transfers of money, payments, credit card information, payment schedules, e-payments and credit-related data.



# 03. Supply Chain Management

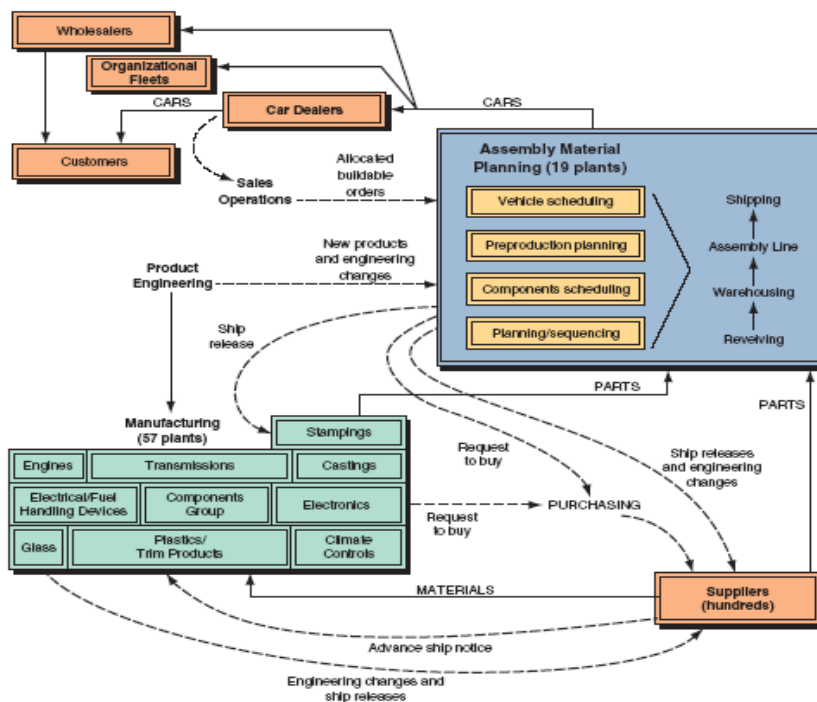
## • Supply Chains Overview



Introduction to Electronic Commerce, Ed. 2, Efraim Turban et al., Pearson

# 03. Supply Chain Management

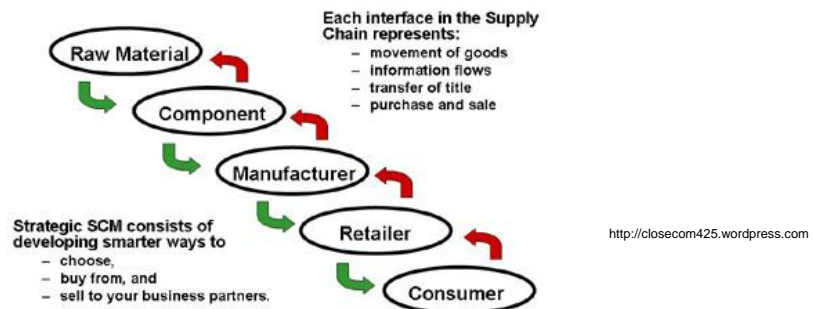
## • Automotive Supply Chain



Information Technology for Management, Ed. 5, Efraim Turban et al., Wiley

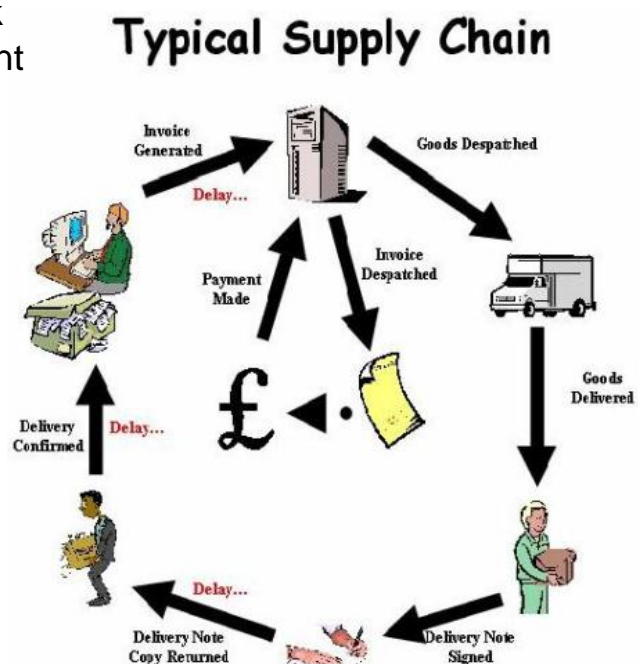
## 03. Supply Chain Management

- Supply Chains Components
  - The supply chain involves three segments:
    - Upstream, where sourcing or procurement from external suppliers occur
    - Internal, where packaging, assembly, or manufacturing take place
    - Downstream, where distribution or dispersal take place, frequently by external distributors.
  - It also includes the movement of information and money and the procedures that support the movement of a product or a service.
