



Supply Chain Performance Measurement






Presented by: David F. Ross, PhD, CFPIM
APICS Profession Development



Introduction



Meet Your
Session
Leader

-  APICS member since 1986
-  13 Years Manufacturing and Distribution Industries
-  22 Years Enterprise Business Systems Education and Consulting
-  Senior Manager, Professional Development – APICS
-  Articles and 6 Books in SCM



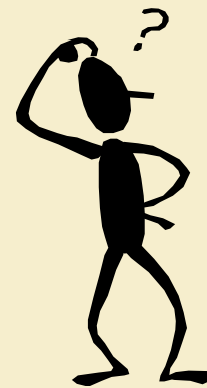
Agenda

- Critical questions of SCM PM
- Goals and performance attributes of SCM PM
- Obstacles to effective SCM PM
- SCM PM models
- Balanced scorecard model
- SCOR model
- SCM PM technical architecture
- Steps to creating a successful SCM PM program



Critical Questions

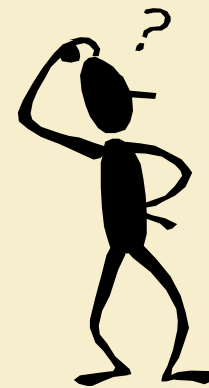
- Why is SCM performance measurement important?
- What general approaches are available to measure supply chains?
- What methods are available for setting performance targets?
- How should a company get started?





Critical Questions

- Why is SCM performance measurement important?





Goals of SCM Performance Measurement

- Better alignment of channel capabilities and customer requirements and expectation
- Increased optimization of collective channel operations
- Increased visibility to demand and supply
- Increased opportunities for collaboration
- Increased opportunities for channel alignment
- Increased opportunities for information exchange
- Increased profitability



SCM Performance Attributes

- Velocity
- Visibility
- Collaboration
- Trust
- Customer focus
- Flexibility
- Security (risk management)
- Compliance and Environmental Excellence





Obstacles Hindering Performance Efforts

- Technical barriers, such as difficulty locating, cleansing, and integrating data from multiple sources
- Design problems that stem from not understanding how to use methodologies, strategy maps, and appropriate performance indicators and targets
- Social constraints, such as an organizational culture adverse to measurement and accountability, non-supportive executive team, unrealistic standards, and conflicting goals



Critical Questions

- Why is SCM performance measurement important?
- What general approaches are available to measure supply chains?





SCM Performance Measurement Models

- Cash Velocity
- Balanced Scorecard
- SCOR
- The Logistics Scoreboard
- Activity-Based Costing (ABC)
- Economic Value-Added (EVA)





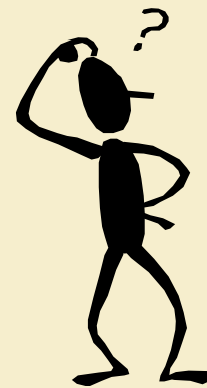
Supply Chain PM Criteria

- Holistic approach
- Process-based
- Aligned with strategy
- A dynamic system
- Balanced approach
- A managerial tool
- Cover strategic, tactical and operations level
- Provide a forward looking (leading) perspective
- Tool for improvement
- Provide drill-down functionality
- Handling conflicting objectives
- Simple
- Comparability
- Relevant metrics



Critical Questions

- Why is SCM performance measurement important?
- What general approaches are available to measure supply chains?
- What methods are available for setting performance targets?



