

# Supply Chain Management: An overview

EE 382




# What forces are driving the rate of change

- Globalization
- Technology
- Organizational consolidation
- Empowered consumer
- Government policy and regulation

# Globalization

- Led to a more competitively intense economic and geopolitical environment
- Companies seeking to rationalize their global networks ask such questions as the following:
  - Where in the world should we source our materials and/or services?
  - Where in the world should we manufacture or produce our products and/or services?
  - Where in the world should we market and sell our products and/or services?
  - Where in the world should we store and/or distribute our products?
  - What global transportation alternatives should we consider?

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- Important issues or challenges for supply chains or the global economy
    - More volatility of supply and demand
    - Shorter product life cycles
    - The blurring of traditional organizational boundaries



# Technology

- A major impact on supply chains as a facilitator of change as companies have transformed their processes
- Individuals and organizations are “connected” 24/7 and have access to information on the same basis via the internet
- Technology has allowed individuals and smaller organizations to connect to the world’s “knowledge pools” to create an unbelievable set of opportunities for collaboration in supply chains

# Organizational consolidation

- The importance of the consolidation and power shift is that the large retailers are accorded special consolidation from consumer product companies
  - Customized distribution services - schedule deliveries, rainbow pallets, advance shipment notices, etc.
  - Allow retailers to operate more efficiently and often more effectively
- Value-added services- vendor-managed inventory (VMI)
- Gain mutual cost savings and improved customer service



# The Empowered consumer

- Consumers are more enlightened, educated and empowered than before by the information that they have at their disposal from the internet and other sources
- Opportunity to compare prices, quality, and service
- They demand competitive prices, high quality, tailored/customized products, convenience, flexibility, and responsiveness
- These demand place increased challenges and pressure on the various supply chains for consumer products

# Government policy and regulation

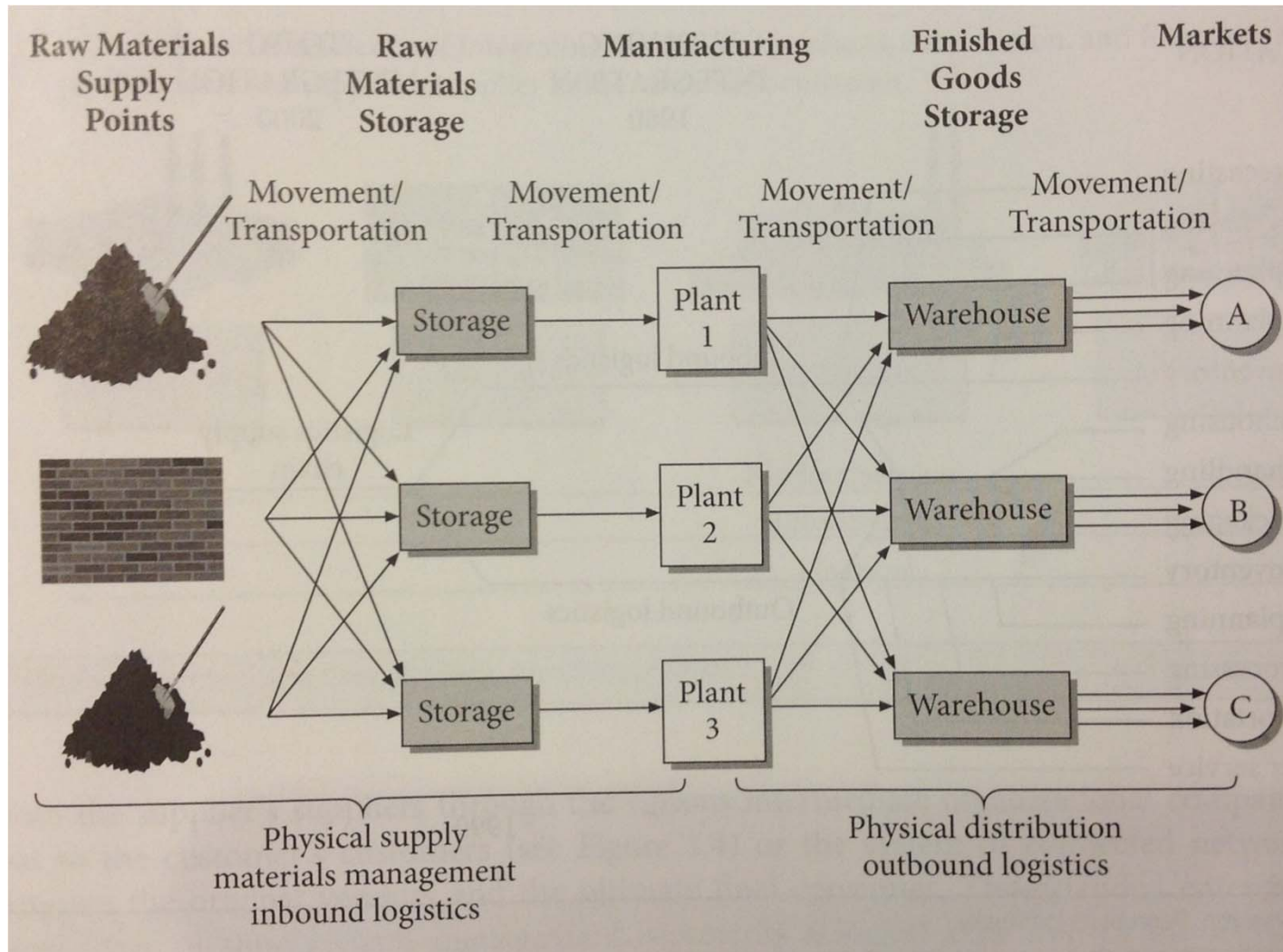
- Policies, regulations, taxes - impact individual businesses and their supply chains
- Deregulated sectors include transportation, communications, and financial institutions
  - Example- U.S. transportation was deregulated at the federal level in terms of economic controls such as rates and areas of service
  - Net effect- possible for transportation services to be purchased and sold in a much more competitive environment- lower prices to users and better services