  - Organizations and individuals are also part of the chain.



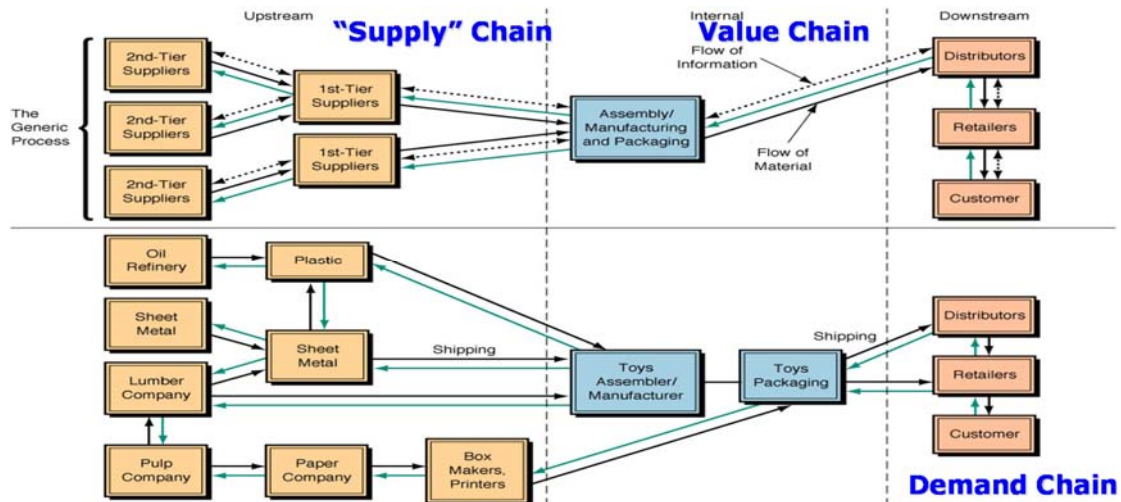
## 03. Supply Chain Management

- Supply Chains Classifications
  - There are several major types of supply chain
    - Integrated make-to-stock
    - Continuous replenishment
    - Build-to-order
    - Channel assembly.



# 03. Supply Chain Management

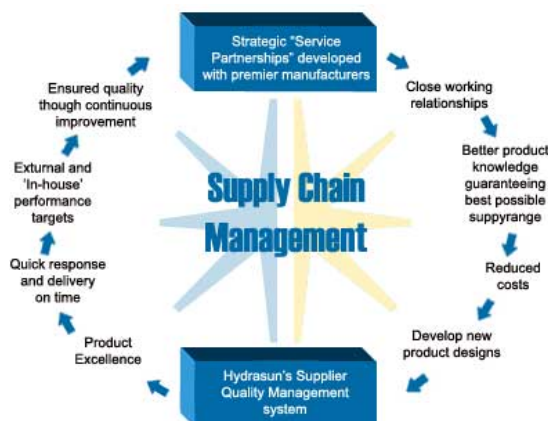
- Supply Chains Classifications



Information Technology for Management, Ed. 5, Efraim Turban et al., Wiley

# 03. Supply Chain Management

- Supply Chain Problems
  - Adding value along the chain is essential for competitiveness, however problems exist especially in complex or long chains and in cases where many business partners are involved.
  - These problems are due to uncertainties and the need to coordinate several activities, internal units, and business partners.