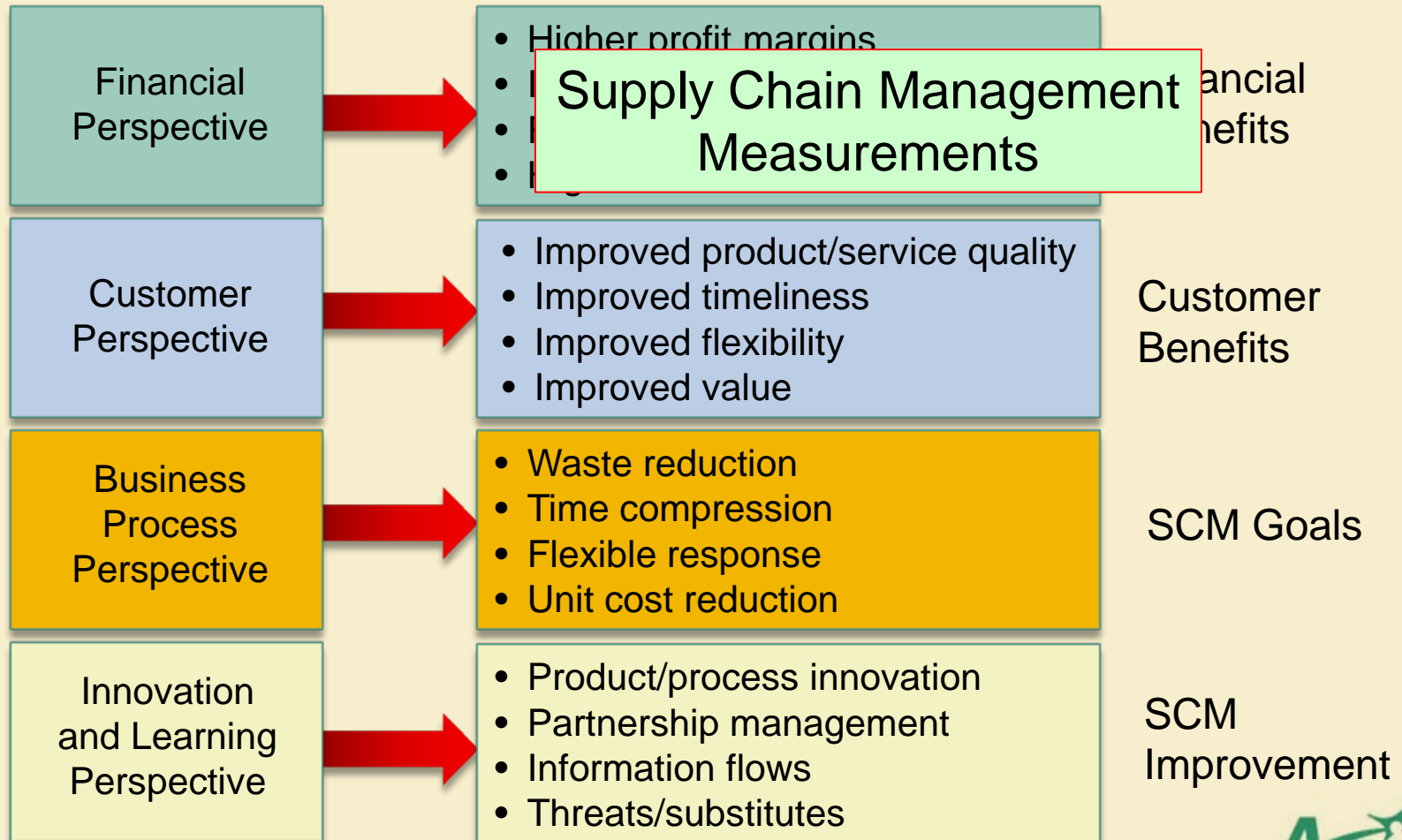


Balanced Scorecard SCM PM Strategy

- Communicate the strategic purpose of the balanced scorecard to supply chain partners
- Develop goals and measures consistent with the corporate and supply chain strategies
- Create schedules and assign responsibilities
- Drive managers to attain desired results



