



# **Supply Chain Management**

## **Kaul Associates**



# Key Issues

- Fast Response to changing market demand
- Logistics & distribution of finished product
- Sales & Operations Planning
- Cash flow management

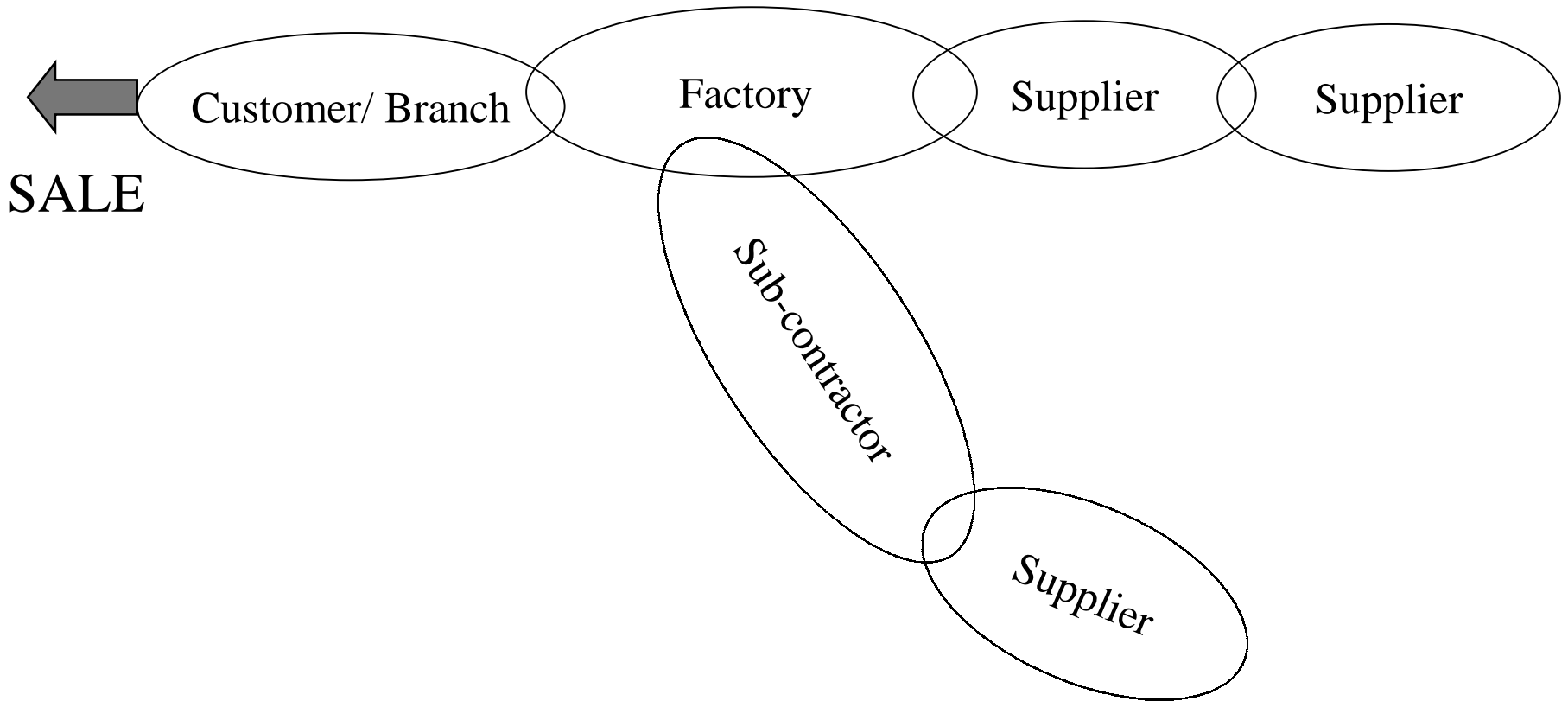


# Supply Chain

“Network used to deliver products from raw materials to end customers through engineered flows of information, physical distribution and cash.”



