

# **Overview of Supply Chain Management Logistics & Multimodal Transportation**

CAREC Federation of Carrier & Freight  
Forwarder Associations (CFCFA)

# Definition of Supply Chain Management

- The management of a network of interconnected businesses involved in the ultimate provision of product and service packages required by end customers
- Encompasses the planning and management of all activities involved in sourcing, procurement, manufacturing and logistics management.
- Also includes coordination and collaboration with channel partners (suppliers, intermediaries, customers).

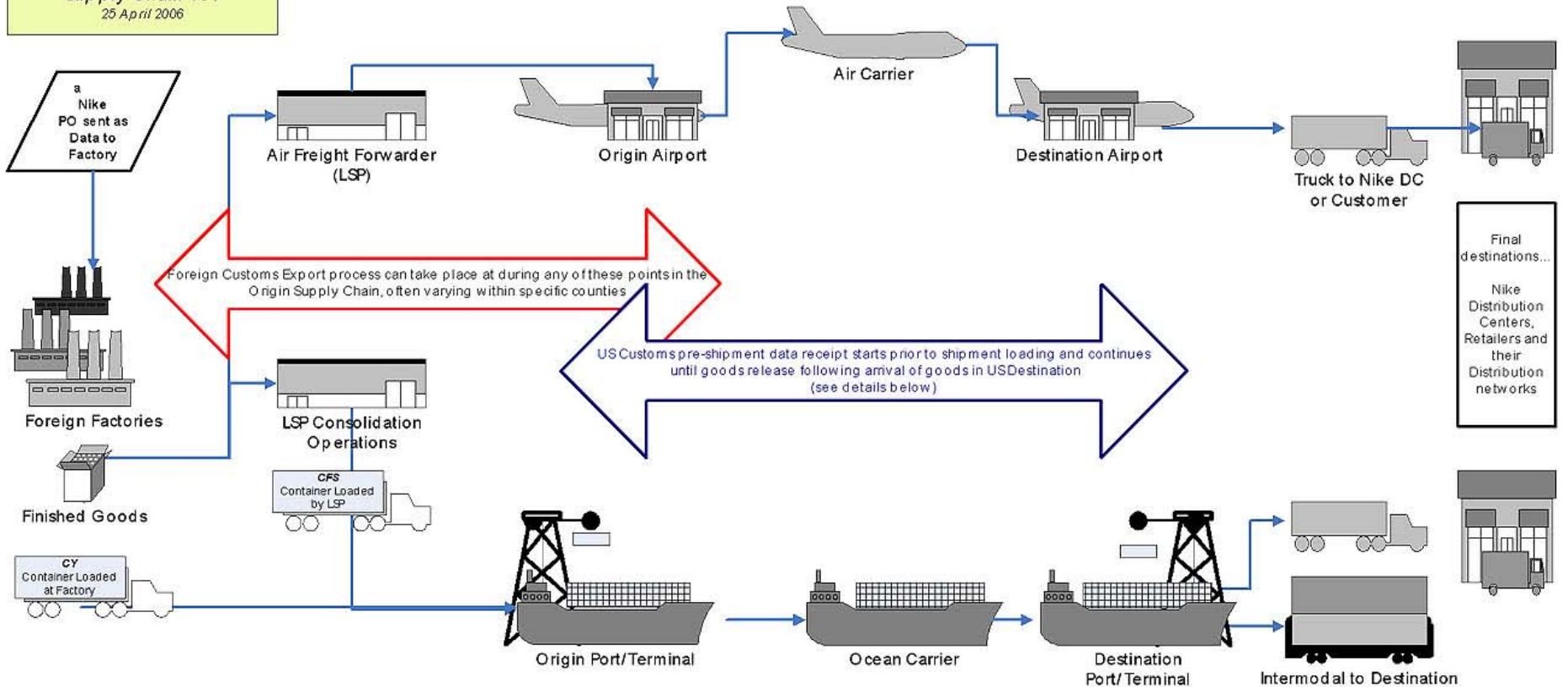
# Development of Supply Chain Management

- Concept started in the 1960s, with the development of the physical distribution concept for finished good
- Expanded into integrated logistics management concept during the 1980s
- Globalization, ERP/CRM/TMS/WMS, world wide web, focus on core competency & concept of extended enterprises drove rapid development
- The total cost concept (including tax management) is important in supply chain management