# The supply chain concept

- The development of the physical distribution concept that focused on the outbound side of a firm's logistic system
- The focus of physical distribution was on total systems cost and analyzing tradeoff scenarios to arrive at the best or lowest system cost
- The system relationships among transportation, inventory requirements, warehousing, exterior packing, materials handlings, and some other activities or cost centers

# A view of business logistics in a company

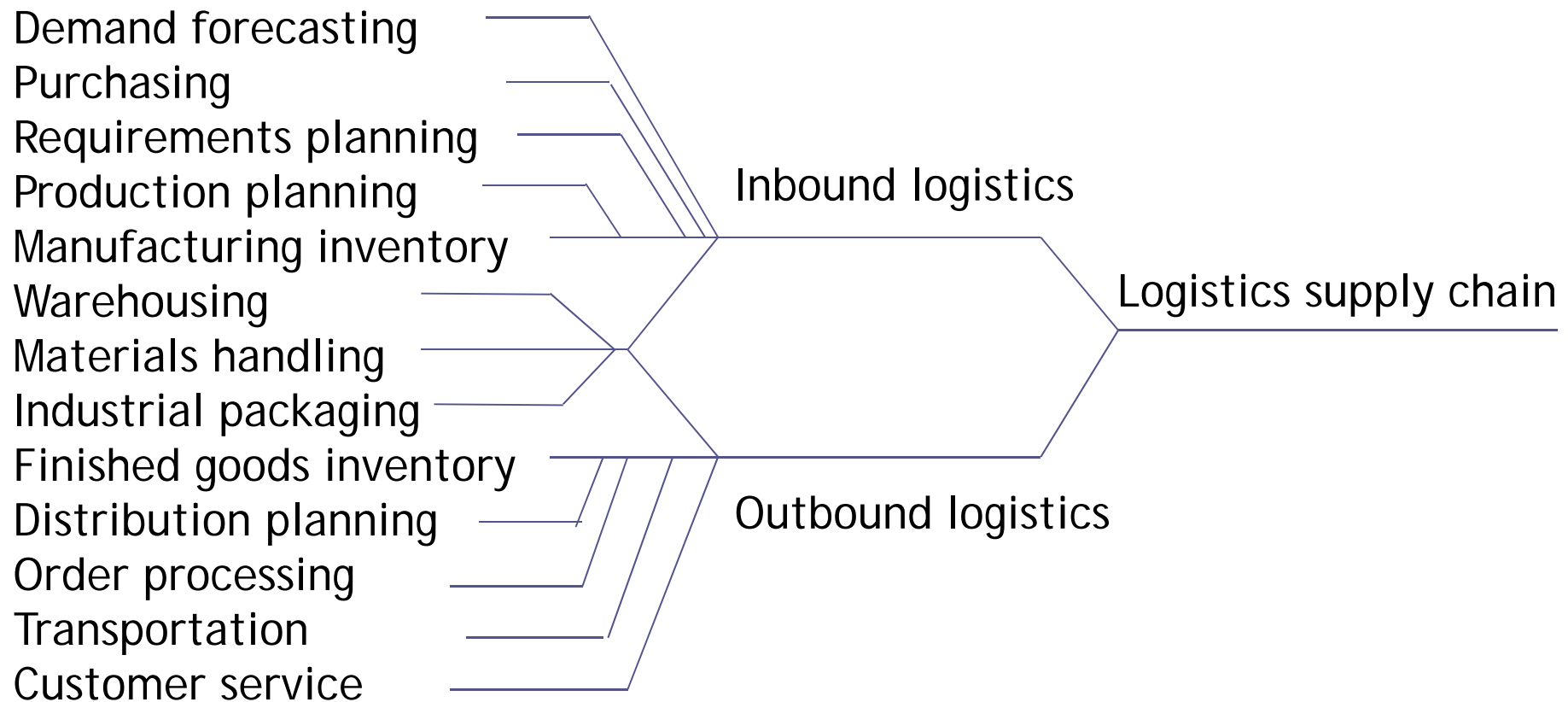


# Integrated Logistics Management

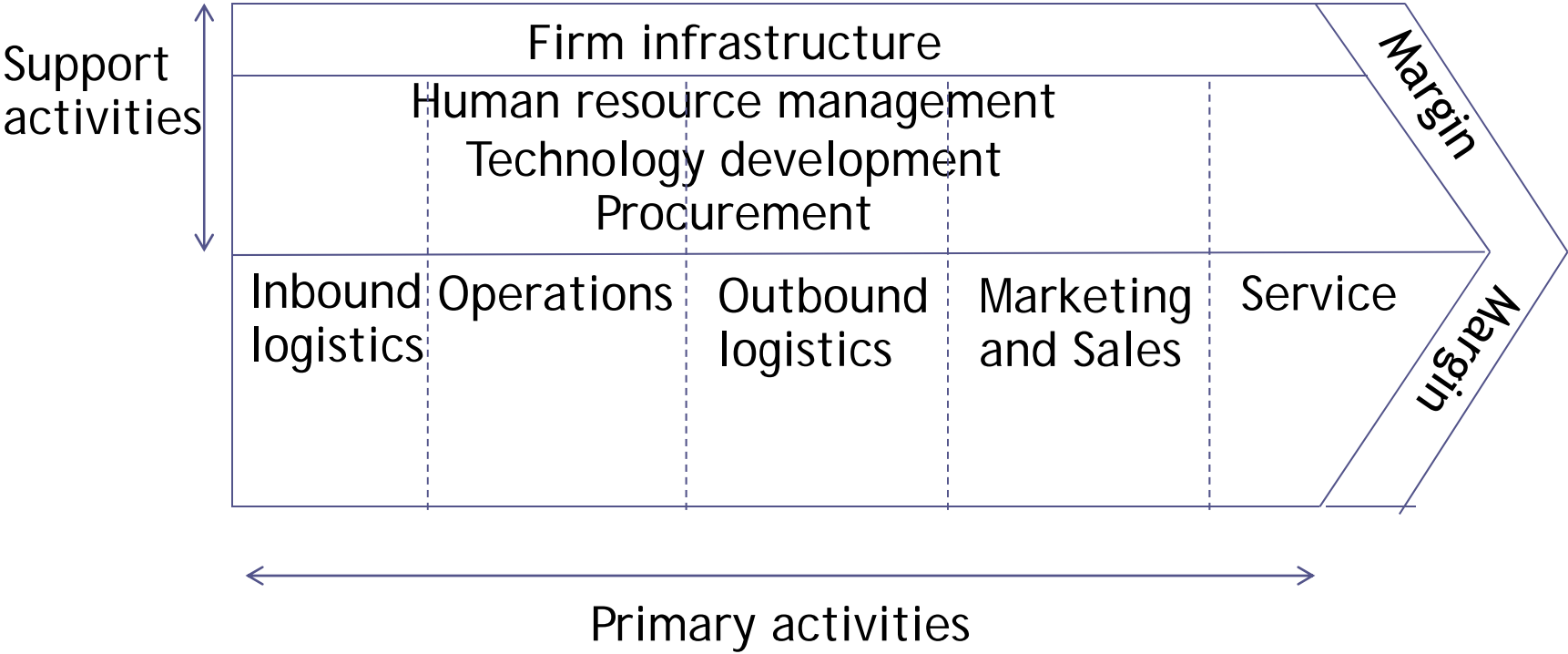
Fragmentation 1960

Evolving Integration 1980

Total Integration 2000

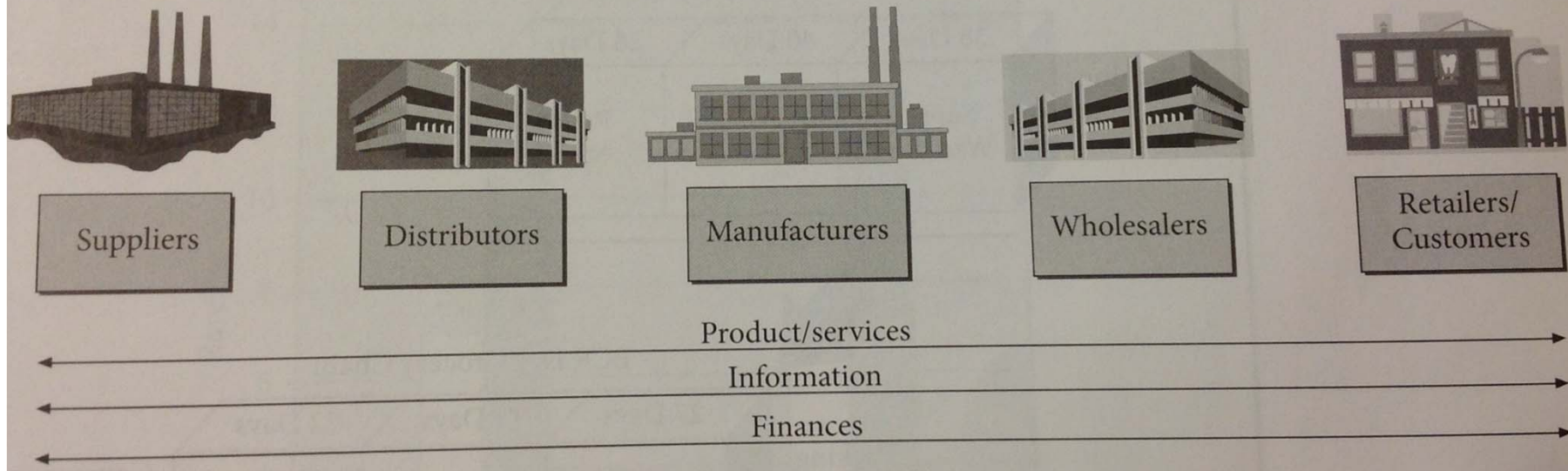


# Generic Value Chain



# Integrated supply chain

SCM is the art and science of integrating the flows of products, information, and financials through the entire supply pipeline from the supplier's supplier to the customer's customer.



