The Impact of the U.S. Executive Order to Secure Critical Supply Chains and How It May Affect You

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Initiatives: CSCO Strategic Leadership

U.S. President Joe Biden is mandating a review of critical supply chains to increase resilience and security for crucial products to avoid future shortages. Supply chain leaders can use this research to gauge how the ramifications of the supply chain audit may impact their end-to-end ecosystem.

What You Need to Know

The COVID-19 pandemic placed a major spotlight on global supply chains, with shortages of basic products from toilet paper and cleaning supplies, to critical supplies such as medical equipment and pharmaceutical ingredients. In response, the U.S. has ordered an audit of critical supply chains in life sciences, advanced packaging, semiconductors, electric car batteries and rare earth minerals. The 100-day review seeks to drive visibility into these supply chains by better understanding their complexities and reliance on global capacities as well as interdependencies and risk exposure. Ultimately, the action aims to improve resiliency by increasing domestic production of critical materials and collaborative efforts with allies.

Biden also issued a separate, 12-month audit of supply chains covering personal protective equipment, energy, high tech and food production. The $37 billion initiative won't fix near-term issues like the current semiconductor shortage, but aims to be a first step to better prepare the U.S. for disruptive events and lessen critical capacity squeezes for the future. ¹

Analysis

Biden Audit Will Force Supply Chains to Weigh Trade-Offs Between Resiliency and Cost-Efficiencies

For more than 20 years, global companies have optimized their supply chains to be cost-efficient. However, disruptions such as Brexit, tariff disputes, natural disasters and the pandemic have elevated the importance of supply risk management and supply chain resiliency.

Today's supply chains are tightly integrated across the globe, with companies seeking the most sophisticated, cost-efficient and high-quality suppliers. This creates complexities when it comes to
supply chain resilience, especially for a U.S. economy committed to multilateralism based on a free market that is acting on demand, supply and innovation.

Biden's executive order further elevates the role of supply chain leaders within the C-Suite. At the same time, supply chain leaders must be more prepared than ever to answer questions and provide guidance on how potential regulations from the U.S. government to enhance national security may impact their organization's global supply chain going forward.

One of the most impactful takeaways from the Biden mandate is that the White House recognizes supply chain as the backbone of a successfully functioning economy and no longer as a back-office function that operates in a tactical manner, as opposed to strategically.

Gartner's 2020 Weathering the Supply Chain Storm Survey identifies resilience and agility in the supply chain as two main priorities for almost all organizations. About 90% of companies plan to invest to make their supply chain more resilient over the next two years. However, companies fear that becoming more resilient will increase operating costs. Companies often have difficulty balancing trade-offs between being cost-efficient and resilient (see Figure 1). Although it is intuitively easy to understand as a concept, it is hard for companies to act on as extra investments in redundant capacity or inventory and is often viewed as waste.
Figure 1: Balancing Supply Chain Resilience and Agility

Supply Chain Resilience & Agility – Strategies and Barriers

<table>
<thead>
<tr>
<th>Rank#</th>
<th>Strategies*</th>
<th>Barriers^</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Collaboration with key customers and suppliers 77%</td>
<td>Product and portfolio complexity 57%</td>
</tr>
<tr>
<td>2</td>
<td>Diversify supply base (multi-sourcing) 63%</td>
<td>Balance trade-offs between cost efficiency and resilience 54%</td>
</tr>
<tr>
<td>3</td>
<td>Diversify products and/or geographic markets 60%</td>
<td>Organizational silos and different functional metrics 51%</td>
</tr>
<tr>
<td>4</td>
<td>Redesign products to remove complexity 60%</td>
<td>Cost of investing in resilience measures 39%</td>
</tr>
<tr>
<td>5</td>
<td>Supply chain segmentation 55%</td>
<td>Lack of technology for visibility and coordination 36%</td>
</tr>
</tbody>
</table>

* % of respondents n=5,340
^ Inventing now to achieve greater resilience and/or agility

It remains to be seen how effective the U.S. Department of Transportation-led review will be in driving change. Examining supply chain maps and complexities from many industries will be time-consuming. Global supply networks are complex, multilayered and often include highly specialized players in lower tiers that cannot be substituted easily.

Visibility into extended supply bases has generally been poor. Almost a decade ago, natural disasters in Japan and Thailand exposed just how little high tech, automotive and other manufacturers understand their dependencies beyond direct Tier 1 suppliers.

Today, visibility of Tier 2 and Tier 3 suppliers is a best practice that the majority of companies lack. A recent Gartner survey, conducted during April and May 2020, shows that less than one-third (31%) of organizations have geographic location, and part and site data for Tier 2 and Tier 3 suppliers. And less than one-fifth (17%) said this was among the top three most effective methods they use for monitoring disruptive events. However, the figures for Tier 1 suppliers aren’t significantly better, at 38% for part and site visibility, and 24% for effectiveness.

This is a problem, since almost half (48.9%) of supply chain disruptions occur at Tier 1 suppliers, according to the most recent (2019) annual study by the Business Continuity Institute (BCI). The pandemic has again highlighted that lacking a detailed picture of upstream suppliers increases risk and leaves organizations vulnerable to unexpected and financially damaging supply shortages, such as the semiconductor demand and spike-driven supply shortages.
While President Biden’s executive order attempts to increase supply chain transparency and develop a credible baseline to work from, the task won’t be easy. As demonstrated in Figure 2, complexities and concentrations can be in any tier, yet impact critical supply chains equally.