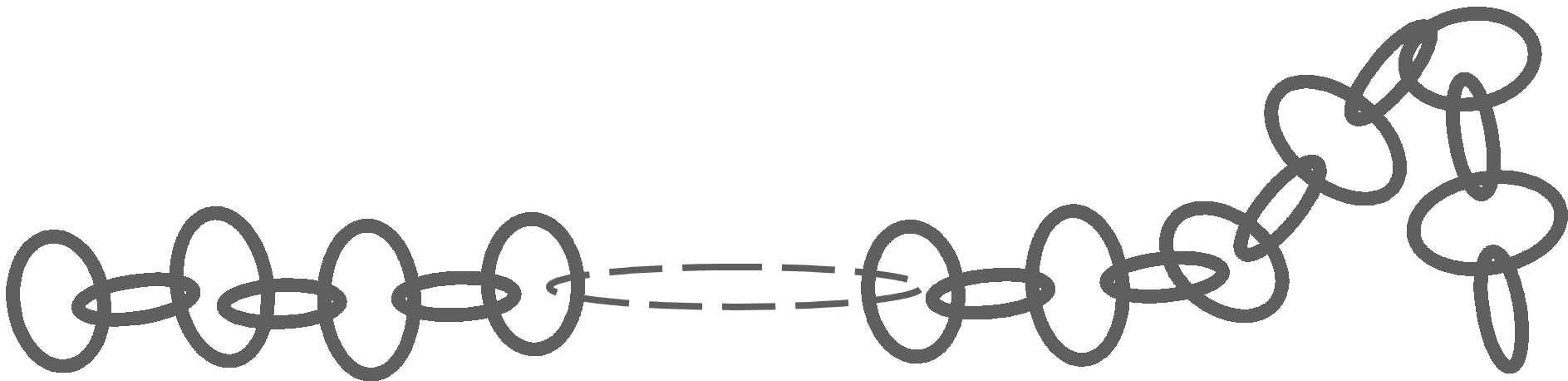
# The Supply Chain





# The Bottomline...

"A Chain is only as strong as its weakest link."