<http://roystancepointofview.blogspot.com>



## 03. Supply Chain Management

- Supply Chain Problems
  - Quality problems may also create production delays
  - Demand forecasts are a major source of uncertainties
    - Competition
    - Prices
    - Weather conditions
    - Technological development
    - Customer confidence
  - Uncertainties exist in delivery times
    - Machine failures
    - Road conditions
    - Shipments



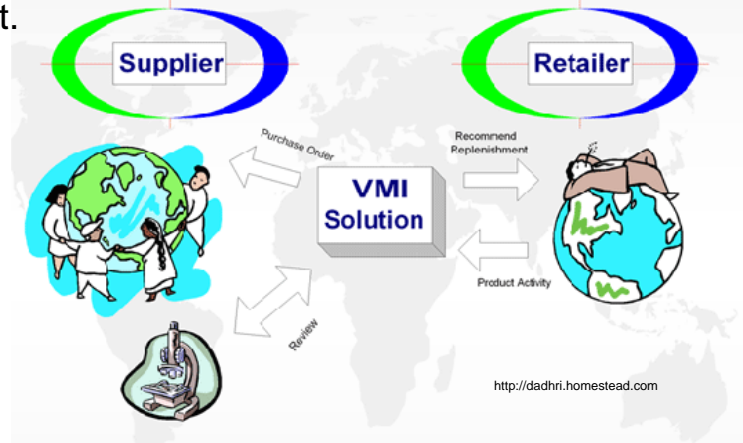
## 03. Supply Chain Management

- Supply Chain Problems
  - Bullwhip effect
    - The bullwhip effect refers to erratic shifts in orders up and down the supply chain because of poor demand forecasting, price fluctuation, order batching, and rationing within the chain.
    - Even slight demand uncertainties and variability become magnified if each distinct entity, on the chain, makes ordering and inventory decisions with respect to its own interest above those of the chain.
    - Distorted information can lead to tremendous inefficiencies, excessive inventories, poor customer service, lost revenues, ineffective shipments, and missed production schedules.



## 03. Supply Chain Management

- Supply Chain Problems
  - Bullwhip effect solution
    - A common way to solve the bullwhip problem is by sharing information along the supply chain through EDI, extranets, and groupware technologies.
    - For example employing a vendor-managed inventory (VMI) strategy, the vendor monitors inventory levels and when it falls below the threshold for each product this automatically triggers an immediate shipment.



## 03. Supply Chain Management

- Supply Chain Solutions
  - Information sharing among supply chain partners (c-commerce) sometimes referred to as the collaboration supply chain is one method to overcome problems in the flow.