Linking SCM to the Balanced Scorecard





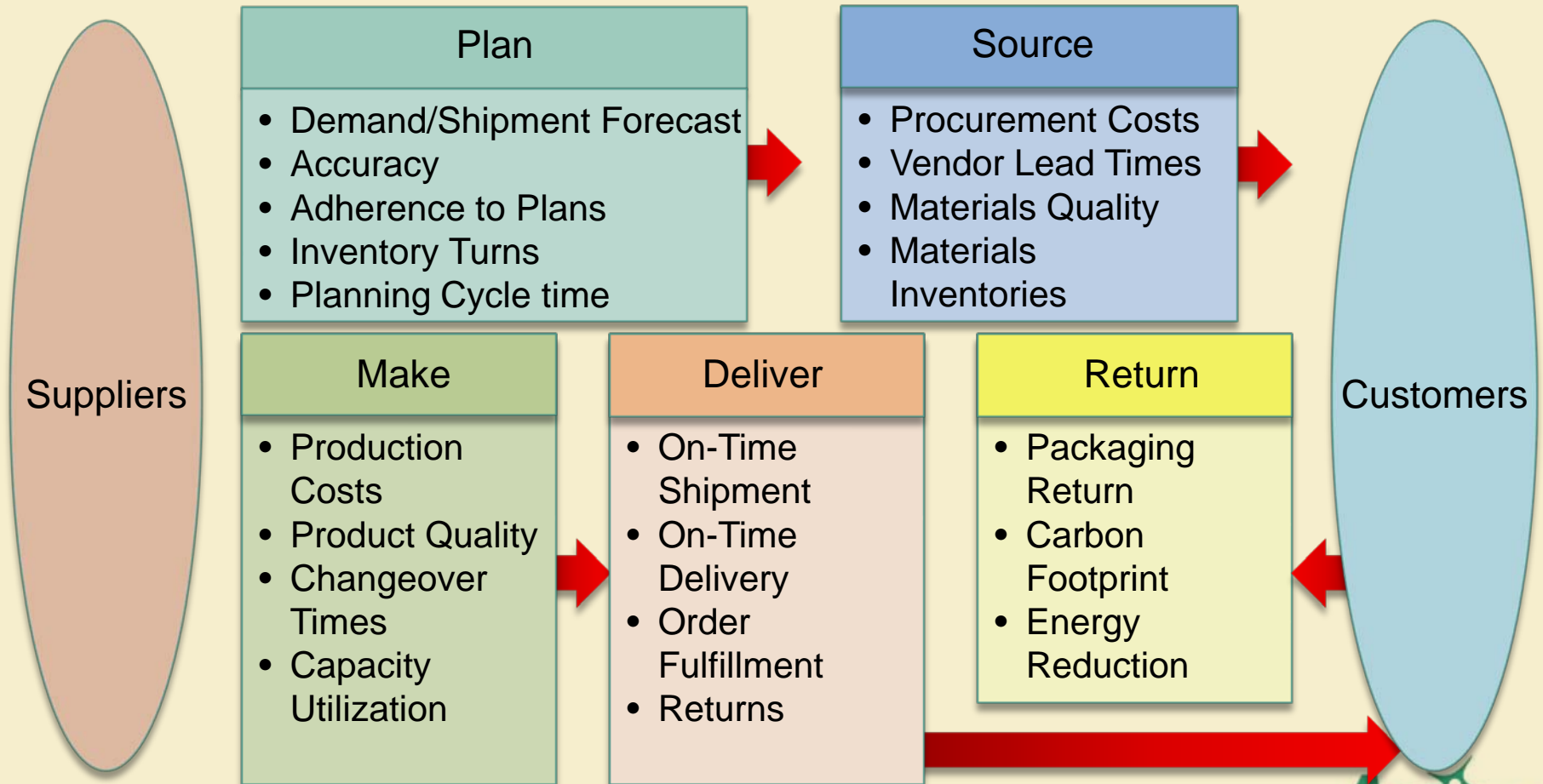
Balanced Scorecard Model

Supply Chain Objective: *Increased Channel Flexibility*

Area	Strategic Theme	Strategic Objectives	Strategic Measures
<i>Financial</i>	Increased supply chain flexibility	<ul style="list-style-type: none"> • Channel cost reduction • Increase profit margins 	<ul style="list-style-type: none"> • Increase cash flow • Reduce channel inventory
<i>Customer</i>	Perception of flexible response to customers	<ul style="list-style-type: none"> • Customers drive product • Service individualization • Increase product variety 	<ul style="list-style-type: none"> • Flexible supply channels • Ability to deliver customized solutions
<i>Business Process</i>	Postponement and value-added strategies	<ul style="list-style-type: none"> • Increase synchronization • Increase communication • Fast flow inventories • Multi-purpose facilities 	<ul style="list-style-type: none"> • Increase inventory turns • Increase efficiency/ utilization • Optimize transportation
<i>Innovation and Learning</i>	Increased material handling and process capabilities	<ul style="list-style-type: none"> • Increase core competencies • Motivating/skilling workers 	<ul style="list-style-type: none"> • Employee survey • Personal scorecard • Competency checks



SCOR Model





SCOR Metrics and Performance Attributes

Performance Attribute	Attribute Definition	Level 1 Metric
Supply chain reliability	Delivery of right product, to right place, at right time	Perfect order fulfillment
Supply chain responsiveness	Supply chain speed providing product to the customer	Order fulfillment cycle
Supply chain flexibility	Agility of a supply chain to respond to marketplace change	Upside supply chain flexibility Upside supply chain adaptability Downside supply chain adaptability
Supply chain costs	Costs associated with operating the supply chain	SCM cost Cost of goods sold
Supply chain asset management	Effectiveness in managing assets to support demand satisfaction	Cash-to-cash cycle time Return on supply chain fixed assets



SCOR Metrics Detail

Supply Chain Flexibility

Level 1 Metric	Definition	Calculation
Upside SC flexibility	Number of days an organization requires to achieve an unplanned sustainable 20% increase in quantities delivered	Least amount of time required to achieve the increase considering source, make, and deliver components
Upside SC adaptability	Amount of increased production an organization can achieve and sustain in 30 days	Largest sustainable quantity increase considering source, make, and deliver components
Downside SC adaptability	Reduction in quantities ordered sustainable at 30 days prior to delivery with no inventory/penalties	Largest sustainable quantity decrease considering source, make, and deliver components

