SCOR®
Quick
Reference
Guide

SCOR®

Supply Chain Operations
Reference model

VERSION
11.0

SCOR Metrics

Performance Attributes

The performance attributes of a supply chain permit it to be analyzed and evaluated against other supply chains with competing strategies. SCOR identifies five core supply chain performance attributes: Reliability, Responsiveness, Agility, Costs, and Asset Management. Without these characteristics it is difficult to compare an organization that strategically chooses to be the low-cost provider against an organization that chooses to compete on reliability and performance.

Directly associated with the performance attributes are the Level 1 strategic metrics. These Level 1 metrics are the calculations by which an organization can measure how successful it is in achieving its desired positioning within the market space.

Many metrics in the SCOR model are hierarchical, just as the process elements are hierarchical. Level 1 metrics are created from lower level calculations. Level 2 metrics are generally associated with a narrower subset of processes. For example, Delivery Performance is calculated as the total number of products delivered on time and in full based on a commit date. Additionally, metrics (diagnostics) are used to diagnose variations in performance against plan. For example, an organization may wish to examine the correlation between the request date and commit date.

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.2.2 - 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.3.12 - % Of Faultless Installations

RL.3.24 - % Orders/Lines Received Damage Free

RL.3.41 - Orders Delivered Damage Free Conformance

RL.3.42 - Orders Delivered Defect Free Conformance

RL.3.55 - Warranty and Returns

Responsiveness	Agility
RS.1.1 - Order Fulfillment Cycle Time	AG.1.1 - Upside Supply Chain Flexibility
RS.2.1 - Source Cycle Time	AG.2.1 - Upside Flexibility (Source)
RS.3.8 - Authorize Supplier Payment Cycle Time	AG.2.2 - Upside Flexibility (Make)
RS.3.35 - Identify Sources of Supply Cycle Time	AG.2.3 - Upside Flexibility (Deliver)
RS.3.107 - Receive Product Cycle Time	AG.2.4 - Upside Return Flexibility (Source)
RS.3.122 - Schedule Product Deliveries Cycle Time	AG.2.5 - Upside Return Flexibility (Deliver
RS.3.125 - Select Supplier and Negotiate Cycle Time	AG.1.2 - Upside Supply Chain Adaptability
RS.3.139 - Transfer Product Cycle Time	AG.2.6 - Upside Adaptability (Source)
RS.3.140 - Verify Product Cycle Time	AG.2.7 - Upside Adaptability (Make)
RS.2.2 - Make Cycle Time	AG.2.8 - Upside Adaptability (Deliver)
RS.3.33 - Finalize Production Engineering Cycle Time	AG.2.9 - Upside Return Adaptability (Source)
RS.3.49 - Issue Material Cycle Time	AG.2.10 - Upside Return Adaptability (Deliver)
RS.3.101 - Produce and Test Cycle Time	AG.1.3 - Downside Supply Chain Adaptability
RS.3.114 - Release Finished Product to Deliver Cycle Time	AG.2.11 - Downside Adaptability (Source)
RS.3.123 - Schedule Production Activities Cycle Time	AG.2.12 - Downside Adaptability (Make)
RS.3.128 - Stage Finished Product Cycle Time	AG.2.13 - Downside Adaptability (Deliver)
RS.3.142 - Package Cycle Time	AG.1.4 - Overall Value at Risk (VAR)
RS.2.3 - Deliver Cycle Time	AG.2.14 - Supplier's/Customer's/ Product's Risk Rating
RS.3.16 - Build Loads Cycle Time	AG.2.15 - Value at Risk (Plan)
RS.3.18 - Consolidate Orders Cycle Time	AG.2.16 - Value at Risk (Source)
RS.3.46 - Install Product Cycle Time	AG.2.17 - Value at Risk (Make)
RS.3.51 - Load Product & Generate Shipping Documentation Cycle Time	AG.2.18 - Value at Risk (Deliver)
RS.3.102 - Receive & Verify Product by Customer Cycle Time	
RS.3.110 - Receive Product from Source or Make Cycle Time	
RS.3.111 - Receive, Configure, Enter, & Validate Order Cycle Time	
RS.3.116 - Reserve Resources and Determine Delivery Date Cycle Time	
RS.3.117 - Route Shipments Cycle Time	
RS.3.120 - Schedule Installation Cycle Time	
RS.3.124 - Select Carriers & Rate Shipments Cycle Time	
RS.3.126 - Ship Product Cycle Time	
RS.2.4 - Delivery Retail Cycle Time	
RS.3.17 - Checkout Cycle Time	
RS.3.32 - Fill Shopping Cart Cycle Time	
RS.3.34 - Generate Stocking Schedule Cycle Time	
RS.3.97 - Pick Product from Backroom Cycle Time	
RS.3.109 - Receive Product at Store Cycle Time	