## 03. Supply Chain Management

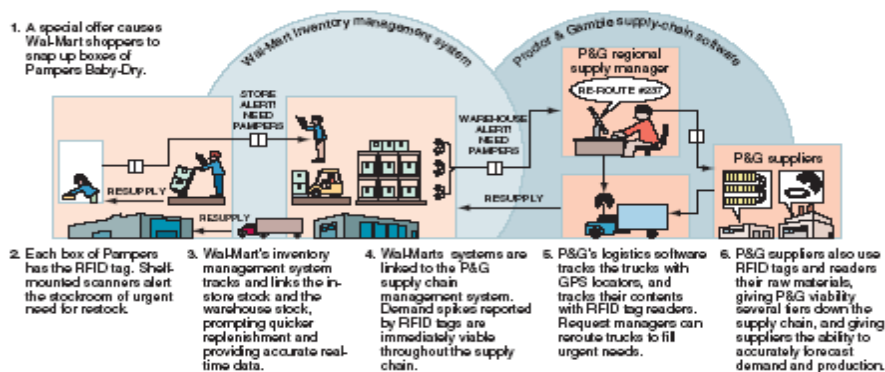
- Supply Chain Solutions
  - Others are:
    - Optimal inventory levels
    - Supply chain coordination and collaboration
    - Supply chain teams
    - Performance measurement and metrics
    - Various IT-assisted solutions
      - Wireless technology
    - Optimal shipping plans
    - Strategic partnerships with suppliers
    - Just-in-time



<http://www.supplychain-group.com>

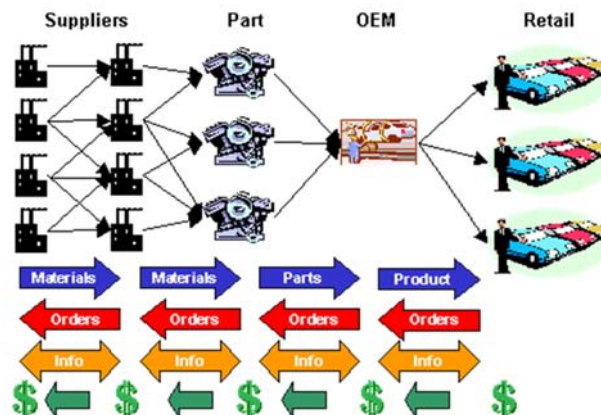
## 03. Supply Chain Management

- Supply Chain Solutions
  - Examples of RFID ID tags in supply chains



## 03. Supply Chain Management

- Supply Chain Collaboration Management
  - Every company that has business partners has to manage the relationships with them.
  - Information needs to flow between the firms and constantly updated and shared.
  - Manual methods include phone, fax, and mail.
  - EDI is typically used by large corporations.

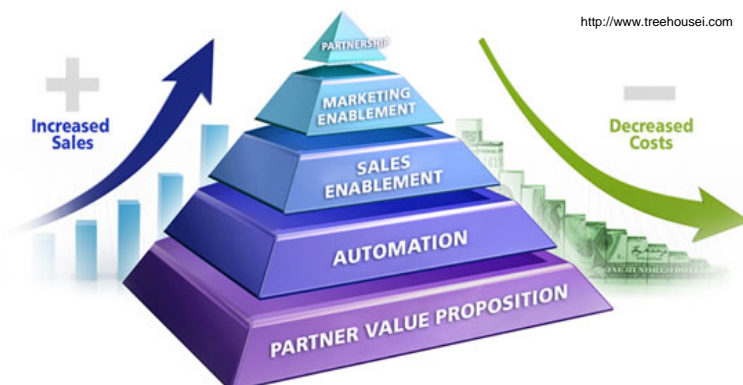


<http://www.kaledinovawebdesign.com>

23

## 03. Supply Chain Management

- Supply Chain Collaboration Management
  - EC PRM (Partner Relationship Management) functions
    - Partner profiles
    - Partner communications
    - Lead management (of clients)
    - Targeted information distribution
    - Connecting the extended enterprise
    - Partner planning
    - Centralized forecasting
    - Group planning
    - E-mail
    - Price lists

