

Welcome to the twenty third lesson of the DoD Supply Chain Fundamentals module, SCOR Strategic (Level One) Metrics.

In this lesson you will learn to recognize an example or characteristics of the following SCOR Strategic (level one) metrics; strategic reliability, strategic responsiveness, strategic agility, strategic cost, strategic asset.

You will be given an opportunity to test out of this lesson. If you pass the test question, you can decide to continue, or skip to the next lesson.

Which of the following is an example or characteristic of the strategic asset (level one) metric?

- [A](#) average actual cycle time consistently achieved to fulfill customer orders
- [B](#) AG.1.3 Supply Chain Downside Adaptability
- [C](#) RL.1.1 Perfect Order Fulfillment
- [D](#) time it takes for cash invested in materials to flow back into the company after finished goods have been delivered to customers

Feedback:

The correct answer is "time it takes for cash invested in materials to flow back into the company after finished goods have been delivered to customers." "Average actual cycle time..." is an example of a responsiveness metric. "RL.1.1" is an example of a reliability metric. "AG.1.3" is an example of an agility metric.

You've already learned the value of metrics in measuring the Supply Chain performance and for focusing on customer need.

This next lesson describes the strategic (level one) metrics that are the calculations by which you can measure how successful you are in achieving your desired positioning within the competitive market space.

Learning Objective

- Recognize an example or characteristics of the following SCOR® Strategic (level one) metrics; strategic reliability, strategic responsiveness, strategic agility, strategic cost, strategic asset.

In earlier lessons, you learned about performance attributes, the characteristics of metrics, and how to code them for levels one, two, and three.

Recall the abbreviations for coding metrics associated with each of the performance attributes; **RL.1.n** = Reliability, **RS.1.n** = Responsiveness, **AG.1.n** = Agility, **CO.1.n** = Cost, **AM.1.n** = Asset. These codes will help you recognize the strategic (level one) metrics.

This lesson describes the strategic (level one) metrics and provides examples of each.

Strategic Reliability Metric

Metric:	RL.1.1 Perfect Order Fulfillment
Definition:	The percentage of orders delivered on-time, in full. Components of perfect include all items and quantities on-time, using the customer's definition of on-time, complete documentation and in the right condition.
Calculation:	$\frac{[\text{Total Perfect Orders}]}{[\text{Total Number of Orders}]}$
Diagnostic Metrics:	<ul style="list-style-type: none">• RL.2.1% Orders Delivered in Full• RL.2.4 Perfect Condition• RL.3.19% Orders Received Defect Free• RL.3.24% Orders Received Damage Free
Notes:	An order is perfect only if all L2/L3 metrics are perfect; an order must be: on-time and in-full and right condition and right documentation

This metric is customer focused. Even for non-commercial (e.g., internal supply chain like processes, such as internal warehouse, internal procurement, etc.) usage this is still a very valuable metric. (How does the process customer perceive the service?)

Each order is a Boolean **and** collection of level 2/3 metrics that need to be met to score a "perfect." At the order level, the score is either "perfect" (1) or "not perfect" (0). The average performance is the number of perfects divided by the total sample size.

For example, if the order was delivered at the date requested (score: 1), with the correct paperwork (score: 1), but one item on the order is on backorder and arrived 2 days too late (score: 0) then the overall score for this order is:

$1 \times 1 \times 0 = 0$ i.e., the order was not perfect.

Strategic Responsiveness Metric

Metric:	RS.1.1 Order Fulfillment Cycle Time
Definition:	The average actual cycle time consistently achieved to fulfill customer orders. The actual cycle time starts with the receipt of the order and ends with the customer acceptance of the delivery. The unit of measure is days.
Calculation:	$\frac{[\text{Sum Actual Cycle Times For All Orders Delivered}]}{[\text{Total Number of Orders Delivered}]}$
Diagnostic Metrics:	<ul style="list-style-type: none">• RS.2.2 Make Cycle Time• RS.2.3 Deliver Cycle Time• RS.3.96 Pick Product Cycle Time
Notes:	Order Fulfillment Cycle Time includes dwell time. Dwell time is the time no value add activities are performed on the order or product, imposed by customer requirements.

This metric includes only orders that have actually been delivered. This is not and does not include the Average published lead time metric. Note that the metric is at the customer order level. Line items that should be delivered together are not measured separately.

Order fulfillment dwell time is defined as "any lead time during the order fulfillment process where no activity takes place, which is imposed by customer requirements."