Cost

CO.1.001 - Total Cost to Serve

CO.2.001 - Planning Cost

CO.3.001 - Planning Labor Cost

CO.3.002 - Planning Automation Cost

CO.3.003 - Planning Property, Plant and Equipment Cost

CO.3.004 - Planning GRC and Overhead Cost

CO.2.002 - Sourcing Cost

CO.3.005 - Sourcing Labor Cost

CO.3.006 - Sourcing Automation Cost

CO.3.007 - Sourcing Property, Plant and Equipment Cost

CO.3.008 - Sourcing GRC, Inventory and Overhead Cost

CO.2.003 - Material Landed Cost

CO.3.009 - Purchased Materials Cost

CO.3.010 - Material Transportation Cost

CO.3.011 - Material Customs, Duties, Taxes and Tariffs Cost

CO.3.012 - Material Risk and Compliance Cost

CO.2.004 - Production Cost

CO.3.014 - Production Labor Cost

CO.3.015 - Production Automation Cost

CO.3.016 - Production Property, Plant and Equipment Cost

CO.3.017 - Production GRC, Inventory and Overhead Cost

CO.2.005 - Order Management Cost

CO.3.018 - Order Management Labor Cost

CO.3.019 - Order Management Automation Cost

CO.3.020 - Order Management Property, Plant and Equipment Cost

CO.3.021 - Order Management GRC and Overhead Cost

CO.2.006 - FulfillmentCost

CO.3.022 - Transportation Cost

CO.3.023 - FulfillmentCustoms, Duties, Taxes and Tariffs Cost

CO.3.024 - FulfillmentLabor Cost

CO.3.025 - FulfillmentAutomation Cost

CO.3.026 - FulfillmentProperty, Plant and Equipment Cost

CO.3.027 - FulfillmentGRC, Inventory and Overhead Cost

CO.2.007 Returns Cost

CO.3.028 - Discounts and Refunds Cost

CO.3.029 - Disposition Cost

CO.3.030 - Return GRC, Inventory and Overhead Cost

CO.2.008 Cost of Goods Sold

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.3.23 - Recycle Days of Supply

AM.3.28 - Percentage Defective Inventory

AM.3.37 - Percentage Excess Inventory

AM.3.44 - Percentage Unserviceable 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.2.5 - 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)

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 five 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 Council has focused 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 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.

Aptitude is a natural, acquired, learned, or developed ability to perform a certain kind of work at a certain level.

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, A for Aptitudes, 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.