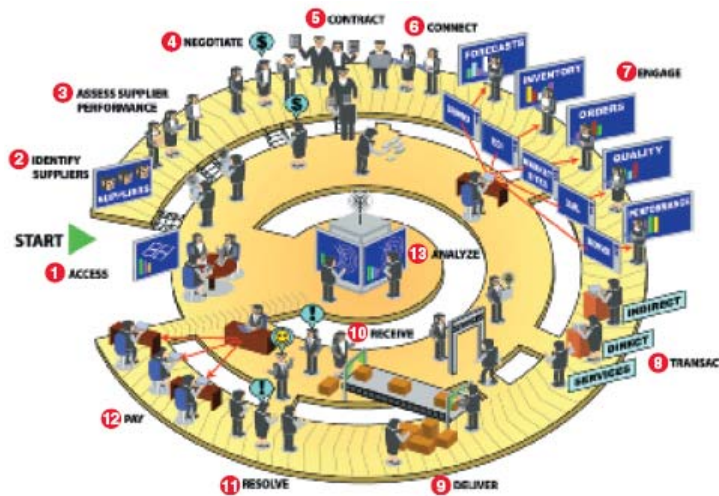


<http://www.treehousei.com>

24

# 03. Supply Chain Management

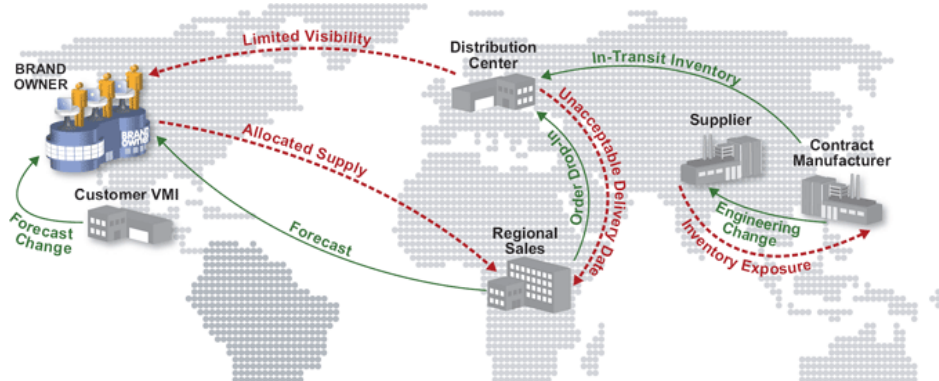
- Supply Chain Management



Information Technology for Management, Ed. 5, Efraim Turban et al., Wiley

# 03. Supply Chain Management

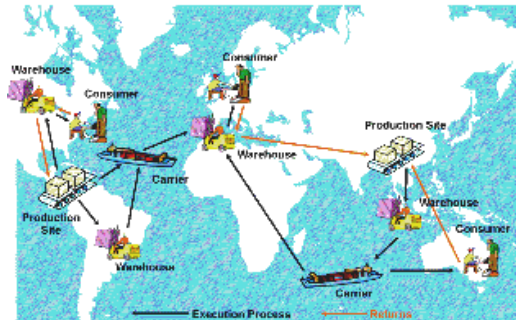
- Global Supply Chains
  - Supply chains that involve suppliers and/or customers in other countries are referred to as global supply chains.
  - Global supply chains are usually longer than domestic ones, and more complex.
  - Therefore, additional uncertainties are likely.



<http://www.kinaxis.com>

## 03. Supply Chain Management

- Global Supply Chains
  - Companies go global (disperse the value chain) for a variety of reasons.
    - Lower costs of materials, products, services and labor
    - Availability of products that are unavailable domestically
    - The need to develop a foreign presence to increase sales
    - Technology available in other countries
    - Intensification of global competition
    - Fulfillment of counter trade.
    - The firm's global strategy
    - High quality of products



<http://ambiguityadvantage.blogspot.com>

27

## 03. Supply Chain Management

- Computerized Supply Chains
  - The supply chain process is intertwined with the computerization of its activities.
  - People have wanted to automate the processes along the chain to reduce cost, expedite processing, and reduce errors.