Strategic Agility Metrics (1 of 2)

Metric:	AG.1.1 Upside Supply Chain Flexibility
Definition:	The number of days required to achieve an unplanned sustainable 20% increase in quantities delivered. Seasonality is not considered unplanned/unforeseen. The unit of measure for flexibility is calendar days.
Calculation:	The larger of the number of days required to achieve sustainable increase for Source, Make, and Deliver
Diagnostic Metrics:	<ul style="list-style-type: none"> • AG.2.1 Upside Source Flexibility • AG.2.2 Upside Make Flexibility • AG.2.3 Upside Deliver Flexibility
Notes:	This metric may have more than one Source, Make, and Deliver Flexibility component depending on the complexity of the supply chain.

This metric addresses a company's ability to respond to unplanned increase in demand. Flexibility indicates how long it takes to respond.

Each supply chain should be measured separately. Aggregation of data of multiple supply chains is not really a valuable metric.

Strategic Agility Metrics (2 of 2)

Metric:	AG.1.2 Supply Chain Upside Adaptability/ AG.1.3 Supply Chain Downside Adaptability
Definition:	The sustainable reduction and increase or decrease in product quantities that can be achieved in 30 days (without backorders, cost penalties or inventory). Adaptability is expressed as a percentage of current run-rate.
Calculation:	Upside: % sustainable increase Downside: % sustainable reduction
Diagnostic Metrics:	<ul style="list-style-type: none">• AG.2.1 Upside Source Adaptability• AG.2.12 Downside Make Adaptability• AG.3.47 Direct Labor Availability
Notes:	This metric may have more than one Source, Make, and Deliver Adaptability component depending on the complexity of the supply chain.

This metric addresses a company's ability to respond to unplanned increase in demand. Agility indicates how long it takes to respond.

Each supply chain should be measured separately. Aggregation of data of multiple supply chains is not really a valuable metric (unless they are dependent).

Strategic Cost Metrics (1 of 2)

Metric:	CO.1.1 Total Supply Chain Management Cost (TSCMC)
Definition:	All direct and indirect expenses associated with the operation of supply chain business processes across the supply chain. Traditionally Total Supply Chain Management Cost is measured as a percentage of revenue.
Calculation:	[Cost to Plan] + [Cost to Source] + [Cost to Deliver] + [Cost to Return]
Diagnostic Metrics:	<ul style="list-style-type: none">• CO.2.1 Cost to Plan• CO.2.2 Cost to Source• CO.2.3 Cost to Deliver• CO.2.4 Cost to Return
Notes:	The Cost to Make is captured in Cost of Goods Sold (COGS); however, there can be some overlap between COGS and Supply Chain Management Cost.

This metric is internal focused (cost efficiencies).

The Cost to Make is captured in Cost of Goods Sold (COGS); however, there can be overlap between COGS and SCMC, so watch carefully for the possibility of double counting. To find some costs in Make, both COGS and SCMC are needed.

Enabling costs (such as IT) and inventory carrying costs are allocated to the process that they support. For example, the costs associated with a purchasing system would be allocated to Cost to Source and the costs associated with an order management system would be allocated to Cost to Deliver. The carrying costs associated with raw material would be associated with Cost to Source and finished goods to Cost to Deliver.

Strategic Cost Metrics (2 of 2)

Metric:	CO.1.2 Cost of Goods Sold (COGS)
Definition:	The cost associated with buying raw materials and producing finished goods. This cost includes direct costs (labor, materials) and indirect costs (overhead).
Calculation:	COGS = direct material costs + direct labor costs + indirect costs related to making product
Diagnostic Metrics:	<ul style="list-style-type: none"> • CO.3.140 Direct Labor Cost • CO.3.141 Direct Material Cost • CO.3.155 Indirect Cost Related to Production
Notes:	Cost of Raw Material and Make Costs are generally accounted for in COGS. It is recognized that there is likely to be overlap/ redundancy between supply chain management costs and COGS.

Strategic Asset Metrics

Metric:	AM.1.1 Cash-to-Cash Cycle Time
Definition:	The time it take for cash invested in materials to flow back into the comany after finished goods have been delivered to customers. The unit of measure for Cash-to-Cash Cycle Time is calendar days.
Calculation:	$[\text{Inventory Days of Supply}] + [\text{Days Sales Outstanding}] - [\text{Days Payable Outstanding}]$
Diagnostic Metrics:	<ul style="list-style-type: none">• AM.2.1 Days Sales Outstanding (DSO)• AM.2.2 Inventory Days of Supply (IDOS)• AM.2.3 Days Payable Outstanding (DPO)
Notes:	For services, the time between paying the resources assigned to a service and receiving payment for the service delivery.

This metric is internal focused (cash utilization). This is one of the most powerful company/supply-chain metrics. This is because it indicates both lead time and inventory performance. It is especially important for capital fund organizations - the longer your C2C cycle time, the more of your working capital is tied up in the process.

It can also highlight the influence of commercial terms and conditions on the overall company performance (T&Cs are outside the supply chain.)

