



Supply chain risks: How to identify and mitigate your weakest links

When the COVID-19 pandemic first threatened to bring global supply chains to a screeching halt, it spread a jolt through many C-suites. Reminded of how far-flung and integrated their supply chains had grown, finance executives and other leaders suddenly gained a renewed sense of their company's vulnerability.

In fact, in 2020, many CFOs questioned the assumptions that shaped their supply chains, wondering whether they were stretched too far or faced cascading risks. For example, was the source of raw materials, or the location of production, simply too distant from the markets they served? Were their chosen partners too exposed to trade disputes? And, finally, had their companies grown too reliant on a specific country or region?

Such questions have quickly elevated supply chain risk to a top priority for finance. And in the fourth-quarter 2020 *CFO Signals*[™] survey, 49% of respondents agreed (6% of them "strongly") that their supply chains would be more diversified in 2021 than pre-pandemic, and 37% agreed (6% of them "strongly") that their supply chains would be less reliant on China than they were before the pandemic.¹

Achieving those goals may not be easy, given the complexity of global supply chains and the seemingly endless other disruptions. Still, the pandemic re-emphasized for CFOs the importance of acquiring better tools for evaluating the probability of disruptions. To do so effectively, though, CFOs need to prioritize investments that enhance supply chain resiliency, then calibrate the options

against competing imperatives, such as cost and service requirements. One key challenge: managing working capital while restarting operations and rebuilding inventory.²

Implementing such "risk-adjusted cost optimization" requires CFOs to collect end-to-end data, gathering it from internal and external silos, as well as partners along the supply chain. And in this edition of *CFO Insights*, we'll discuss the contributions finance can make to help create resilient supply chains, as well as to mitigate the risks that threaten them.

Supply and demands

Supply chains are typically designed to optimize efficiency, with speed and cost as top considerations. Technology has only accelerated that mission, while enabling supply chains to span continents, with

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numerous hand-offs driving increased complexity. These days, efficient global supply chains are commodities—and the ability to embed them with flexibility and resilience can become a differentiator.

The COVID-19 pandemic exposed both the value—and difficulty—of imbuing supply chains with such traits. Moreover, the pandemic seems to have helped accelerate fundamental shifts in what customers value, which now include expectations regarding supplier practices connected to environmental, social, and governance (ESG) criteria and diversity, equity, and inclusion (DEI) efforts. Just as consumer buying habits have shifted, so too do businesses need to operate differently to meet customer requirements and earn their trust and loyalty (see Figure 1).³

In response to the disruption of the past year, CFOs needed clearer visibility into the financial vigor of their supply networks, and perhaps even their top customers. In the immediate wake of the COVID-19 crisis, that meant working with their supply chain leaders to identify critical bottlenecks and prepare for long-term disruptions (see “COVID-19 checklist: Practical steps for the immediate, midterm, and long-term,” *CFO Insights*, April 2020).

Addressing the fundamental issues at play, though, also required internal cross functional collaboration.⁴ Many CFOs, for example, worked with their supply chain leaders and others to take a full inventory of the risks, using that information to create

a complete risk-management framework. In addition, CFOs were called upon—or may be called upon—to contribute in other ways, including the following:

- **Supporting the supply chain function.**

While their skills in distribution may have been a top qualification, supply chain leaders now need not only to be proficient in technology—as the supply chain grows increasingly digital—but also to have a command of financial acumen. Leading CFOs can provide analysis to help supply chain executives see the financial implications of their decisions, including calculating the drop in working capital that will result from adding inventory.

- **Improving supplier data collection.**

Existing tools for monitoring supplier health, such as surveys, can provide the business with a clear view of the past. Yet, in one pre-COVID-19 survey of supply chain leaders, only 6% said they had the visibility they needed into their supply chain.⁵ In the midst of a pandemic, that visibility became even more clouded as companies needed more information in real-time to alleviate risk. Given their leadership in digital transformations, CFOs are well-positioned to help evaluate technology, such as risk-sensing cognitive tools and predictive analytics, to help achieve that visibility.

- **Upgrading metrics.** Beyond tracking some key metrics more closely (e.g., those related to demand and the sales pipeline, customer service levels, costs, working

capital, and fixed asset performance), CFOs may need to devise new measures to better understand supply chain risk. For example, it may be useful to have a metric or index that tracks the overall risk of the supplier network with the ability to drill into specific dimensions (availability of supply, financial stability, cybersecurity, etc.). In addition, some companies may want to leverage digital twins and simulation technology to understand how long it will take to resynchronize their supply chain to absorb an unexpected revenue drop of, say, 20%. In some cases, CFOs may play a role in setting the performance target for the metric. If there is a desire to increase service levels, for example, that will likely require more inventory. Similarly, if there is a move to carry more “strategic stock,” the CFO could play a role in ensuring the buffer size is appropriate and at the right mode in the supply chain—and adjust performance targets accordingly.