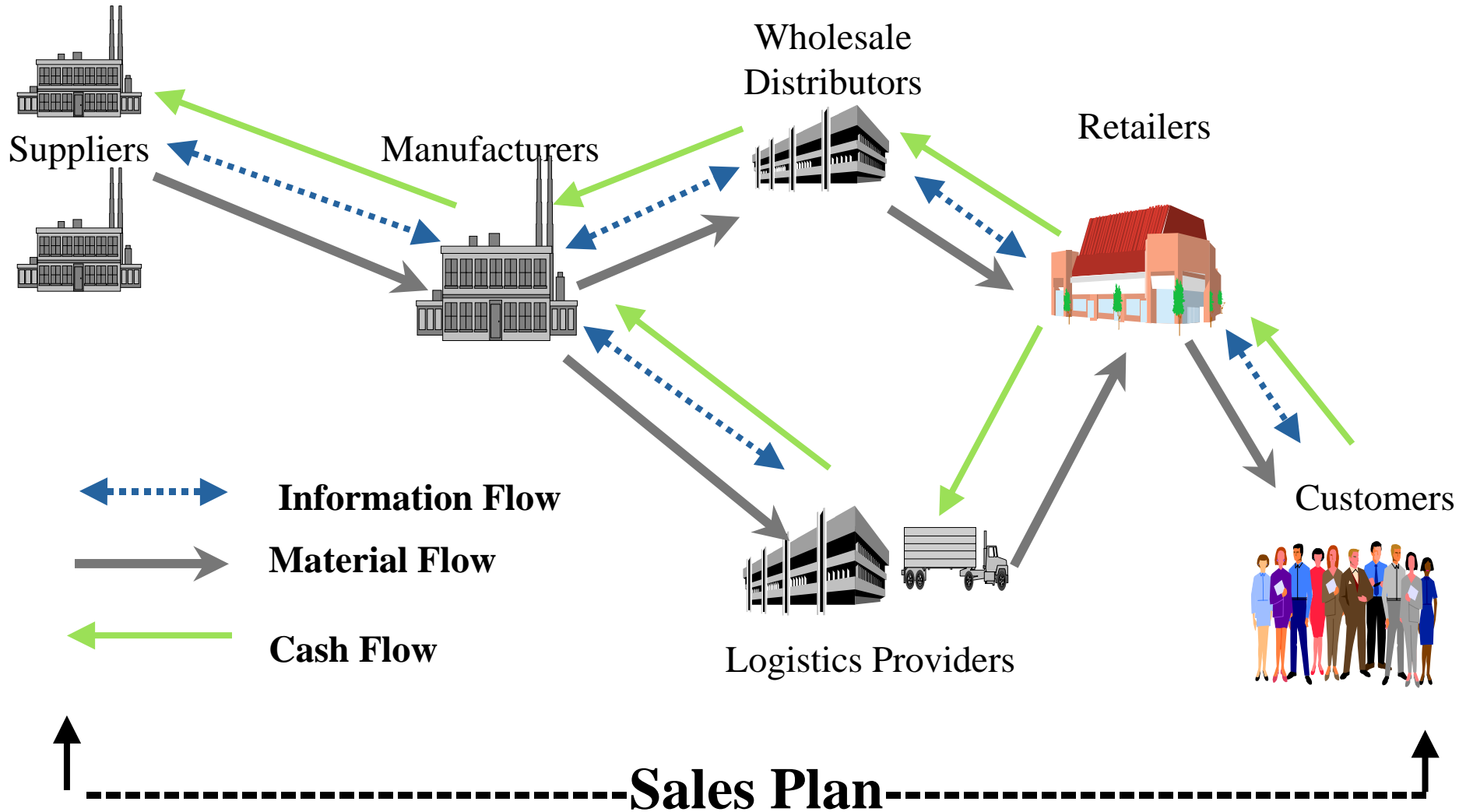


# Supply Chain Management

“Supply Chain Management (SCM) coordinates and integrates all activities into a seamless process and links all the partners in the chain, including departments within an organization and the external partners including suppliers, carriers, third-party companies and information system providers.”