**Figure 2: Multitier Supply Chain Dependencies and Concentrations**

Multinational companies scan the entire world to locate the most cost-efficient and high-quality components, the most efficient to manufacture cost-effectively, and how to best distribute finished products to markets. The U.S. supply chain audit’s challenges are in dealing with the conflict between companies that are dedicated to being as profitable as possible for shareholders, versus countries that seek to strengthen their domestic supply chains.

There are many ways for companies to increase resilience, like diversifying sourcing and manufacturing (see *Supply Chain Executive Report: Weathering the Storm — Supply Chain in an Age of Disruption*).

However, these options do little for the U.S. economy or to help the U.S. to reduce dependence on other economies. Instead, the U.S. will examine how to bring back core capabilities that have left the U.S. shores or ensure they are available in allied countries.

Governments have several ways to boost domestic production. Some countries have already deployed positive and negative incentives and disincentives in response to the global pandemic:
However, monetary support and regulations are not “silver bullet” solutions. Companies have spent decades to fine-tune networks and achieve cost-efficiency. Moving capabilities from one country to another because governments demand it may not be possible, especially in cases where the necessary production capacity cannot be accessed or established. Increasing supply chain resilience will require public investments managed through government agencies and application of technologies to drive sustainable efficiencies.

Technology transfer and funding only, while critical, will not make this a guaranteed success. To successfully augment supply chain resilience, the U.S. will need to rely on partners in other parts of the world who are capable and have capacities in these industries, and view supporting the U.S. market as a beneficial action from many viewpoints — politically, economically and geographically.

Even with appropriate funding, technology and partners, this will not happen overnight. The actions and consequences require multilateral strategies that serve all participants profitably. Some short-term actions will be needed to balance the expectations internally and externally, accompanied by many longer-term actions. Developments that took decades to get where we are today may take years to reverse.

Complicating things further is that the U.S. does not have a surplus of skilled labor available. As currently structured, there is not enough skilled labor in the U.S. to respond to this. Even if the U.S. is successful in bringing new manufacturing capabilities to the U.S., skill sets will be an issue. It is crucial for the U.S. government and private enterprises to invest in education and grow the U.S. skilled labor pool. 4

The mandate should accomplish an augmented awareness of the importance of supply chains to the economy and the well-being of all participants. However, mid- and long-term fundamental changes are required to increase the attractiveness of the U.S. economy for manufacturing investments. Additionally, changes will bolster other allied regions to equally partake multilaterally in the most critical supply chains to stay cost-effective, yet resilient, for the next volatilities and crisis to come.

**Recommendations**
CSCO’s heading up supply chain strategic leadership should:

- Create visibility in critical supply chains by comprehensively and accurately mapping all tiers so a true baseline for vulnerability analysis can be established.

- Test market sensitivities and elasticities by using scenario planning. Also, reevaluate the scenario planning exercise periodically, as the environment is dynamic and influx.

- Increase collaboration with key stakeholders (including government agencies, customers, suppliers, logistics service providers and contract manufacturers) based on the mult-tier visibility, defining risk appetite, risk capacities and sequenced activities from short to midterm and long term.

- Prioritize your activities from the mapping exercise and apply supply chain segmentation. Tackle the most critical ones first and review how to diversify products or geographic markets by considering what products are needed for certain markets and what new capabilities will be needed in your markets to meet local and regional requirements.

- Prepare for volatility in supply and demand caused by unforeseen disruptions by redesigning products to remove complexities and collaboration strategies to mitigate vulnerabilities through contracts. Consider in the short term paying higher prices while redesigning critical supply chains as an investment and trade-off.

- Make technology a foundational part of the supplier risk management program, but understand that it’s not a panacea for wiping out risk. Technology is rapidly becoming a requirement to enable business continuity and tier visibility that in turn offers a competitive advantage.

**Evidence**

1. Fact Sheet: Securing America’s Critical Supply Chains, the White House.

2. 2020 Gartner’s Supply Chain Disruption Management and Impact Survey

This study was conducted to determine the types of disruptions that impact supply chains (positively or negatively), establish parameters that make a company fit or fragile when dealing with a disruption or turn and, identify the competitive and performance impact of supply chain disruptions. The research was conducted online between 31 March 2020 and 18 May 2020. In total, 585 respondents were interviewed in their native language across North America (29%, n = 172; countries including the U.S. and Canada), Western Europe (39%, n = 225; countries including the U.K., Germany and Spain), and APAC (32%, n = 188; countries including Australia, Singapore and China). Qualifying organizations operate in the manufacturing and retail industries and report anticipated enterprise-wide annual revenue for fiscal year 2020 of at least $250 million or equivalent (at least $500 million in the U.S.). Qualified participants...
have a role tied to a supply chain function and are at director or above roles. All respondents are involved in their company's decisions regarding supply chain management processes, operations and strategies, either in a decision-making capacity or advisor to the decision makers. The study was developed collaboratively by Gartner analysts and the Primary Research Team


Recommended by the Authors

Tackle Ticking Time Bombs by Managing Supply Risk in Concentrated Markets

Use Multitier Mapping as a Foundation for Supply Chain Resilience

Thrive in Uncertain Times by Formalizing Risk Appetite and Connecting Business and Procurement Strategies

Use Gartner's Optimum Risk Utilization Framework to Drive Competitiveness and Improve Agility in Procurement