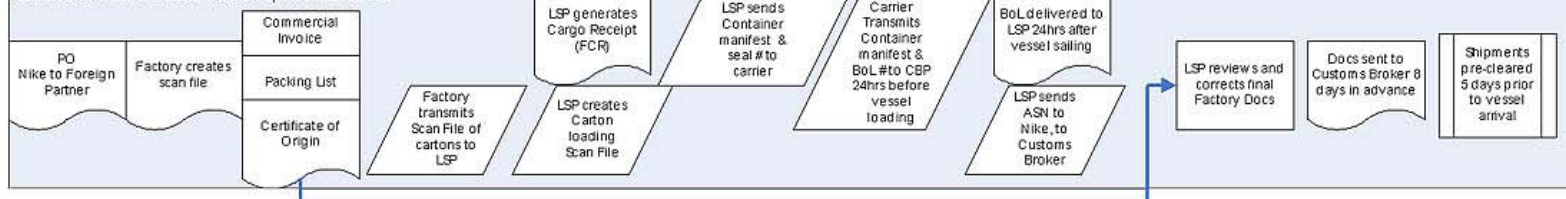
# The Nike Supply Chain

## Supply Chain 101

25 April 2006



## Factories create Electronic and Paper Documents



## Legend

**CBP:** US Customs and Border Protection

**LSP:** 3<sup>rd</sup> Party Logistics Service Provider – in this case the Consolidators and Air Freight Forwarders

**DC:** Distribution Centers





# Objectives of Supply Chain Management

- Create large, sustainable competitive advantage to grow and prosper
- To be a socially and ecologically responsible corporate citizen

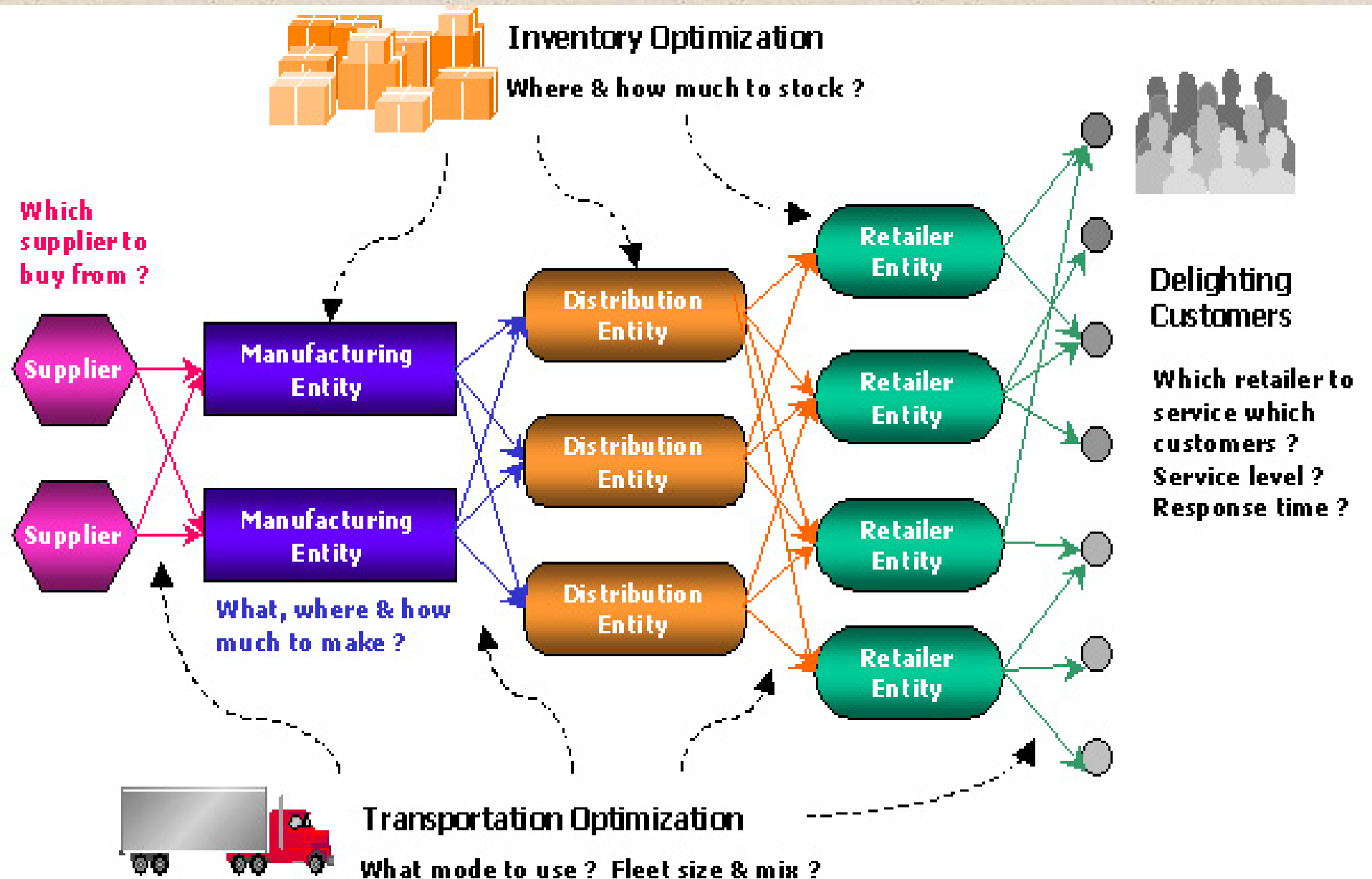


# Supply Chain Management Strategies

Achieve competitive advantage by:

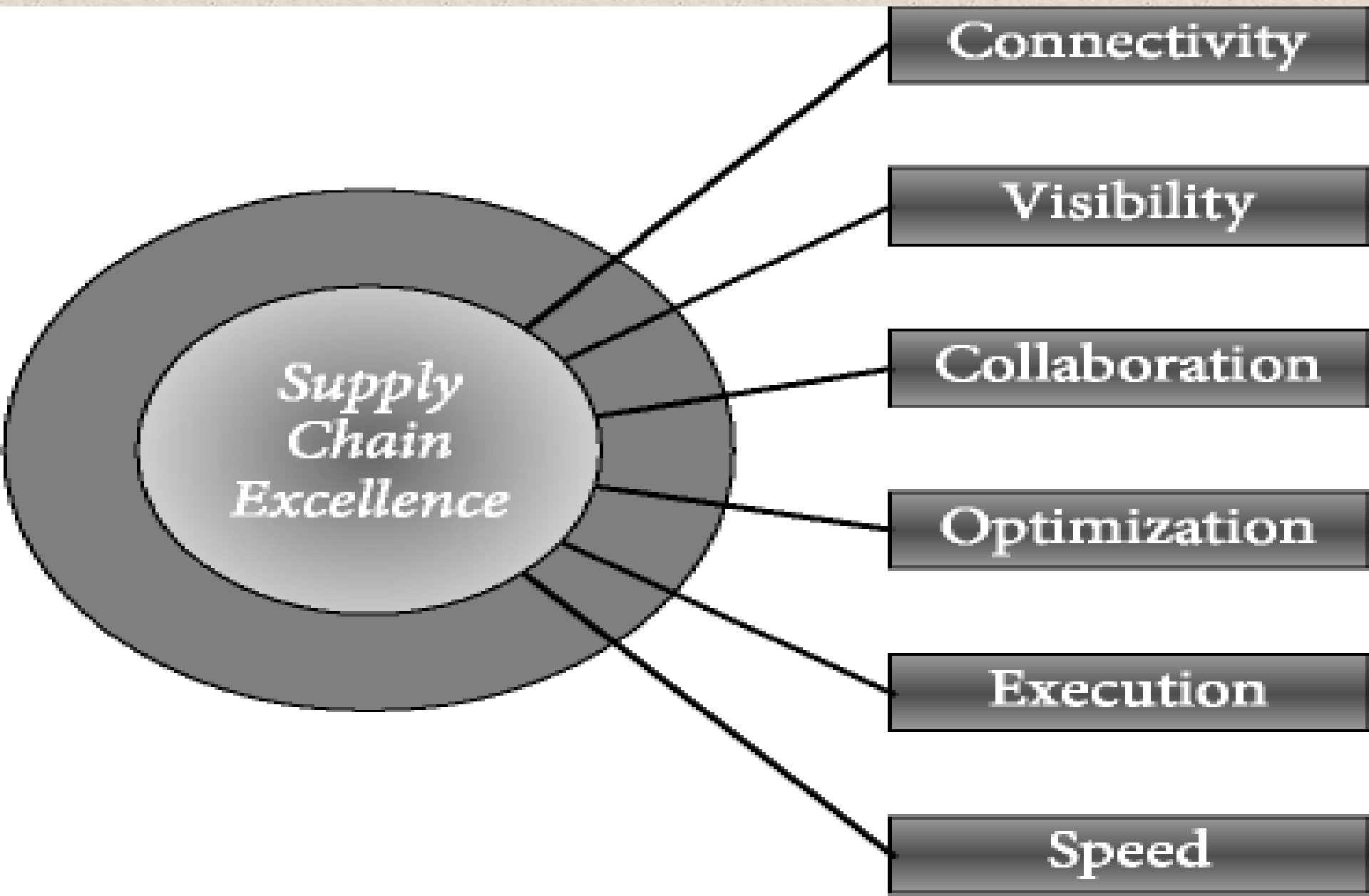
- Minimize total supply chain cost
- Maximize customer satisfaction
- Combination of the two strategies above

# Supply Chain Optimization





# Six Drivers of Supply Chain Excellence







# Supply Chain Management Best Practices

- End to end Collaboration, strategic supplier/customer relationship
- Short, simple, robust, agile, supply chain design
- Build in sustainability & recycling/reverse logistics from the beginning
- Uniform standards & specifications, common definition & language
- Compatible IT systems



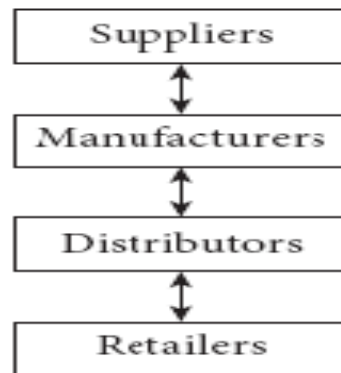
# Supply Chain Management Best Practices

- Enhance reliability by removing unreliable factors
- Smooth out flows
- Manage inventory to limit both time and amount in storage
- Design product and packaging to reduce volume and weight
- Be modal neutral
- Relentless pursuit of improvements