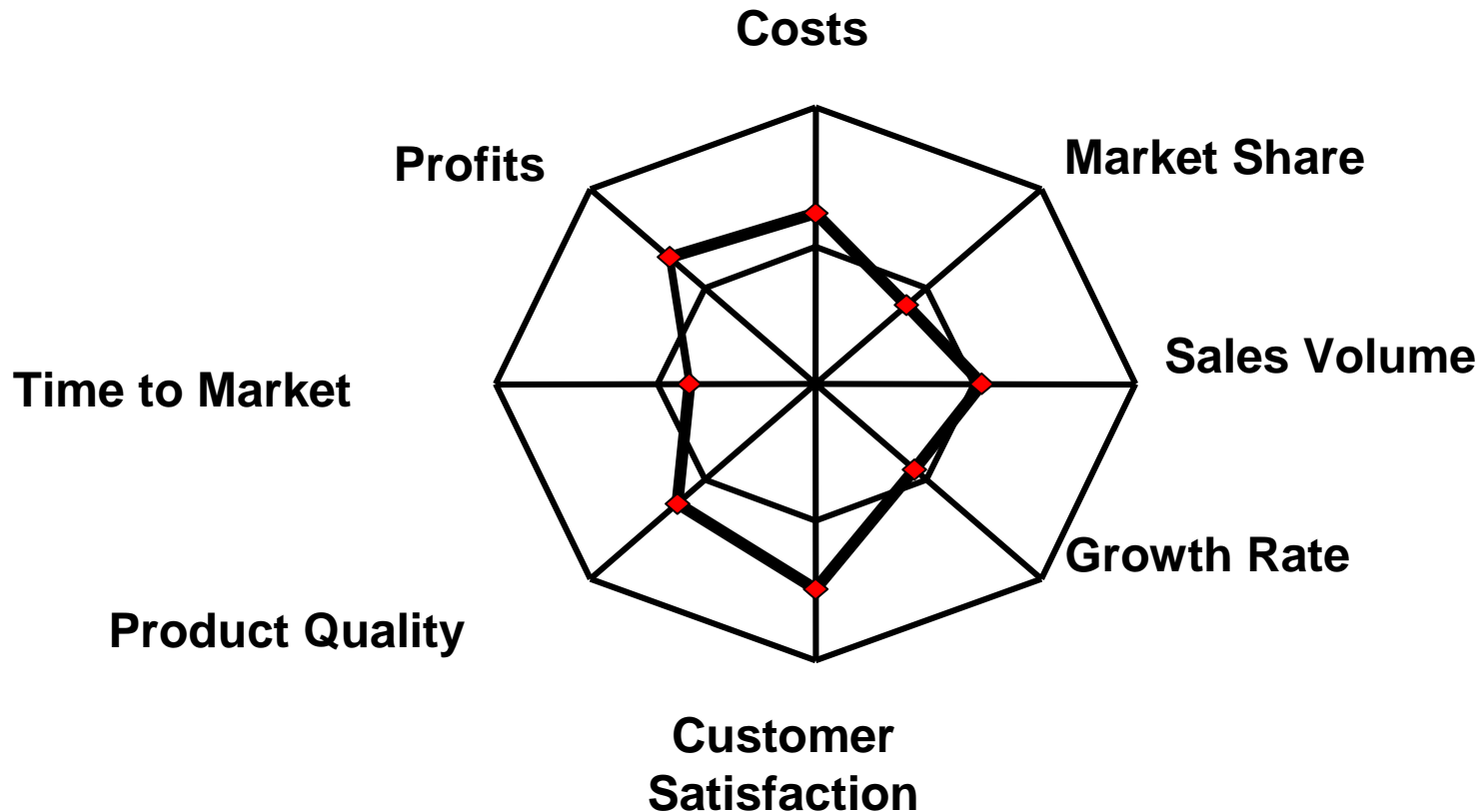


# Supply Chain Management





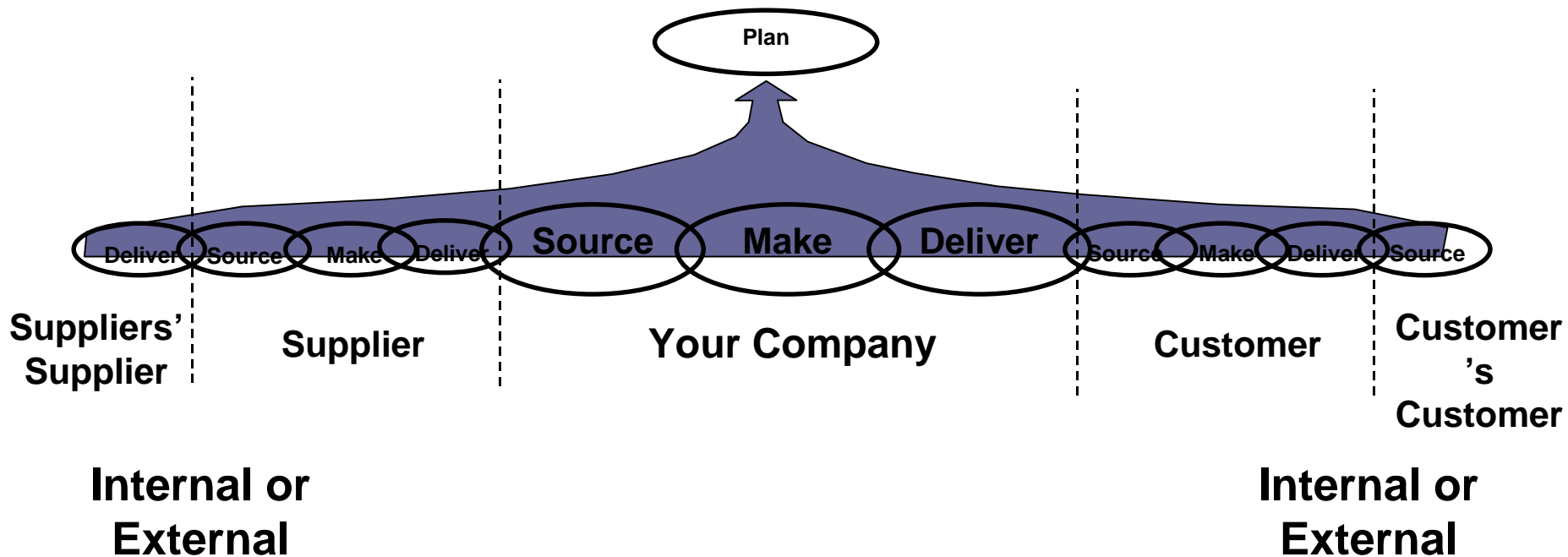
# Strategic Objectives of SCM



- ***Important drivers are customer satisfaction and profits.***



# SCOR\* - four distinct management processes

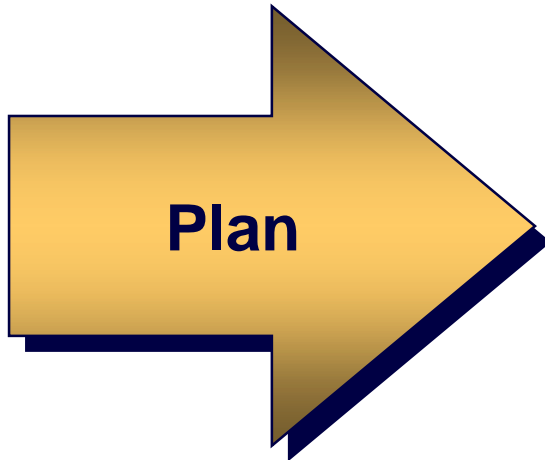


\* Supply Chain Operations Reference



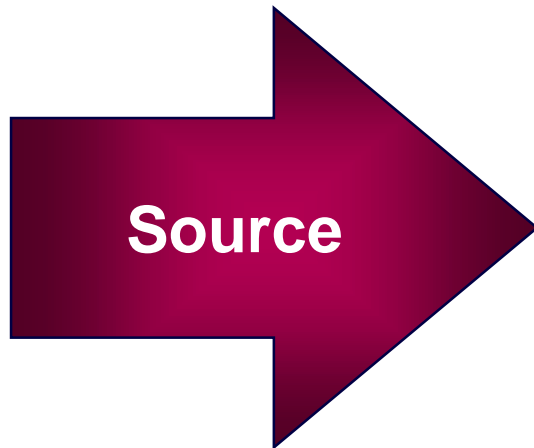
# Scope of SCOR processes

- Demand/supply planning
  - Assess supply resources, aggregate and prioritize demand requirements, plan inventory, distribution requirements, production, material, and rough-cut capacity for all products and all channels
  - Manage planning infrastructure