The components of this metric (inventory days of supply, DSO, and DPO) are available in the annual reports of most companies. We use this to set a high level benchmark of company or process peers.

Key points to remember about strategic (level one) metrics (1 of 2):

Reliability:

- **RL.1.1 Perfect Order Fulfillment - percentage of orders delivered on-time, in full**

Responsiveness:

- **RS.1.1 Order Fulfillment Cycle Time - average actual cycle time consistently achieved to fulfill customer orders**

Agility:

- **AG.1.1 Upside Supply Chain Flexibility - number of days required to achieve an unplanned sustainable 20% increase in quantities delivered**
- **AG.1.2 Supply Chain Upside Adaptability/AG.1.3 Supply Chain Downside Adaptability - sustainable reduction and increase or decrease in product quantities that can be achieved in 30 days (without backorders, cost penalties or inventory). Adaptability is expressed as a percentage of current run-rate**

Key points to remember about strategic (level one) metrics (2 of 2):

Cost:

- **CO.1.1 Total Supply Chain Management Cost (TSCMC) - all direct and indirect expenses associated with the operation of supply chain business processes across the supply chain**
- **CO.1.2 Cost of Goods Sold (COGS) - cost associated with buying raw materials and producing finished goods**

Asset:

- **AM.1.1 Cash-to-Cash Cycle Time - time it takes for cash invested in materials to flow back into the company after finished goods have been delivered to customers**

Which of the following is an example or characteristic of the strategic reliability (level one) metric?

- [A CO.1.1 Total Supply Chain Management Cost \(TSCMC\)](#)
- [B RL.1.1 Perfect Order Fulfillment](#)
- [C Number of days required to achieve an unplanned sustainable 20% increase in quantities delivered](#)
- [D Cost associated with buying raw materials and producing finished goods](#)

Feedback:

The correct answer is, "RL.1.1 Perfect Order Fulfillment." "CO.1.1" is an example of a "cost" metric. The other two ("Number..." and "Cost...") are examples of "agility" and "cost" metrics.

You have completed the learning portion of the SCOR Strategic (Level One) Metrics lesson. Next you will be given three attempts to demonstrate mastery of the learning objective.

If you fail all three attempts, you can still progress to the remaining lessons and graduate; however, you are encouraged to restudy the lesson to increase your understanding of the content.

Which of the following is an example or characteristic of the strategic responsiveness (level one) metric?

- A average actual cycle time consistently achieved to fulfill customer orders
- B AG.1.1 Upside Supply Chain Flexibility
- C cost associated with buying raw materials and producing finished goods
- D AM.1.1 Cash-to-Cash Cycle Time

Feedback:

The correct answer is, "average actual cycle time consistently achieved to fulfill customer orders." "AM.1.1" is an "asset" metric. "Cost associated..." is a metric for "cost." "AG.1.1" is a metric for "agility."

Which of the following is an example or characteristic of the strategic agility (level one) metric?

- A all direct and indirect expenses associated with the operation of supply chain business processes across the supply chain
- B time it takes for cash invested in materials to flow back into the company after finished goods have been delivered to customers
- C AM.1.1 Cash-to-Cash Cycle Time
- D AG.1.2 Supply Chain Upside Adaptability

Feedback:

The correct answer is, "AG.1.2." "All direct..." is an example of a "cost" metric. "AM.1.1" and "time it takes for cash invested..." are examples of the "asset" metric. This is your second attempt. You will be given one more chance. [Review This Lesson](#)

Which of the following is an example or characteristic of the strategic cost (level one) metric?

- A AG.1.3 Supply Chain Downside Adaptability
- B CO.1.1 Total Supply Chain Management Cost
- C number of days required to achieve an unplanned sustainable 20% increase in quantities delivered
- D percentage of orders delivered on-time, in full

Feedback:

The correct answer is, "CO.1.1." "Percentage of orders..." is an example of a "reliability" metric. "Number of days..." and "AG.1.3" are examples of the "agility" metric. This was your third and final attempt, but you will be allowed to progress to other lessons and graduate. [Review This Lesson](#)

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Summary

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In this lesson, you learned about characteristics and examples of strategic (level one) metrics including Reliability, Responsiveness, Agility, Cost and Asset.

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Can you recall from a previous lesson which of the following is an example or characteristic for codifying SCOR® level two metrics?

- [A](#) Format: XX.2.n (XX = Performance Attribute) ➤
- [B](#) Two capitals, a period, the number three (3) ➤
- [C](#) Example: CO.1.2 Mitigation Costs ➤
- [D](#) A capital plus the number 2 ➤

Feedback:

The answer is "Format: XX.2.n."

You have completed the content for this lesson.

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