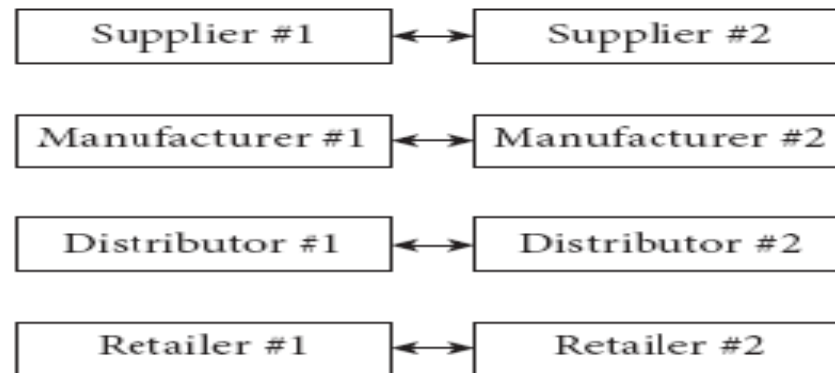
# Supply Chain Collaboration

Figure 4-5

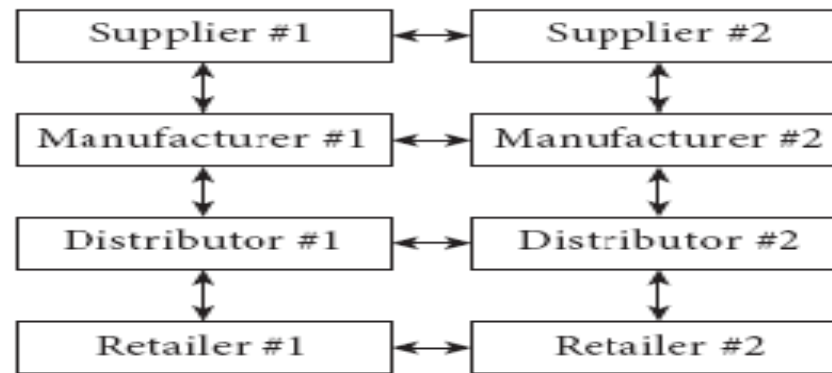
Types of Collaboration



(a) Vertical Collaboration



(b) Horizontal Collaboration



(c) Full Collaboration

Source: C. John Langley Jr.

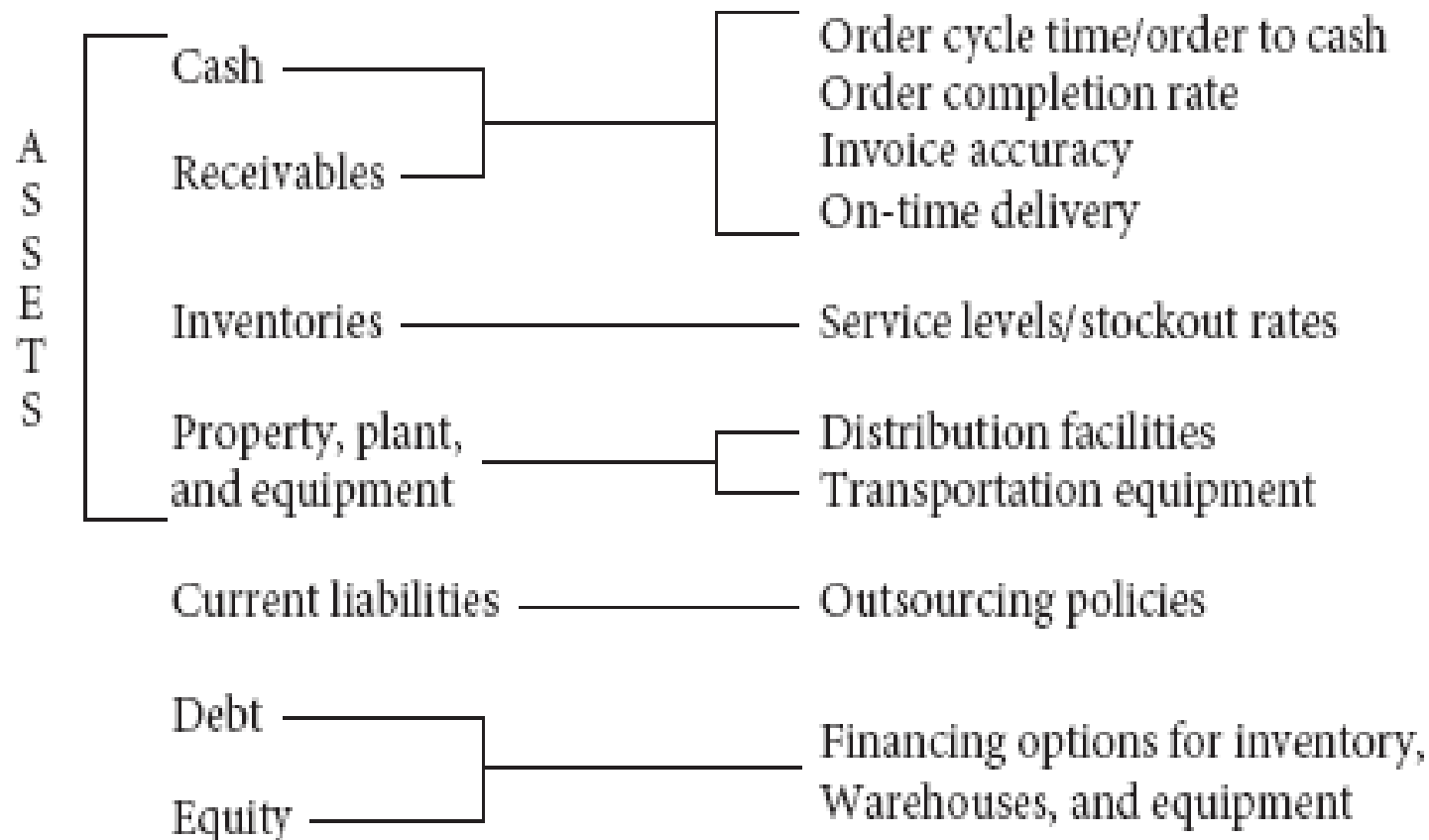
**Full Collaboration: Top US shippers working with top truckload carriers to reduce empty backhaul & increase equipment availability**