  - Make/buy decisions, supply-chain configuration, long-term capacity and resource planning, business planning, product phase-in/phase-out, manufacturing ramp-up, end-of-life management, product-line management





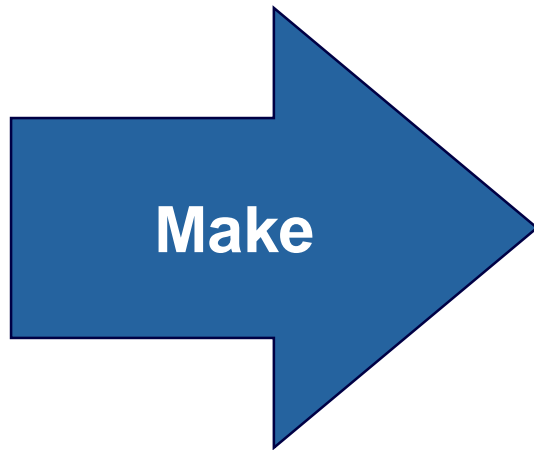
# Scope of SCOR processes



- Sourcing/ material acquisition
  - Obtain, receive, inspect, hold, and issue material
- Manage sourcing infrastructure
  - Vendor certification and feedback, sourcing quality, in-bound freight, component engineering, vendor contracts, initiate vendor payments



# Scope of SCOR processes



- Production execution
  - Request and receive material, manufacture and test product, package, hold and/or release product
- Manage make infrastructure
  - Engineering changes, facilities and equipment, production status, production quality, shop scheduling/sequencing, short-term capacity