sP - Plan

sP1 Plan Supply Chain	sP2 Plan Source	sP3 Plan Make	sP4 Plan Deliver	sP5 Plan Return
sP1.1: Identify, Prioritize and Aggregate Supply Chain Requirements	**sP2.1:** Identify, Prioritize and Aggregate Product Requirements	**sP3.1:** Identify, Prioritize and Aggregate Production Requirements	**sP4.1:** Identify, Prioritize and Aggregate Delivery Requirements	**sP5.1:** Assess and Aggregate Return Requirements
sP1.2: Identify, Prioritize and Aggregate Supply Chain Resources	**sP2.2:** Identify, Assess and Aggregate Product Resources	**sP3.2:** Identify, Assess and Aggregate Production Resources	**sP4.2:** Identify, Assess and Aggregate Delivery Resources	**sP5.2:** Identify, Assess and Aggregate Return Resources
sP1.3: Balance Supply Chain Resources with SC Requirements	**sP2.3:** Balance Product Resources with Product Requirements	**sP3.3:** Balance Production Resources with Production Requirements	**sP4.3:** Balance Delivery Resources and Capabilities with Delivery Requirements	**sP5.3:** Balance Return Resources with Return Requirements
sP1.4: Establish and Communicate Supply Chain Plans	**sP2.4:** Establish Sourcing Plans	**sP3.4:** Establish Production Plans	**sP4.4:** Establish Delivery Plans	**sP5.4:** Establish and Communicate Return Plans

sR - Return

sSR1 Source Return Defective Product	sSR2 Source Return MRO Product	sSR3 Source Return Excess Product	sDR1 Deliver Return Defective Product	sDR2 Deliver Return MRO Product
sSR1.1: Identify Defective Product Condition	**sSR2.1:** Identify MRO Product Condition	**sSR3.1:** Identify Excess Product Condition	**sDR1.1:** Authorize Defective Product Return	**sDR2.1:** Authorize MRO Product Return
sSR1.2: Disposition Defective Product	**sSR2.2:** Disposition MRO Product	**sSR3.2:** Disposition Excess Product	**sDR1.2:** Schedule Defective Return Receipt	**sDR2.2:** Schedule MRO Return Receipt
sSR1.3: Request Defective Product Return Authorization	**sSR2.3:** Request MRO Return Authorization	**sSR3.3:** Request Excess Product Return Authorization	**sDR1.3:** Receive Defective Product (includes verify)	**sDR2.3:** Receive MRO Product
sSR1.4: Schedule Defective Product Shipment	**sSR2.4:** Schedule MRO Shipment	**sSR3.4:** Schedule Excess Product Shipment	**sDR1.4:** Transfer Defective Product	**sDR2.4:** Transfer MRO Product
sSR1.5: Return Defective Product	**sSR2.5:** Return MRO Product	**sSR3.5:** Return Excess Product		

sS - Source

sS1
Source Stocked Product

sS1.1: Schedule Product Deliveries

sS1.2: Receive Product

sS1.3: Verify Product

sS1.4: Transfer Product

sS1.5: Authorize Supplier Payment

sS2
Source Make-to-Order Product

sS2.1: Schedule Product Deliveries

sS2.2: Receive Product

sS2.3: Verify Product

sS2.4: Transfer Product

sS2.5: Authorize Supplier Payment

sS3
Source Engineer-to-Order Product

sS3.1: Identify Sources of Supply

sS3.2: Select Final Supplier and Negotiate

sS3.3: Schedule Product Deliveries

sS3.4: Receive Product

sS3.5: Verify Product

sS3.6: Transfer Product

sS3.7: Authorize Supplier Payment

sM - Make

sM1
Make-to-Stock

sM1.1: Schedule Production Activities

sM1.2: Issue Material

sM1.3: Produce and Test

sM1.4: Package

sM1.5: Stage Product

sM1.6: Release Product to Deliver

sM1.7: Waste Disposal

sM2
Make-to-Order

sM2.1: Schedule Production Activities

sM2.2: Issue Sourced/In-Process Product

sM2.3: Produce and Test

sM2.4: Package

sM2.5: Stage Finished Product

sM2.6: Release Finished Product to Deliver

sM2.7: Waste Disposal

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sDR3
Deliver Return Excess Product