# Supply Chain Management Impacts Balance Sheet

Figure 5-10

Supply Chain Impacts on the Balance Sheet

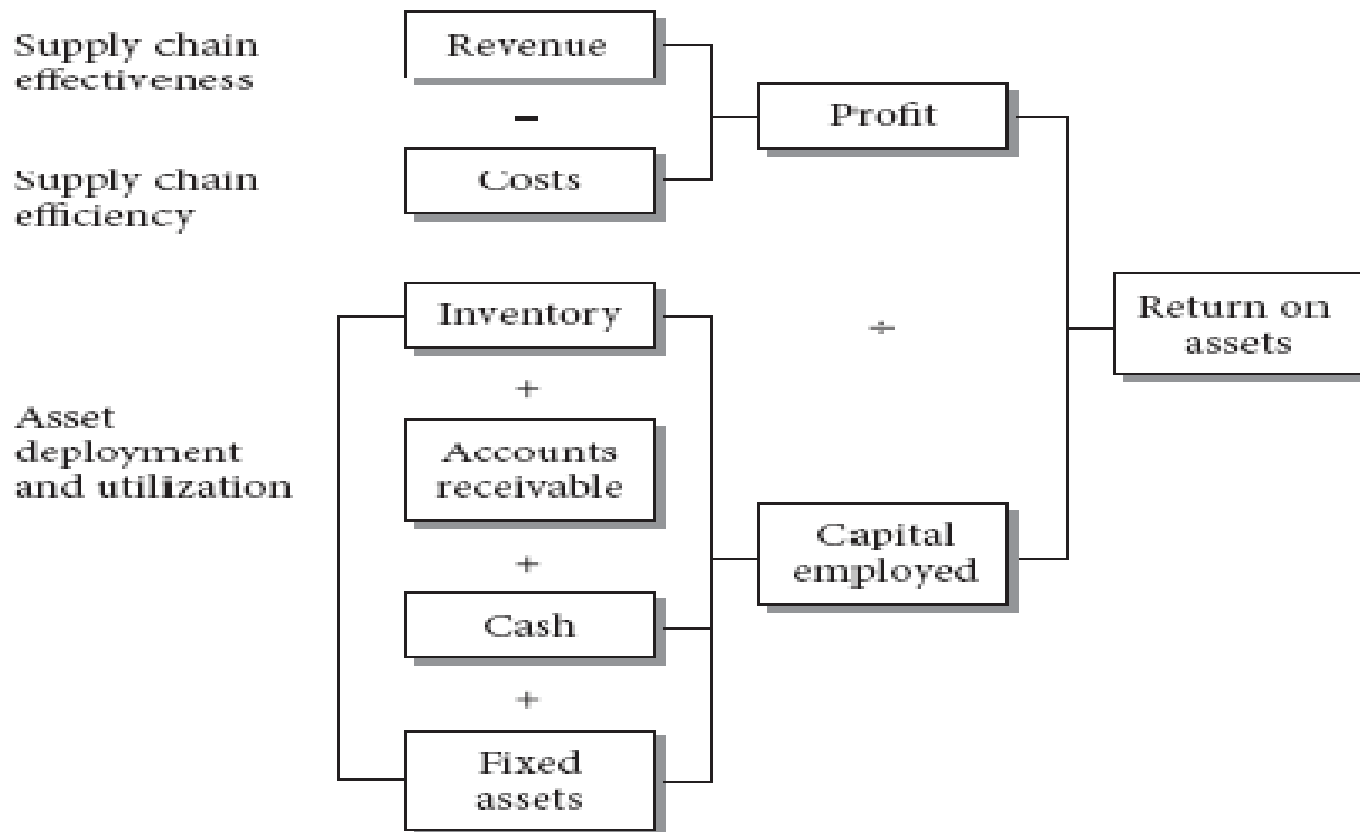




# Supply Chain Management Impacts ROA

Figure 5-9

Supply Chain Impact on Return on Assets



SC effectiveness supports revenue growth. SC efficiency reduces total cost.