# Integrated supply chain

## Products and related services

- Customers expect their orders to be delivered in a timely, reliable, and damage-free manner and transportation is critical to this outcome
- Product flow is a two-way flow in today's environment because of the growing importance of reverse logistic systems for returning products that are unacceptable to the buyer
- The location, size, and layout of facilities are frequently different; and the transportation carriers need to be utilized differently



## Information flow

- Flowing in the opposite direction of products- the market back to the wholesalers, manufacturers and vendors
- The information was primarily demand or sales data- were the trigger for replenishment and the basis for forecasting
- Real time basis- leads to less uncertainty and therefore less safety stock
  - Inventory can be eliminated from the supply chain by timely, accurate information about demand



## Financials flow

- Cash
- A major impact of supply chain compression and faster order cycle times has been faster cash flow
- Customers receive order faster, they are billed sooner, and companies can collect sooner



# Major supply chain issues

- Supply chain networks
- Complexity
- Inventory Deployment
- Information
- Cost/value
- Organizational relationships
- Performance measurement
- Technology
- Transportation management
- Supply chain security



# References

- Coyle J.J., Langley C.J. Jr., Novack R.A., Gibson, B.J. (2013). *Managing Supply Chains A Logistics Approach*. 9<sup>th</sup> edition. South-Western, Cengage Learning.