Global Supply Chain Visibility

<http://www.moduslink.com>

28

# 03. Supply Chain Management

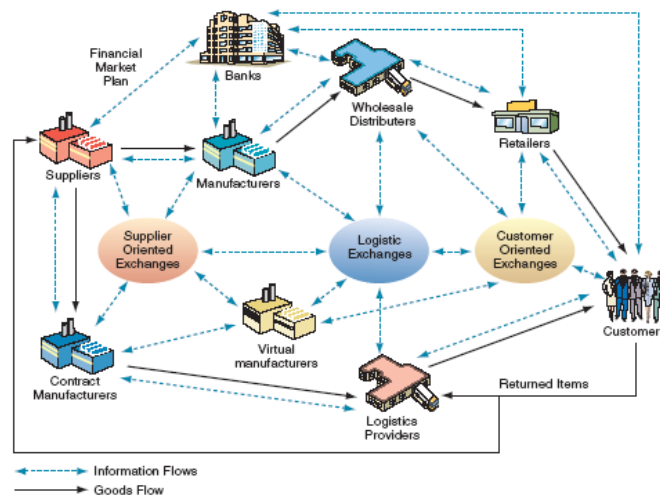
- Computerized Supply Chains
  - Integrations continues along several paths
    - Functional areas
    - Combining transaction processing and decision support
    - Business intelligence
    - CRM software



<http://www.zoho.com>

# 03. Supply Chain Management

- Computerized Supply Chains



## 03. Supply Chain Management

- E-Commerce and Supply Chains
  - E-commerce is emerging as a superb tool for providing solutions to problems along the supply chain.
  - Many supply chain activities, from taking customers' orders to procurement, can be conducted electronically.
  - A major role of EC is to facilitate buying and selling along all segments of the supply chain.



<http://www.royaleq.com>

31

## 03. Supply Chain Management

- E-Commerce and Supply Chains
  - Roles of EC
    - Upstream activities improve the upstream supply chain through e-procurement
    - Internal supply activities from entering purchase orders, to recording sales, to order fulfillment, to tracking shipments, are usually conducted over a corporate intranet
    - Downstream activities enhance the activity downstream activities by providing online ordering
    - Vertical exchanges combine upstream and downstream EC supply chain activities.
      - These B2B exchanges, provide a medium where buyers and sellers can meet.



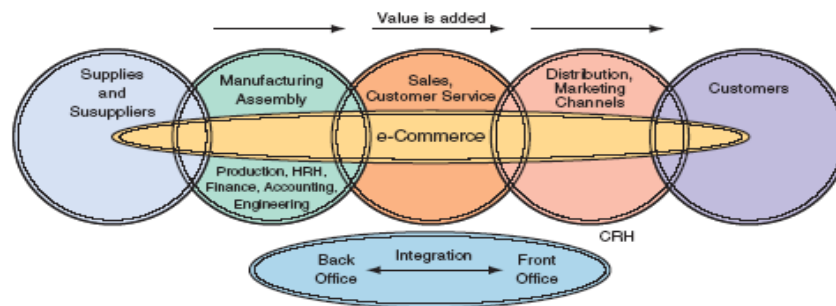
<http://www.optimumscr.com>

32



## 03. Supply Chain Management

- E-Commerce and Supply Chains
  - Structure



## 03. Supply Chain Management

- Supply Chain Cost/Benefit
  - Systems can be integrated internally and externally.
  - Internal integration refers to integration between applications inside a company, whereas external integration refers to integration of applications among business partners.
  - There are many benefits to integrating functional systems.



## 03. Supply Chain Management

- Tangible Benefits
  - Inventory reduction
  - Personnel reduction
  - Productivity improvement
  - Order management improvement
  - Financial-close cycle improvements
  - IT cost reduction
  - Procurement cost reduction
  - Cash management improvements
  - Revenue/profit increases
  - Transportation logistics cost reduction
  - Maintenance reduction
  - On-time delivery improvement.



