SCOR Processes

The Supply Chain Operations Reference (SCOR) model describes the business activities associated with all phases of satisfying a customer’s demand. The model itself is organized around the six primary management processes of Plan, Source, Make, Deliver, Return and Enable. Using these process building blocks, the SCOR model can be used to describe supply chains that are very simple or very complex using a common set of definitions across disparate industries. Today public and private organizations and companies around the world use the model as a foundation for global and site-specific supply chain improvement projects.

SCOR spans all customer interactions (quote to cash), all physical material transactions (procure to payment, including equipment, supplies, spare parts, bulk product, software, etc.) and all market interactions (manufacturing, from the understanding of aggregate demand to the fulfillment of each order).

The model is designed and maintained to support supply chains of various complexities and across multiple industries. The model focuses on three process levels and does not attempt to prescribe how a particular organization should conduct its business or tailor its systems or information flow.

People—Supply Chain Skills

The people section introduced in SCOR 10.0 provides a means for managing talent in the supply chain by incorporating a standard for describing the expertise required to perform tasks and manage processes. The SCOR skills management complements the existing process, metrics, and practice reference components by aligning people and their skills to the processes.

A Skill in SCOR is the capacity to deliver predetermined results with minimal input of time and energy, characterized by a standard definition with associated experience, aptitudes, and training.

Experience is the knowledge or ability acquired by observation or active participation, obtained by doing the work in a real life environment, and undergoing different situations that require different actions.

Training develops a skill or type of behavior through instruction.

All people skills are coded with a capital letter H followed by a capital letter representing the element: S for Skills, E for Experience and T for Training. These are followed by a period and a four digit number. Note: The number in the ID is a unique identifier and does NOT indicate any kind of priority, importance, or other meaning.
SCOR Practices

A practice is a unique way to configure a process or a set of processes. The uniqueness can be related to the automation of the process, a technology applied in the process, special skills applied to the process, a unique sequence for performing the process, or a unique method for distributing and connecting processes between organizations. All practices have links to one or more processes, one or more metrics and, where available, one or more skills.

SCOR Practices are classified to simplify identification of practices by area of interest:

- Business Process Analysis/Improvement
- Customer Support
- Distribution Management
- Information Management
- Inventory Management
- Material Handling
- New Product Introduction
- Order Engineering (ETO)
- Order Management
- People Management (Training)
- Planning and Forecasting
- Production Execution
- Product Lifecycle Management
- Purchasing/Procurement
- Reverse Logistics
- Risk/Security Management
- Sustainable Supply Chain Management
- Transportation Management
- Warehousing

Special Applications

SustainableSCOR

SustainableSCOR is based upon The GRI Sustainability Reporting Standards (GRI Standards) that are within scope of the SCOR model. GRI Standards are free to use and are available at www.globalreporting.org/standards. The following strategic environmental metrics allow the SCOR model to be used as a framework for environmental accounting:

- Materials Used (Weight or Volume)
- Energy Consumed (Joules, Watt-hours or Multiples)
- Water Volume Withdrawn (Gallons, Liters or Multiples)
- Air Emissions (Metric Tons or Equivalents)
- Liquid and Solid Wastes (Gallons, Liters or Multiples, Weight or Volume)
- Air Emissions (Metric Tons or Equivalents)
- Liquid and Solid Wastes (Gallons, Liters or Multiples, Weight or Volume)
- Water Volume Withdrawn (Gallons, Liters or Multiples)

The SCOR framework ties emissions to the originating processes, providing a structure for measuring environmental performance and identifying where performance can be improved. The hierarchical nature of the model allows strategic environmental footprint goals to be translated to specific targets and activities.

SCOR Performance

The performance or metrics section of SCOR focuses on understanding the outcomes of the supply chain and consists of two types of elements: Performance Attributes and Metrics, and introduces the concept of Process/Practice Maturities.

A performance attribute is a grouping or categorization of metrics used to express a specific strategy. An attribute itself cannot be measured; it is used to set strategic direction. For example: “The LX product needs to be leading the competition in reliability” and “The XY-market requires us to be among the top 10 agile manufacturers”. Metrics measure the ability to achieve these strategic directions. SCOR recognizes 5 performance attributes:

- Reliability
- Responsiveness
- Agility
- Cost
- Asset Management Efficiency (Assets)

A metric is a standard for measurement of the performance of a supply chain or process. SCOR metrics are diagnostic metrics (compare to how diagnosis is used in a medical office). SCOR recognizes three levels of pre-defined metrics:

- Level-1 metrics are diagnostics for the overall health of the supply chain. These metrics are also known as strategic metrics and key performance indicators (KPI). Benchmarking level-1 metrics helps establishing realistic targets to support strategic directions.