# Scope of SCOR processes



**Deliver**

- Order management
  - Enter and maintain orders, generate quotations, configure product, create and maintain customer database, manage allocations, maintain product/price database, manage accounts receivable, credits, collections and invoicing
- Warehouse management
  - Pick, pack and configure products, create customer specific packaging/labeling, consolidate orders, ship products
- Transportation and installation management
  - Manage traffic, manage freight, manage product import/export
  - Schedule installation activities, perform installation, verify performance
- Manage deliver infrastructure
  - Manage channel business rules, order rules, manage deliver inventories, manage deliver quality



# SCM: The 4 Principle Guide

## Principle A: Build a competitive infrastructure

- Focus on the customer
- Simplify business processes
- Reduce number of parties who touch a process
- Speed up velocity of information



# SCM: The 4 Principle Guide

## Principle B: Leverage the logistics network

- Identify where the market demand and supply base are geographically
- Connect all the origins of supply to all destinations of demand and to each of the trading partners in between
- Develop and manage a minimum number of supply nodes



# SCM: The 4 Principle Guide

## Principle C: Synchronize supply to demand

- Match the rate of supply with the rate of demand at each node
- Synchronize the product mix that's in production with the product mix that customers order



# SCM: The 4 Principle Guide

## Principle D: Measure overall performance

- Establish and agree upon an overall performance measurement plan
- Engender trust among the trading partners and put forth great effort in relationship management across different company and trading cultures



# Supply Chain Scorecard

*Performance Versus Competitive Population*

Supply Chain Scorecard v. 3.0		Performance Versus Competitive Population				
		Actual	Parity	Advantage	Superior	
<b>EXTERNAL</b>	<b>Overview Metrics</b>	SCOR Level 1 Metrics	Actual	Parity	Advantage	Superior
	<b>Delivery Performance/ Quality</b>	Delivery Performance to Commit Date	50%	<b>85%</b>	<b>90%</b>	<b>95%</b>
		Fill Rates	63%	<b>94%</b>	<b>96%</b>	<b>98%</b>
		Perfect Order Fulfillment	0%	<b>80%</b>	<b>85%</b>	<b>90%</b>
		Order Fulfillment Lead times	7 days	<b>7 days</b>	<b>5 days</b>	<b>3 days</b>
<b>Flexibility &amp; Responsiveness</b>	Production Flexibility	45 days	<b>30 days</b>	<b>25 days</b>	<b>20 days</b>	
<b>INTERNAL</b>	<b>Cost</b>	Total Logistics Management Costs	19%	<b>13%</b>	<b>8%</b>	<b>3%</b>
		Warranty Cost	NA	<b>NA</b>	<b>NA</b>	<b>NA</b>
		Value Added Employee Productivity)	\$122K	<b>\$156K</b>	<b>\$306K</b>	<b>\$460K</b>
	<b>Assets</b>	Inventory Days of Supply	119 days	<b>55 days</b>	<b>38 days</b>	<b>22 days</b>
		Cash-to-Cash Cycle Time	196 days	<b>80 days</b>	<b>46 days</b>	<b>28 days</b>
		Net Asset Turns (Working Capital)	2.2 turns	<b>8 turns</b>	<b>12 turns</b>	<b>19 turns</b>



# Supply Chain Improvement Benefits

## Typical Quantified Benefits from Integrating the Supply Chain

<b>Delivery Performance</b>	<b>16% – 28% Improvement</b>
<b>Inventory Reduction</b>	<b>25% – 60% Improvement</b>
<b>Fulfillment Cycle Time</b>	<b>30% – 50% Improvement</b>
<b>Forecast Accuracy</b>	<b>25% – 80% Improvement</b>
<b>Overall Productivity</b>	<b>10% – 16% Improvement</b>
<b>Lower Supply-Chain Costs</b>	<b>25% – 50% Improvement</b>
<b>Fill Rates</b>	<b>20% – 30% Improvement</b>
<b>Improved Capacity Realization</b>	<b>10% – 20% Improvement</b>