<http://www.hamiltonfinancials.com>

## 03. Supply Chain Management

- Intangible Benefits
  - Rapid assimilation of data into the organization
  - Controls and reconciliation are enhanced
  - Reduction in duplication of entries
  - Customer responsiveness
  - New/improved processes
  - Business performance
  - Information visibility
  - Standardization
  - Globalization
  - Flexibility



<http://www.logisticsstrategies.com>

# 04. Customer Relationship Management

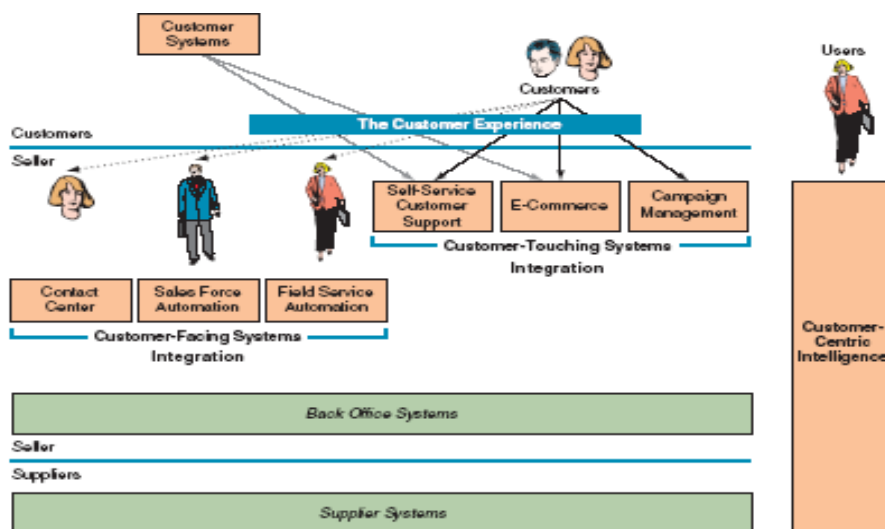
- Customer Relationship Management (CRM)
  - CRM recognizes that customers are the core of a business and that a company's success depends on effectively managing relationships with them.
  - It focuses on building long-term and sustainable customer relationships that add value both for the customer and the company.



<http://www.gaebler.com>

# 04. Customer Relationship Management

- CRM Applications



# 04. Customer Relationship Management

- Types of CRM
  - Operational CRM
  - Analytical CRM
  - Collaborative CRM



<http://bizspring.tistory.com>

# 04. Customer Relationship Management

- E-CRM
  - CRM has been practiced manually by corporations for generations.
  - However, E-CRM (electronic CRM) started in the mid-1990's, when customers began using Web browsers, the Internet and other electronic touchpoints.



<http://www.queue.ca>

## 04. Customer Relationship Management

- The Scope of E-CRM
  - We can differentiate three levels of e-CRM:
    - Foundational service
      - This includes the minimum necessary services such as Web site responsiveness (e.g., how quickly and accurately the service is provided), site effectiveness, and order fulfillment.
    - Customer-centered services
      - These services include order tracking, product configuration and customization, and security/trust.
      - These are the services that matter the most to customers.
    - Value-added services
      - These are extra services such as online auctions and online training and education.

<http://think.blytheco.com>



## 04. Customer Relationship Management

- Customer Service on the Web
  - Allowing customers to order products and services online
  - Letting customers track accounts or order status
  - Technical and other information and service
  - Search and comparison capabilities
  - Free products and services

<http://www.crmsystemsforsmallbusiness.com>



## 04. Customer Relationship Management

- Tools for Customer Service
  - E-mail and automated response
  - Personalized web pages
  - Troubleshooting tools
  - Wireless CRM
  - FAQs
  - Chat rooms
  - Call centers

<http://www.screenwerk.com>



### Grow Your Fanbase

Collect fan info with our simple signs and online forms wherever your fans are, offline or online.



### Create Instant Promotions

Easily create exciting mobile and social marketing and engaging content for your fans from a single place.



### Reach Fans Anywhere

Automatically publish marketing to fans' phones and social networks that gets redeemed at your business.



### Track It All

Get easy to view graphs and tables that show revenues and results for every marketing program.