- Level-2 metrics serve as diagnostics for the level-1 metrics. The diagnostic relationship helps to identify the root cause or causes of a performance gap for a level-1 metric.

- Level-3 metrics serve as diagnostics for level-2 metrics. The analysis of performance of metrics from level-1 through 3 is referred to as metrics decomposition, performance diagnosis or metrics root cause analysis. Metrics decomposition is a first step in identifying the processes that need further investigation. (Processes are linked to level-1, level-2 and level-3 metrics).
### Reliability

- **RL.1.1** - Perfect Order Fulfillment
- **RL.2.1** - % of Orders Delivered In Full
- **RL.3.33** - Delivery Item Accuracy
- **RL.3.35** - Delivery Quantity Accuracy
- **RL.2.8** - Delivery Performance to Customer Commit Date
- **RL.3.32** - Customer Commit Date Achievement Time Customer Receiving
- **RL.3.34** - Delivery Location Accuracy
- **RL.2.3** - Documentation Accuracy
- **RL.3.31** - Compliance Documentation Accuracy
- **RL.3.43** - Other Required Documentation Accuracy
- **RL.3.45** - Payment Documentation Accuracy
- **RL.3.50** - Shipping Documentation Accuracy
- **RL.2.4** - Perfect Condition
- **RL.3.32** - % Of Faultless Installations
- **RL.3.41** - Orders Delivered Damage Free Conformance
- **RL.3.42** - Orders Delivered Defect Free Conformance
- **RL.3.55** - Warranty and Returns

### Responsiveness

- **RS.1.1** - Order Fulfillment Cycle Time
- **RS.2.1** - Source Cycle Time
- **RS.3.8** - Authorize Supplier Payment Cycle Time
- **RS.3.35** - Identify Sources of Supply Cycle Time
- **RS.3.107** - Receive Product Cycle Time
- **RS.3.32** - Schedule Product Deliveries Cycle Time
- **RS.3.125** - Select Supplier and Negotiate Cycle Time
- **RS.3.109** - Transfer Product Cycle Time
- **RS.3.340** - Verify Product Cycle Time
- **RS.2.2** - Make Cycle Time
- **RS.3.33** - Finalize Production Engineering Cycle Time
- **RS.3.49** - Issue Material Cycle Time
- **RS.3.301** - Produce and Test Cycle Time
- **RS.3.314** - Release Finished Product to Deliver Cycle Time
- **RS.3.312** - Schedule Production Activities Cycle Time
- **RS.3.328** - Stage Finished Product Cycle Time
- **RS.3.342** - Package Cycle Time
- **RS.2.3** - Deliver Cycle Time
- **RS.3.36** - Build Loads Cycle Time
- **RS.3.28** - Consolidate Orders Cycle Time
- **RS.3.26** - Install Product Cycle Time
- **RS.3.5** - Load Product & Generate Shipping Documentation Cycle Time
- **RS.3.202** - Receive & Verify Product by Customer Cycle Time
- **RS.3.310** - Receive Product from Source or Make Cycle Time
- **RS.3.311** - Receive, Configure, Enter & Validate Order Cycle Time
- **RS.3.316** - Reserve Resources and Determine Delivery Date Cycle Time
- **RS.3.317** - Route Shipments Cycle Time
- **RS.3.320** - Schedule Installation Cycle Time
- **RS.3.324** - Select Carriers & Rate Shipments Cycle Time
- **RS.3.326** - Ship Product Cycle Time
- **RS.3.24** - Delivery Retail Cycle Time
- **RS.3.97** - Checkout Cycle Time
- **RS.3.32** - Fulfill Shopping Cart Cycle Time
- **RS.3.34** - Generate Stocking Schedule Cycle Time
- **RS.3.37** - Pick Product from Backroom Cycle Time
- **RS.3.309** - Receive Product at Store Cycle Time
- **RS.3.39** - Stock Shelf Cycle Time
- **RS.2.5** - Return Cycle Time