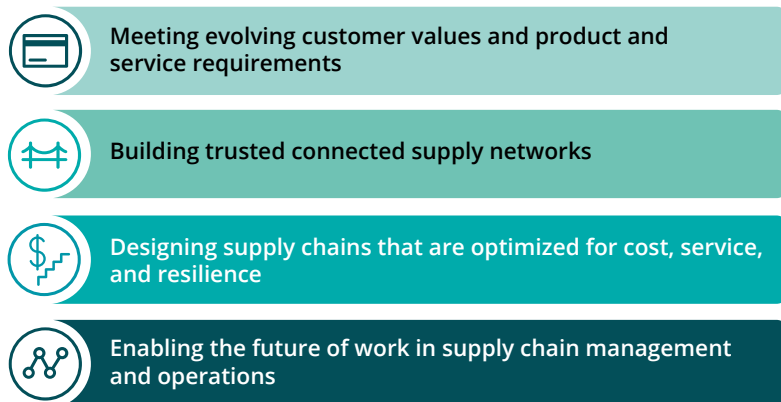
- **Creating a playbook.** Despite its integral nature to operations, some companies found they did not have a playbook for dealing with supply chain failures. For CFOs who had previously worked with these network leaders to create one, it helped establish the clarity of roles and responsibilities for various elements of supply chain risk.

Making risk-adjusted decisions

Going forward, one of finance’s critical contributions may be to determine which supply chain risks to mitigate—and how. After all, organizations need to assess risk throughout their supply chains and establish assurance plans to meet an appropriate risk-adjusted, optimized outcome for each area—one that balances disruption costs with the value of assurance and service.

Applying risk-adjusted cost optimization to decisions, however, requires that finance leaders have access to in-depth information as it flows through the supply chain. The more complete their understanding of the supply network’s activity, the more effectively CFOs can conduct continuous scenario planning to find the optimal balance of cost against risk.

Figure 1: Post-pandemic supply chains: Key shifts in the new normal



Source: “Looking beyond the horizon: Preparing today’s supply chains to thrive in uncertainty,” Deloitte Development LLC. 2020

Transformation and technology, in that order, can equip finance leaders to apply risk-adjusted cost optimization to their decisions.

Fortunately, new technologies are emerging that dramatically improve visibility across the supply chain, transforming traditional linear supply chains into digital supply networks (DSNs), where functional silos are broken down and organizations become connected to their complete supply network to enable visibility, collaboration, agility, and optimization. Leveraging advanced technologies, such as the Internet of Things, artificial intelligence, robotics, and 5G, DSNs are designed to anticipate and meet future challenges.⁶

By integrating data onto the cloud, CFOs can ensure that stakeholders are equipped with identical information for decision-making (see sidebar: “Supply chain data: What questions can lead to better resilience?”). Moreover, applying a cost-optimizing risk-adjusted framework can recast decisions around major risks, including the following:

- **Sourcing risk.** When the pandemic first began, factory shutdowns led companies to look for alternate sources of goods, which stretched delivery times. To cultivate relationships with such secondary suppliers, companies may require improved visibility into the local or regional supplier landscape through analytics or use of a digital procurement platform. Establishing shared resource pools for raw materials inventory is one approach large companies have used in past crises.⁷ Operationally, a stronger view on contract management can help better assess underlying risks and obligations of supplier relationships.

By analyzing information from their top suppliers, decision-makers can take into account how much, if any, flexibility those suppliers have to shift production to other locations. They can also gain an understanding of where they stand in the pecking order of their suppliers’ customers should there be inventory or capacity shortages before investing in a back-up supply network.

- **Modality risk.** Quarantining and travel restrictions inevitably led to labor shortages, which in some cases left warehouses, port operations, freight-forwarders, and other carriers understaffed. That created bottlenecks in the system that moves goods between the warehouse and the final destination. As it is, combining several modes of transport, from maritime to trucking, often results in duplication of effort, as well as inefficient paper-based systems. Improved information and communication technologies, such as tools which support product storage and movement, can add efficiency and transparency to the transactions—that occur along the route. Transport optimization may also involve autonomous vehicles or sharing capacity between companies to increase flexibility.

