An Overview of the Supply Chain Resilience Framework

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Initiatives: CSCO Strategic Leadership

Resilience is an organization’s ability to avoid or absorb the business impact of major disruptions. This research provides CSCOs an overview of how to establish a framework for a resilient supply chain that has the ability to not only execute under stress but also recover from it.

Analysis

As different economies emerge from the impacts of the COVID-19 pandemic at varying rates, the world is witnessing extraordinary disruption in supply and demand of goods, services and labor. In the face of these challenges, along with others such as severe weather events, cybercrime and trade policy uncertainty, improving supply chains’ resilience to meet customer needs during disruption is now a key priority for businesses.

Supply chain resilience is the ability of an organization to avoid, absorb and recover from the business impact of major disruptions through a risk-balanced approach to product, supply chain strategy and network design.

This report summarizes key resilience research published by Gartner and provides advice on how supply chain executives can balance the need for resilience against other objectives.

Research Highlights

Some recommended content may not be available as part of your current Gartner subscription.
Supply Chain Executive Report: Future of Supply Chain — Crisis Shapes the Profession

Supply chain executives overwhelmingly recognize the need to make their networks more resilient — defined as “the ability to adapt to structural changes by modifying supply chain strategies, products and technologies.” At the same time, the pressure to contain costs remains a constant for many companies. This report demonstrates how successful chief supply chain officers (CSCOs) of the future can excel at managing and optimizing complex trade-offs.

Supply Chain Executive Report: Shaping Supply Chain Disruption in a Volatile Risk Environment

A rise in disruptions to a complex supply chain overwhelms the supply chain risk management strategy. Supply chain leaders responding to Gartner’s 2020 Supply Chain Signature Series Risk Survey reported a 4% average increase in cost to serve after an unfamiliar disruption to their supply chain. This report demonstrates how CSCOs can reduce the rate of disruption to their supply chains by reducing their surface areas and that they must obtain enterprise support to do so.

Decoupling Global Supply Chains for Resilience — How Far Will the World Go?

After decades of increasing globalization, trade disruptions and the pandemic are forcing large economies to pull back from historically high levels of economic integration. This research investigates how CSCOs at multinational companies should retool global supply networks.

A Framework for Supply Chain Resilience

A framework to guide supply chain resilience initiatives (see Figure 1) consists of six major elements:

- **Identify and prioritize known risks.** Use a risk register and a value at risk (VaR) approach, and consider time horizons.

- **For unknown risks, identify key points of failure.** Place less emphasis on the specific risk event (which by definition is unknown) and more on the impact of the location being out of service.

- **Determine the level of resilience investments to commit to.** Review how much resilience is appropriate through periodic reviews that define the organization’s view on risk appetite, critical partners and how costs of these investments will be shared.
- Define realistic resilience measures. Use metrics such as “time to recover” and “time to survive” to draw the line between business continuity issues and a holistic crisis management response. Use a feedback loop to periodically assess the level of resilience.

- Create and test potential scenarios. Based on different scenarios, determine options to avoid the risk, mitigate it, transfer it or accept it.

- Highlight foundational actions not specific to disruptions. Investments in visibility, agility and resilience are examples.

**Figure 1: Steps in a Supply Chain Resilience Framework**

**Steps in a Supply Chain Resilience Framework**

- Known Risks
  - Value at Risk (VaR) and Risk Register
  - Create and Review Scenarios

- Unknown Risks
  - Key Failure Nodes
  - Time to Survive, Time to Recover, Feedback Loop

- Risk Appetite
  - Level of Resilience
  - Foundational Investments, Staged Commitments

True value will not come from a one-off pursuit of these steps, but rather with a repeatable cadence. Review resilience scenarios and investment decisions periodically to align your resilience strategy with evolving business needs.

**Creating a Supply Chain Resilience Framework**

Given the high costs of managing through increasing disruptions, the inflection point between investing to improve resilience and being cost-efficient is shifting. This presentation gives CSCOs guidance to create a supply chain resilience framework that balances these conflicting priorities.
Supply Chain Executive Report: Weathering the Storm — Supply Chain in an Age of Disruption

Over the last few years, global supply chains have been hit by unprecedented levels of disruption, caused first by the U.S.-China trade war and then the COVID-19 pandemic. This report outlines the main strategies supply chain leaders can use to build greater resilience into their supply networks (see Figure 2).