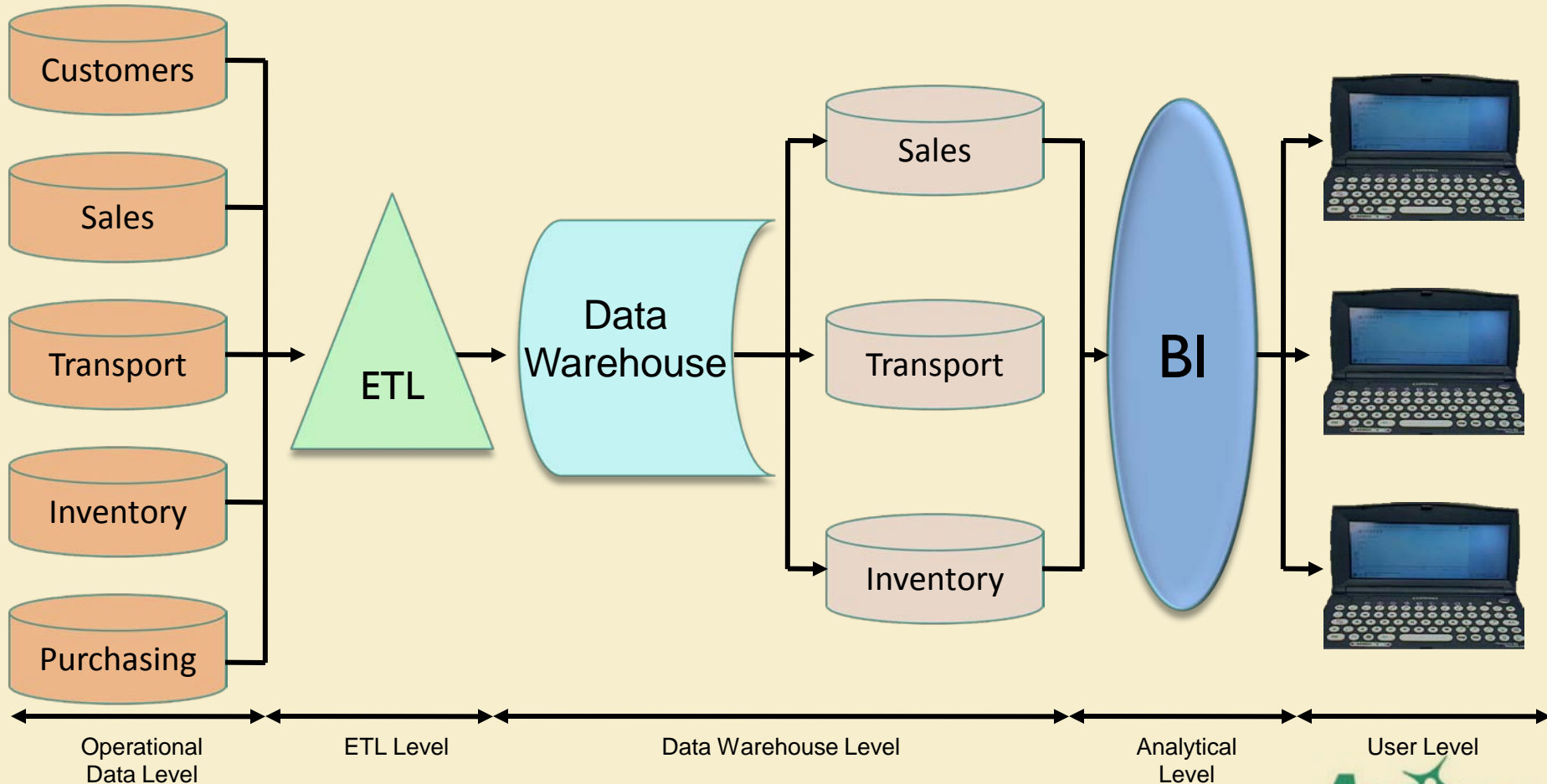


SCOR Metrics Detail (cont.)

Level 2 Metric	Level 3 Metric	Calculation
Input	Labor	Number of tasks a worker can perform
	Machine	Efficiency of using a flexible machine
Process	Material Handling	Number of movements and movement paths without incurring more costs
	Routing	Number of alternative routings without incurring more cost
	Operation	Number of products with alternative sequencing paths without incurring more costs
Output	Volume	Extent of change in process volume without incurring more costs
	Mix	Number and variety of products produced without incurring more costs.



SCM PM Platform Architecture





Excel Spreadsheet Example

SCOR Supply Chain Process	Actual	Target
Plan		
Forecast Accuracy	85%	90%
Return on Assets	80%	99%
Delivery Performance to Customer Request Date	50%	75%
Capacity Utilization	88%	95%
Cumulative Source/Make Cycle Times	10	8
Intra-mfg Replan Cycle Time	80%	75%
Source		
Source Flexibility	15%	25%
On Time Delivery Performance	85%	95%
Cumulative Source Cycle Times	30	30
Make		
Cumulative Make Cycle Time	12	10
Production Plan Adherence	85%	100%



Critical Questions

- Why is SCM performance measurement important?
- What general approaches are available to measure supply chains?
- What methods are available for setting performance targets?
- How should a company get started?





Developing SCM PM - Steps

- Step 1:** Formulate Strategy and Build Consensus
- Step 2:** Select Metrics in Alignment with the Supply Chain
- Step 3:** Integrate and Communicate Metrics
- Step 4:** Drive the Organization to Maintain and Optimize the Desired Results



Thanks for Attending!

Enabling the Supply Chain Universe