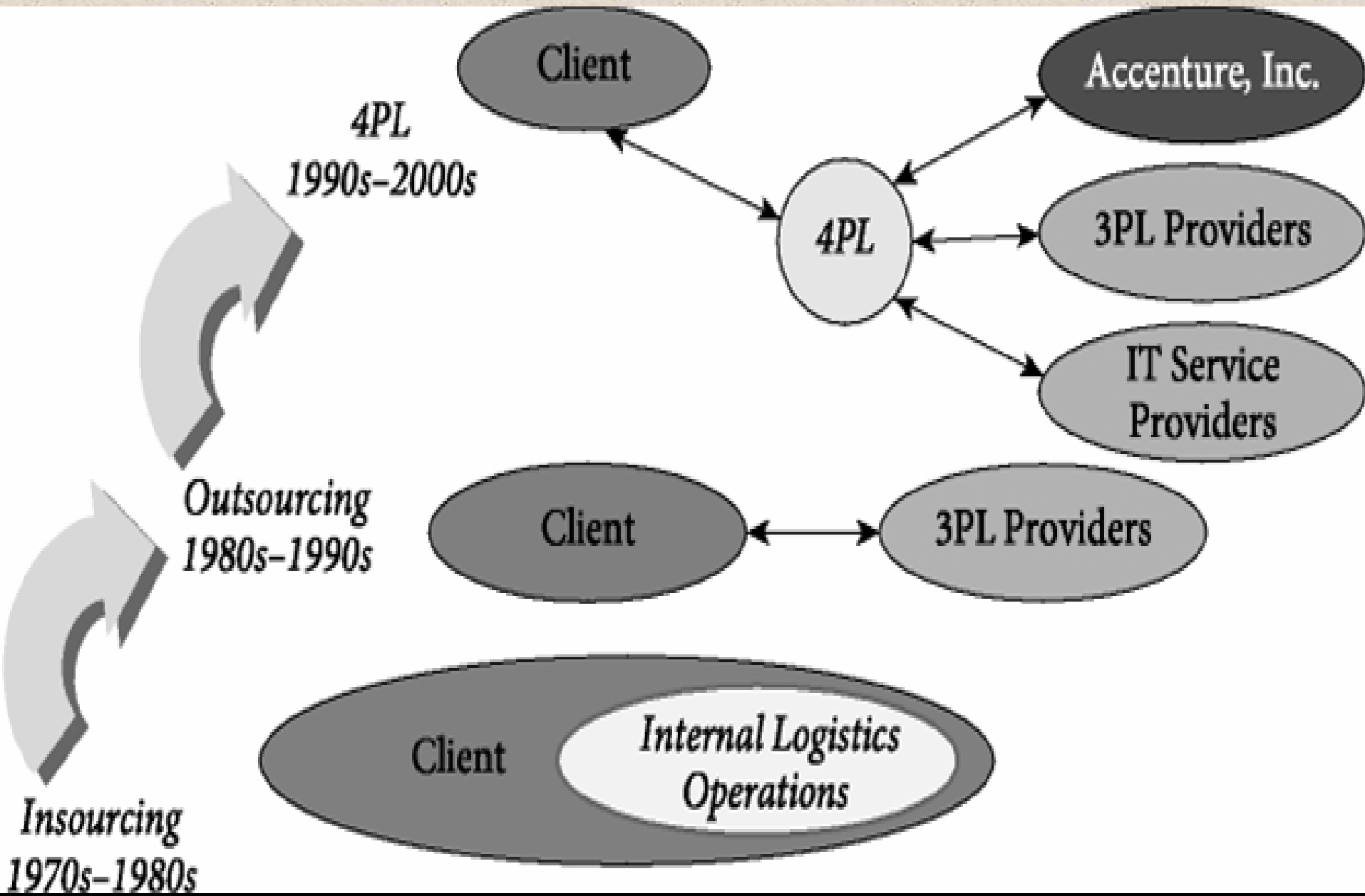
# Supply Chain Management Has Huge Impact on Business Valuation

- ROA is defined as follows:
  - $ROA = (\text{Revenue} - \text{Expenses}) / \text{Assets}$  or  $\text{Gross Profit} / \text{Assets}$
  - Good logistics increase Gross Profit and reduce Assets required to sustain business at the same time
- Results in dramatic improvement in ROA and a more effective and efficient business structure
- Better business structure means higher enterprise valuation