- **Facility risk.** For the past few decades, companies have consistently been implementing practices to reduce inventory across the supply chain. Even those with safety stock weren’t prepared for a disruption the magnitude of the COVID-19 epidemic. To refine and optimize their inventory strategy, companies should balance a multitude of

factors, from supply base risk to cash flow needs to perishability. Aided by machine learning and data analytics, CFOs can better foresee changes in demand, using that information to help steer production planning so as to accurately allocate stock where it is needed. In China, for example, consumer goods companies have developed modularized production units that can be mobilized across different sites to help manage supply shortages or other issues.⁸

- **Distribution model risk.** As a result of the pandemic, some companies have found their demand channels have shifted from, for example, brick-and-mortar stores to e-commerce. To adapt, companies may need to transform their order-management operations, ultimately applying automation to foster fulfillment integration for customer activities. CFOs may also find it most efficient to outsource some aspects of distribution. In a 2019 survey, nearly half (47%) of respondents said their organizations had experienced some sort of risk incident involving the use of external entities in the last three years.⁹ Monitoring third-party risk, however, typically requires a dedicated oversight role and, perhaps, customized tools. Transformation and



Supply chain data: What questions can lead to better resilience?

The quality and breadth of the data that companies collect and analyze may ultimately make a crucial difference in boosting supply chain resilience. Once CFOs can make real-time decisions based on that data, they may be able to avoid, or at least, minimize certain shocks to their supply chain.

That outcome is the result of tracking down answers to the right questions. Below are five questions CFOs should consider asking their supply chain leaders in an effort to locate information gaps.

1. **What tools do we have—and which should we invest in—to ensure we have complete and timely data?** Given advances in sensors and the growth of the Internet of Things, finance leaders may want to explore collecting data from the supply chain in real-time, using it to feed predictive scoring in a dashboard that monitors the top risk domains.
2. **What's our framework for making decisions about allocating resources to the supply chain?** The focus should be on investments that can help the company emerge stronger from the pandemic. That may mean accelerating certain planned investments, such as digitization. The soaring rise of e-commerce, for example, forced retailers to find ways to meet customers' expectations regarding price and delivery—even if that meant incurring higher costs. To remain competitive, those companies should consider high-priority investments in such areas as automation.
3. **How do we balance conflicting expectations?** Supply chain leaders typically face competing demands from other functions: reduce costs, improve service, optimize assets. To stand on its own, the function should develop precise data about such issues as where it would most benefit from having a back-up supply source. Evaluating alternate suppliers requires looking beyond one dimension, such as cost. A supplier that has capacity constraints may not be the best choice, for example, even if it happens to be the lowest-cost option.
4. **How well do we manage and measure supply partner risks?** This includes asking whether the company manages third-party risks at all. In Deloitte Touche Tohmatsu Limited's [2020 Extended Enterprise Risk Management](#) survey, just 15% of 1,145 global respondents reported that their organizations integrate or optimize their approach to managing risk with their third parties. Doing a better job of it may help companies resist the kneejerk temptation to insource more aspects of its supply chain.
5. **How do we judge the success of data-compilation efforts?** By acquiring and integrating more information, CFOs can help the business develop a more responsive supply chain. While the required investments may diminish near-term profitability, they should put the company in a better position to stay in alignment with its top priorities—and maintain its flexibility and functionality in the face of disruptive events.

As is true of the supply chain itself, CFOs and other executives are under increasing pressure. The next cataclysmic event, whenever it appears, may already be quietly gaining momentum.

technology, in that order, can equip finance leaders to apply risk-adjusted cost optimization to their decisions.

The COVID-19 pandemic, as unwelcome as it was, reminded CFOs to fortify their fragile supply chains. But establishing a more agile supply chain is a continuous job, not just a matter of replacing some links and tightening others. Evolving customer and consumer expectations, expanding risks, and new technology will continue to redefine what it means for a supply chain to be flexible. By viewing decisions through the lens of risk-adjusted cost optimization, CFOs can simultaneously increase the supply chain's resilience—and their own.



End notes

- 1 [CFO Signals: Q4 2020](#): What North America's top finance executives are thinking—and doing, Deloitte LLP, December 2020.
- 2 ["COVID-19: Orchestrating the recovery of organizations and supply chains,"](#) Deloitte Canada, Deloitte Development LLC, 2020.
- 3 ["Looking beyond the horizon: Preparing today's supply chains to thrive in uncertainty,"](#) Deloitte Development LLC, December 2020.
- 4 ["COVID-19: Orchestrating the recovery of organizations and supply chains,"](#) Deloitte Canada, Deloitte Development LLC, 2020..
- 5 ["Embracing a digital future: How manufacturers can unlock the transformative benefits for digital supply networks,"](#) Deloitte Insights, Deloitte Development LLC, 2018.
- 6 ["COVID-19: Managing supply chain risk and disruption,"](#) Deloitte Canada, Deloitte Development LLC, 2020.
- 7 ["Supply chain considerations for coronavirus,"](#) *CFO Journal*, WSJ.com March 18, 2020.
- 8 ["COVID-19: Managing supply chain risk and disruption,"](#) Deloitte Canada, Deloitte Development LLC, 2020.
- 9 ["Extended enterprise risk management to be a focus in 2019,"](#) poll results, Deloitte & Touche LLP.

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