sDR3.1: Authorize Excess Product Return

sDR3.2: Schedule Excess Return Receipt

sDR3.3: Receive Excess Product

sDR3.4: Transfer Excess Product

sE - Enable

sE1
Manage Supply Chain Business Rules

sE1.1: Gather Business Rule Requirements

sE1.2: Interpret Business Rule Requirement

sE1.3: Document Business Rule

sE1.4: Communicate Business Rule

sE1.5: Release/Publish Business Rule

sE1.6: Retire Business Rule

sE2
Manage Supply Chain Performance

sE2.1: Initiate Reporting

sE2.2: Analyze Reports

sE2.3: Find Root Causes

sE2.4: Prioritize Root Causes

sE2.5: Develop Corrective Actions

sE2.6: Approve & Launch

sE3
Manage Supply Chain Data and Information

sE3.1: Receive Maintenance Request

sE3.2: Determine/Scope Work

sE3.3: Maintain Content/Code

sE3.4: Maintain Access

sE3.5: Publish Information

sE3.6: Verify Information

sE4
Manage Supply Chain Human Resources

sE4.1: Identify Skills/Resource Requirement

sE4.2: Identify Available Skills/Resources

sE4.3: Match Skills/Resources

sE4.4: Determine Hiring/Redeployment

sE4.5: Determine Training/Education

sE4.6: Approve, Prioritize and Launch

sD - Deliver

sM3 Engineer-to-Order	sD1 Deliver Stocked Product	sD2 Deliver Make-to-Order Product	sD3 Deliver Engineer-to-Order Product	sD4 Deliver Retial Product
sM3.1: Finalize Production Engineering	**sD1.1:** Process Inquiry and Quote	**sD2.1:** Process Inquiry and Quote	**sD3.1:** Obtain and Respond to RFP/RFQ	**sD4.1:** Generate Stocking Schedule
sM3.2: Schedule Production Activities	**sD1.2:** Receive, Enter, and Validate Order	**sD2.2:** Receive, Configure, Enter and Validate Order	**sD3.2:** Negotiate and Receive Contract	**sD4.2:** Receive Product at Store
sM3.3: Issue Sourced/In-Process Product	**sD1.3:** Reserve Inventory and Determine Delivery Date	**sD2.3:** Reserve Inventory and Determine Delivery Date	**sD3.3:** Enter Order, Commit Resources & Launch Program	**sD4.3:** Pick Product from backroom
sM3.4: Produce and Test	**sD1.4:** Consolidate Orders	**sD2.4:** Consolidate Orders	**sD3.4:** Schedule Installation	**sD4.4:** Stock Shelf
sM3.5: Package	**sD1.5:** Build Loads	**sD2.5:** Build Loads	**sD3.5:** Build Loads	**sD4.5:** Fill Shopping Cart
sM3.6: Stage Finished Product	**sD1.6:** Route Shipments	**sD2.6:** Route Shipments	**sD3.6:** Route Shipments	**sD4.6:** Checkout
sM3.7: Release Product to Deliver	**sD1.7:** Select Carriers and Rate Shipments	**sD2.7:** Select Carriers and Rate Shipments	**sD3.7:** Select Carriers & Rate Shipments	**sD4.7:** Deliver and/or install
sM3.8: Waste Disposal	**sD1.8:** Receive Product from Source or Make	**sD2.8:** Receive Product from Source or Make	**sD3.8:** Receive Product from Source or Make	
	sD1.9: Pick Product	**sD2.9:** Pick Product	**sD3.9:** Pick Product	
	sD1.10: Pack Product	**sD2.10:** Pack Product	**sD3.10:** Pack Product	
	sD1.11: Load Vehicle & Generate Shipping Docs	**sD2.11:** Load Product & Generate Shipping Docs	**sD3.11:** Load Product & Generate Shipping Docs	
	sD1.12: Ship Product	**sD2.12:** Ship Product	**sD3.12:** Ship Product	
	sD1.13: Receive and verify Product by Customer	**sD2.13:** Receive and verify Product by Customer	**sD3.13:** Receive and verify Product by Customer	
	sD1.14: Install Product	**sD2.14:** Install Product	**sD3.14:** Install Product	
	sD1.15: Invoice	**sD2.15:** Invoice	**sD3.15:** Invoice	