Figure 2: Supply Chain Resilience Strategies

Supply Chain Resilience Strategies

- Stress-Testing Direct Material Supply Chains: A Resilience Trend for 2021
  The notion of stress-testing direct material supply chains to identify key points of failure, and where greater resilience is needed, has gathered pace due to the COVID-19 pandemic. Chief procurement officers should use this trend analysis to shape their supplier risk assessment and mitigation strategies.

Quick Answer: Indicators to Measure Supply Chain Resilience

Most companies are investing in strategies designed to improve the resilience of their supply chains. To measure success, supply chain leaders should use a balanced set of indicators not only to track business outcomes, but also to identify existing vulnerabilities.
The Role of Scenario Planning in Building a Resilient Network

The traditional view of strategy is having a clear set of choices for what we should and should not do. That works in a somewhat predictable future or in the immediate aftermath of a clearly defined crisis. But as we have seen, risk events and disruptions in today's world are higher in frequency and impact due to the nature of interconnected economies, and making rigid choices creates more strategic risk than it eliminates.

While some short-term actions are clear in this situation, the long-term effects are uncertain. Here, strategy should include a portfolio of options based on scenario planning that you can reconfigure as the future unfolds.

To build a successful options-based strategy, you should:

- **Base it on principles and values rather than specific design choices.** Examples include designing diversified networks that support flexibility, provide local/regional options or are environmentally sustainable. Mature organizations may care more about protecting supply not just for individual products but a portfolio of products/services a customer may buy.

- **Base it on an element of reconfigurability.** Examples include designing common components on platforms to simplify and streamline sourcing decisions, or qualifying products from multiple source points.

- **Work on foundational elements that can be multifunctional.** Examples include investing in network visibility, data sharing or joint risk mitigation activities with ecosystem partners, or understanding the total costs to serve to make trade-off decisions informed by analytics.

- **Stage commitments to avoid early “lock-in.”** Examples include investments in multtier network visibility and data models that optimize for total network costs by giving up lowest-cost but rigid networks in favor of flexibility and availability.

Use the sample questions in Table 1 to review your current strategic planning assumptions in light of the current demand and supply shocks.
### Table 1: Questions to Drive Network Scenarios in the Medium and Long Term
(Enlarged table in Appendix)

<table>
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Source: Gartner

### Evidence

1. **Gartner's 2020 Supply Chain Signature Series Risk Survey:** The Gartner Supply Chain Research team conducted more than 70 interviews with CSCOs from large and midsize enterprises to study various approaches supply chains take to mitigate risk. Additionally, throughout December 2020, the research team sent out invitations to complete an online survey to a wide group of heads of supply chain globally. We received 262 completed responses during the survey period for this Gartner Supply Chain Signature Series Risk Survey. Forty-two percent of the respondents were from North America, 35% from Europe, Middle East and Africa, and 23% were from Asia and Australia. Respondents came from the following industries: manufacturing, retail, healthcare, high tech and telecom, and transportation.
Gartner’s 2020 Weathering the Supply Chain Storm Survey: In February and March 2020, Gartner Supply Chain Research sent invitations to complete an online survey to Gartner clients, community members and to a wider group of practitioners in supply chain and other functions globally. We received 260 completed responses during the survey period. Forty-two percent of the respondents were from North America and South America, 38% were from Europe, Middle East and Africa, while 20% were from Asia and Australia. Respondents came from a wide range of industries including high tech, industrial, CPG, retail, life sciences, and logistics and distribution.

**Recommended by the Author**

Some documents may not be available as part of your current Gartner subscription.

- **Supply Chain Executive Report: Shaping Supply Chain Disruption in a Volatile Risk Environment**
- **Tool: Presenting Your Strategy for Supply Chain Network Design to the C-Suite**
- **Gartner’s Disruption Management Survey Reveals What Differentiates Fit From Fragile Supply Chains**
- **Identify and Assess Supply Chain Risks to Improve Your Capabilities to Respond**
- **Tool: Key Risk Indicators for Supplier Risk Management**
- **Case Study: Resilient End-to-End Supply Chain Risk Management 4.0 Framework (HELLA)**
- **Don’t Make Predictions and Choices, Instead Create Options by Using Scenario Planning for Pandemic Recovery**
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