### Agility

- **AG.1.1** - Upside Supply Chain Adaptability
  - **AG.2.1** - Upside Adaptability (Source)
  - **AG.2.2** - Upside Adaptability (Make)
  - **AG.2.3** - Upside Adaptability (Deliver)
  - **AG.2.4** - Upside Return Adaptability (Source)
  - **AG.2.5** - Upside Return Adaptability (Make)
  - **AG.2.6** - Upside Return Adaptability (Deliver)
  - **AG.1.3** - Overall Value at Risk (VAR)
  - **AG.2.9** - Supplier’s/Customer’s Products Risk Rating
  - **AG.2.10** - Value at Risk (Plan)
  - **AG.2.11** - Value at Risk (Source)
  - **AG.2.12** - Value at Risk (Make)
  - **AG.2.13** - Value at Risk (Deliver)
  - **AG.2.14** - Value at Risk (Return)
  - **AG.2.15** - Time to Recovery (TTR)
- **AG.2.7** - Downside Adaptability (Make)
- **AG.2.8** - Downside Adaptability (Deliver)
- **AG.2.9** - Downside Adaptability (Source)

### Cost

- **CO.1.1** - Total Supply Chain Management Costs
  - **CO.2.1** - Cost to Plan
  - **CO.3.1** - Cost to Plan Supply Chain
  - **CO.3.2** - Cost to Plan (Make)
  - **CO.3.3** - Cost to Plan (Make)
  - **CO.3.4** - Cost to Plan (Deliver)
  - **CO.3.5** - Cost to Plan (Return)
  - **CO.2.2** - Cost to Source
  - **CO.3.6** - Cost to Authorize Supplier Payment
  - **CO.3.7** - Cost to Receive Product
  - **CO.3.8** - Cost to Schedule Product Deliveries
  - **CO.3.9** - Cost to Transfer Product
  - **CO.3.10** - Cost to Verify Product
  - **CO.3.11** - Direct Material Cost
  - **CO.3.12** - Indirect Cost Related to Production
  - **CO.3.13** - Direct Labor Cost
  - **CO.2.4** - Cost to Deliver
  - **CO.3.14** - Order Management Costs
  - **CO.3.15** - Order Delivery and/or Install Costs
  - **CO.2.5** - Cost to Return
  - **CO.3.16** - Cost to Source Return
  - **CO.3.17** - Cost to Deliver Return
  - **CO.2.6** - Mitigation Costs
  - **CO.3.18** - Risk Mitigation Costs (Plan)
  - **CO.3.19** - Risk Mitigation Costs (Source)
  - **CO.3.20** - Risk Mitigation Costs (Make)
  - **CO.3.21** - Risk Mitigation Costs (Deliver)
  - **CO.3.22** - Risk Mitigation Costs (Return)
  - **CO.1.2** - Costs of Goods Sold
  - **CO.2.7** - Direct Labor Cost
  - **CO.2.8** - Direct Material Cost
  - **CO.2.9** - Indirect Cost Related to Production

### Asset Management Efficiency

- **AM.1.1** - Cash-to-Cash Cycle Time
- **AM.2.1** - Days Sales Outstanding
- **AM.2.2** - Inventory Days of Supply
- **AM.3.16** - Inventory Days of Supply (Raw Material)
- **AM.3.17** - Inventory Days of Supply (WIP)
- **AM.3.31** - Recycle Days of Supply
- **AM.3.28** - Percentage Defective Inventory
- **AM.3.37** - Percentage Excess Inventory
- **AM.3.44** - Percentage Unsuspected MRO Inventory
- **AM.3.45** - Inventory Days of Supply (Finished Goods)
- **AM.2.3** - Days Payable Outstanding
- **AM.1.2** - Return on Supply Chain Fixed Assets
- **AM.2.4** - Supply Chain Revenue
- **AM.3.2** - Supply Chain Fixed Assets
- **AM.3.11** - Fixed Asset Value (Deliver)
- **AM.3.18** - Fixed Asset Value (Make)
- **AM.3.20** - Fixed Asset Value (Plan)
- **AM.3.24** - Fixed Asset Value (Return)
- **AM.3.27** - Fixed Asset Value (Source)
- **AM.1.3** - Return on Working Capital
- **AM.2.6** - Accounts Payable (Payables Outstanding)
- **AM.2.7** - Accounts Receivable (Sales Outstanding)
- **AM.2.8** - Inventory
About APICS

APICS is the association for supply chain management and the leading provider of research, education and certification programs that elevate supply chain excellence, innovation and resilience. The APICS Certified in Production and Inventory Management (CPIM); APICS Certified Supply Chain Professional (CSCP); APICS Certified in Logistics, Transportation and Distribution (CLTD); and APICS Supply Chain Operations Reference-Professional (SCOR-P) designations set the industry standard. With more than 45,000 members and approximately 300 channel partners, APICS is transforming the way people do business, drive growth and reach global customers.

For more information, visit apics.org/scor.