# Definition of Logistics

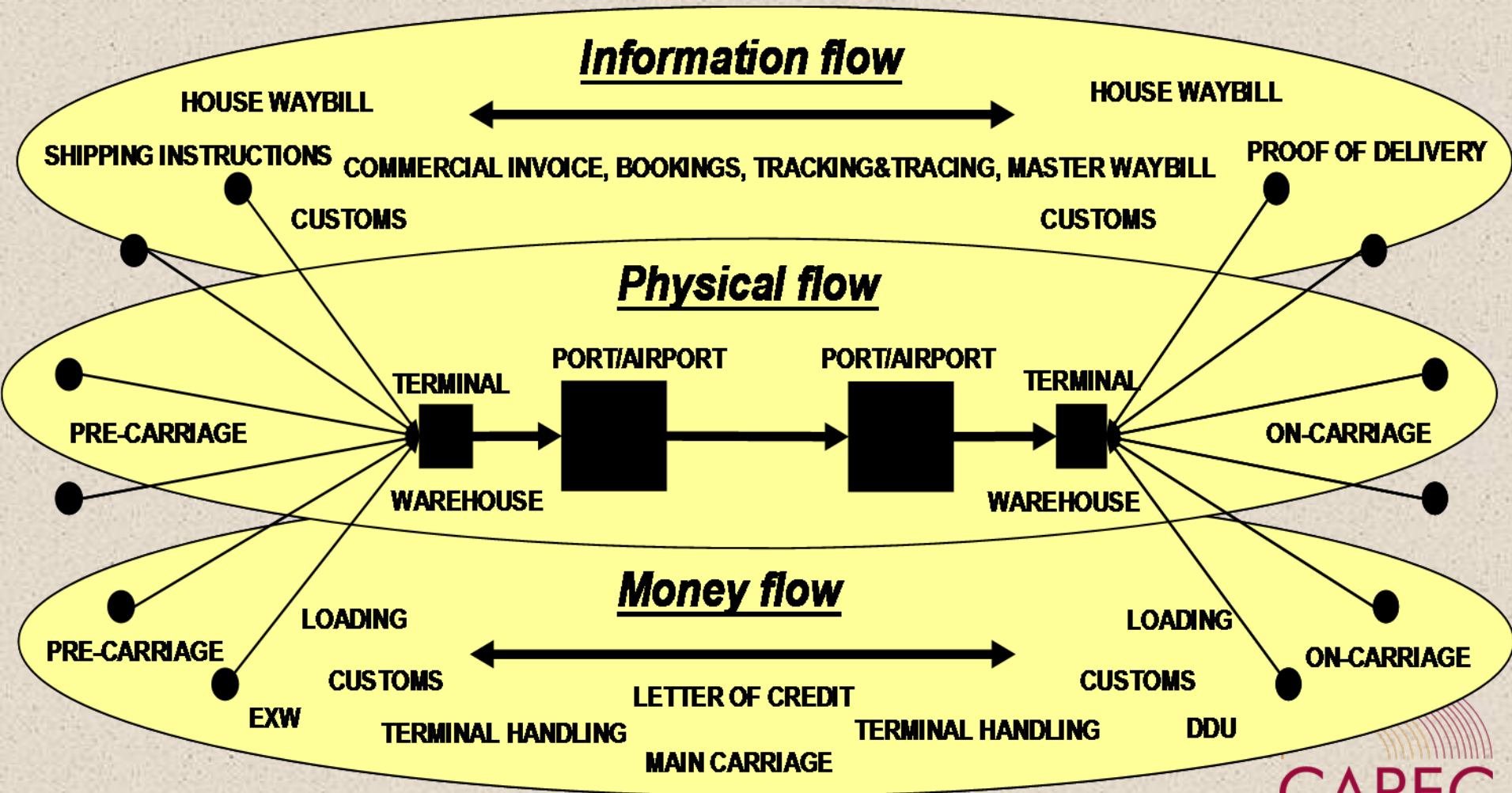
- The part of Supply Chain Management that plans, implements, and controls the efficient, effective forward and reverse flow of goods, services, and related information & financials between origin and point of consumption in order to meet customers' requirements.
- Logistics activities typically include management of inbound & outbound transportation, fleets, warehousing, materials handling, order fulfillment, logistics network design & inventory
- Logistics activities integrate with marketing, sales manufacturing, finance and information technology
- The total cost concept is important in logistics management