sE5 Manage Supply Chain Assets	sE6 Manage Supply Chain Contracts	sE7 Manage Supply Chain Network	sE8 Manage Supply Chain Regulatory Compliance	sE9 Manage Supply Chain Risk
sE5.1: Schedule Asset Management Activities	**sE6.1:** Receive Contract/ Contract Updates	**sE7.1:** Select Scope and Organization	**sE8.1:** Monitor Regulatory Entities	**sE9.1:** Establish Context
sE5.2: Take Asset Off-line	**sE6.2:** Enter and Distribute Contract	**sE7.2:** Gather Input and Data	**sE8.2:** Assess Regulatory Publications	**sE9.2:** Identify Risk Events
sE5.3: Inspect and Troubleshoot	**sE6.3:** Activate/Archive Contract	**sE7.3:** Develop Scenarios	**sE8.3:** Identify Regulatory Deficiencies	**sE9.3:** Quantify Risks
sE5.4: Install and Configure	**sE6.4:** Review Contractual Performance	**sE7.4:** Model/Simulate Scenarios	**sE8.4:** Define Remediation	**sE9.4:** Evaluate Risks
sE5.5: Clean, Maintain and Repair	**sE6.5:** Identify Performance Issues/Opportunities	**sE7.5:** Project Impact	**sE8.5:** Verify/Obtain License	**sE9.5:** Mitigate Risk
sE5.6: Decommission and Dispose	**sE6.6:** Identify Resolutions/ Improvements	**sE7.6:** Select and Approve	**sE8.6:** Publish Remediation	
sE5.7: Inspect Maintenance	**sE6.7:** Select, Prioritize and Distribute Resolutions	**sE7.7:** Develop Change Program		
sE5.8: Reinstate Asset		**sE7.8:** Launch Change Program		

SCOR Practices

The SCOR Practices section contains management practices, software solutions, and definitions associated with each process. Companies use practices to identify alternative or desired ways for their supply chains to do business. The practices in SCOR may be a subset of the total practices a company recognizes. Supply Chain Council recommends companies interested in adopting SCOR to adapt SCOR by researching, reviewing and integrating relevant industry practices and company practices (internalization).

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
• Manufacturing/Production
• Material Handling
• New Product Introduction
• Order Engineering (ETO)
• Order Management
• People Management (Incl. Training)
• Planning and Forecasting
• Product Life Cycle Management
• Purchasing
• Reverse Logistics
• Risk/Security Management
• Sustainable Supply Chain Management
• Transportation Management
• Warehousing

Special Applications

GreenSCOR

The following strategic environmental metrics allow the SCOR model to be used as a framework for environmental accounting:

• Carbon Emissions (Tons CO_2 Equivalent)
• Air Pollutant Emissions (Tons or kg)
• Liquid Waste Generated (Tons or kg)
• Solid Waste Generated (Tons or kg)
• % Recycled Waste (Percent)

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.

The Supply Chain Operations Reference (SCOR®) model is the product of Supply Chain Council (SCC), an independent, nonprofit, global corporation with membership open to all companies and organizations interested in applying and advancing state-of-the-art supply chain management systems and practices. The SCOR model captures the Council's consensus view of supply chain management. While much of the underlying content of the model has been used by practitioners for many years, the SCOR model provides a unique framework that links business process, metrics, best practices, and technology features into a unified structure to support communication among supply chain partners and to improve the effectiveness of supply chain management and related supply chain improvement activities.

SCC
supply chain council

12320 Barker Cypress Rd.
Suite 600, PMB 321
Cypress, Texas 77429-8329 USA
www.supply-chain.org

International Regional Support

+61 280 147 508	Australia & New Zealand
+31 20 890 8015	Europe
+852 3175 0905	Greater China
+852-3175-0905	Hong Kong
+55 11 9983 4542	Latin America
+1 202 962 0440	North America
+65 3158 1276	South East Asia
+27 114 613 110	Southern Africa

SCOR Online Access

The SCOR framework is also available online to members. The online version features easy navigation through linked definitions, performance metrics, best practices, and skills.

Visit: supply-chain.org/online-access