# Development of Logistics



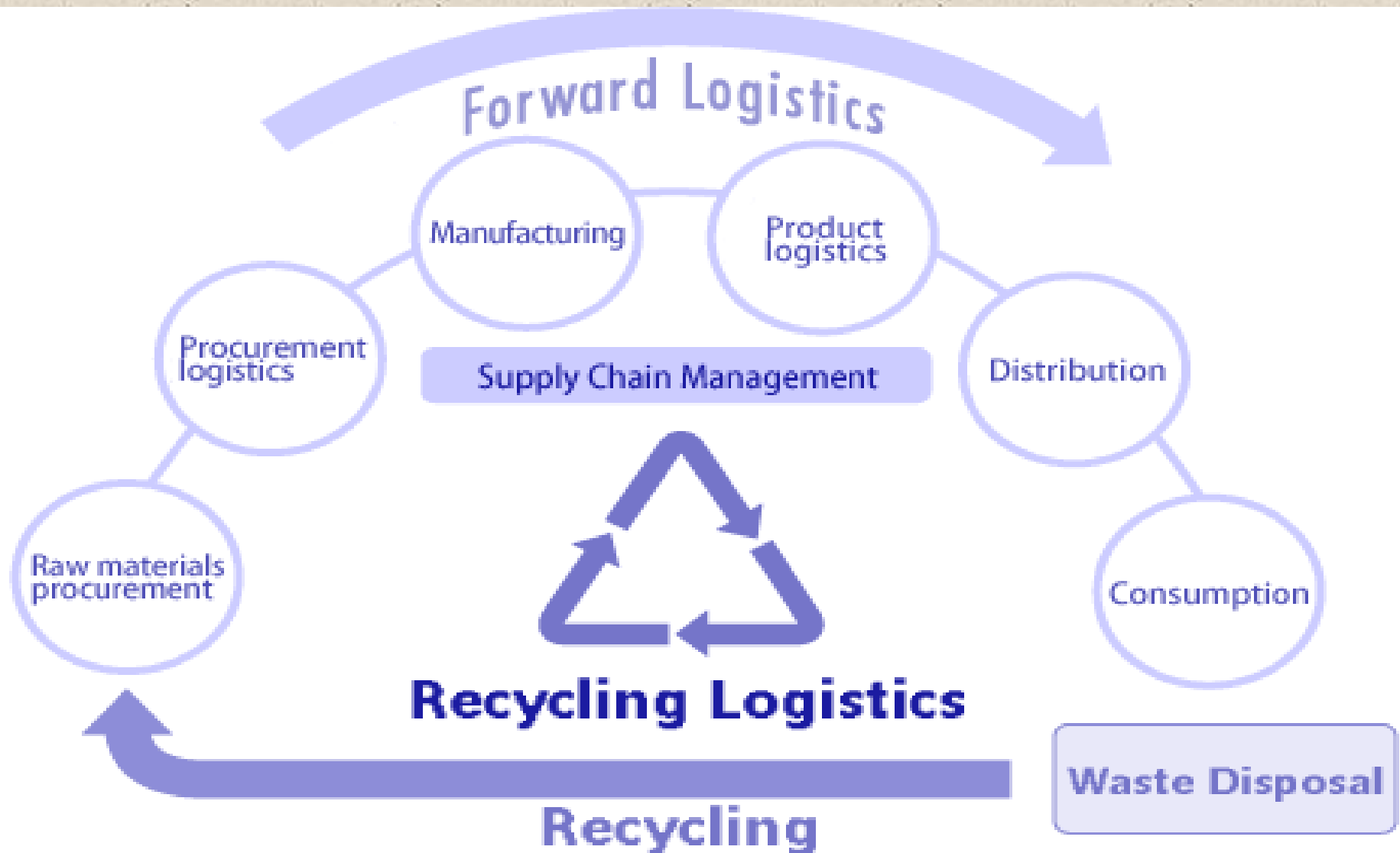
# Logistics Flow Diagram

Source: Naula 2007



# Green Logistics

Recycling is designed in at inception





# List of Logistics Activities

- Transportation
- Warehousing and storage
- Packaging
- Materials handling
- Inventory control
- Order fulfillment
- Demand Management
- Procurement
- Customer service
- Facility location
- Return goods handling
- Parts and service support
- Salvage and scrap disposal

# **E-Commerce & Modern Logistics Enable New Business Models**

- Traditional business model – “Buy, Make, Sell”
- E-Commerce business model – “Sell, Make, Buy”  
(Dell) can be very compelling
  - Dell uses “price & lead time” to influence orders

# Application of Total Logistics Cost Concept

**Table 2-3**

Analysis of Total Logistics Cost with a Change to a Higher Cost Mode of Transport

Cost Centers	Rail	Motor
Transportation	\$3.00	\$4.20
Inventory	5.00	3.75
Packaging	4.50	3.20
Warehousing	1.50	0.75
Cost of lost sales	2.00	1.00
Total cost	\$15.00	\$13.00*

\*Costs per unit.

# Definition of Multimodal Transportation

- Multimodal cargo transportation is the movement of cargo using more than one mode of transportation in a continuous, seamless journey, under one contract, using one consignment document
- After the goods are loaded in a “multimodal equipment” at the beginning of the journey, they travelled across multiple transport modes (motor, rail, water and air) without any further handling of the goods inside until the goods reached the intended destination

# Development of Multimodal Transportation

- Concept started in the early twentieth century for the movement of circus
- Development of TOFC, swap bodies in the 1970s and 1980s
- Surge in US multimodal transportation after deregulation
- Globalization, oil price surge, energy conservation, pollution reduction drove rapid growth
- Double stack and large domestic containers in US propels multimodal efficiency



# Modal Choice Criteria Multimodal Transport

- Cost
- Speed
- Cargo value, security and safety
- Route
- Complexity, management intensity
- Equipment availability
- Cargo characteristics (e.g. durability, size, perishability, inherent danger)
- Difference in border management process (e.g. rail shipments generally have less border delays, used extensively in US/MEX transport)

**Спасибо! Thank you! 谢谢 !**

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