



e2open[®]

WHITE PAPER

Multi-Tier Supply and Planning Collaboration: Find Certainty in an Uncertain World



The only thing we know for sure is that more disruption is on the way. So how do we make our supply chains more resilient?

In 2022, most of the world began to emerge from the long Covid slumber, excited to return to some semblance of normalcy. The same could not be said for Chief Supply Chain Officers (CSCOs), for whom the idea of “normalcy” may never return. In fact, the world they now face is being driven and shaped by an ongoing climate of disruption that has altered the future of global commerce.

Perhaps no other facet of this industry has dealt with more disruption than supply and planning. Companies are still struggling to manage inventories to fulfill customer needs, and wobbly economies the world over threaten to create further fluctuations in demand. So, what’s the solution? How can CSCOs make their supply chains disruption-proof? Before we can answer that question, we have to examine some key trends that have led the industry to where it is today.

The disruption is in the design

Before the pandemic, supply chain models had been shaped by several epochal, large-scale trends. Many of these trends transformed commerce and manufacturing and were seen as groundbreaking opportunities for businesses to expand their scope and streamline their operations.

Cost efficiencies led to historically low consumer prices for goods and services, bolstering economies worldwide. Outsourcing and specialization shipped functions and teams overseas or across borders, resulting in decreased labor demands and reduced costs. Open markets and free trade unlocked the world marketplace to any business accessing it. Then came the internet and the massive growth of e-commerce. That model worked fairly well for three or four decades, and businesses expanded their supply chain footprint beyond their borders.

Unfortunately, those trends also created conditions that made modern supply chains much more vulnerable to threats. Think of saltwater taffy—at first glance, it seems like it can stretch forever, but there is always a point where it has been spread so thin that it becomes weak and falls apart. The same concept applies to supply chains—as they grow in scope, ability, and speed, they also become more complex, rigid, and fragile. Like the taffy, they have been stretched to their absolute limits, and even the slightest disruption could shatter the entire operation.

In the past few years, we witnessed firsthand how a series of shocks to the global economy could push this model to its breaking point. The interdependence on third parties resulted in greater profits but also meant relinquishing varying degrees of control. Heavy reliance on a few suppliers concentrated in one region has also made supply chains vulnerable to a variety of disruptions. For example, a major climate event shuts down suppliers in one area, causing major disruption to businesses whose suppliers are all located there. Furthermore, logistics disruptions, demand shocks, supply shocks, trade wars, and physical wars have derailed many supply chain operations across the world.

In many cases, companies don't have much control over these variables, so they can only react once the disruption is already in full swing. CSCOs are looking for ways to increase levels of visibility and coordination to make their supply chains more agile and resilient to weather the storms that we undoubtedly will face in the coming years.

Megatrends shaping the future

There are trends in business that are so widespread, and whose impact is so far-reaching, that they cannot simply be labeled as "trends"—in the vocabulary of modern analysts, they are "megatrends." While the term may sound like hyperbole, it accurately encapsulates the seismic impact of the shifts that are currently taking place. In much the same way that the trends of the previous four decades shaped the current industry, the following megatrends will play a big part in shaping the future of the supply chain as we know it.

Macroeconomic uncertainty

In the post-Covid world, economic uncertainty is king. Inflationary pressures are a concern for many economies, with rising prices of commodities and goods putting pressure on central banks to consider tightening monetary policies. Ongoing trade tensions between major economies (such as the US and China) continue to create uncertainties in trade, investment, and supply chains. Then there is the ever-present risk of a Covid resurgence another pandemic and the arrival of new variants, which could pose challenges to a global economy that is desperate to recover from its recent stumbles.



Global risks

Geopolitical upheaval has caused a ripple effect that is being felt thousands of miles away. The tensions between major powers such as the US, China, and Russia, as well as other risks from conflicts in the Middle East and tensions in the Korean peninsula, pose risks to global stability and economic growth.

Climate anxiety has gone mainstream. Businesses face increasing pressure from governments, investors, and the public to fast-track the transition to a more sustainable, low-carbon economy. While reversing the effects of climate change is a cause absolutely worth fighting for, it also presents several opportunities for businesses to become more efficient and consume fewer resources, it does also present a sizable challenge for the industry. Improving the footprint of an entire global organization is costly, from both a cost and resources standpoint, and there will be significant growing pains along the way.

New regulatory demands

Regulatory pressures are also putting a strain on supply chains. To stem the tide of rising temperatures worldwide, the Greenhouse Gas Protocol developed the three-tiered “Scope” system for the different categories of emissions a business is responsible for. According to the US Environmental Protection Agency, Scope 3 emissions relate to “activities from assets not controlled by the reporting organization, but that the organization indirectly affects in its value chain.”¹ It’s not hard to see why this will challenge fragmented and siloed supply chain operations.

There are also several new regulations related to labor practices, which can affect labor costs, production schedules, and sourcing decisions. Data privacy and security regulations such as the General Data Protection Regulation (GDPR) in the European Union can create extra work for teams as well as hinder data acquisition. Trade regulations can affect the cost and availability of raw materials, finished goods, and transportation, putting the onus on businesses to stay apprised of changes in these regulations for planning purposes. And finally, health and safety regulations related to Covid can still pop up from time-to-time, affecting worker safety, production schedules, and sourcing decisions.

Business digital transformation

At present, just about every industry in the business world is experiencing a digital revolution. Technology advancements are driving the creation of more technologically robust products and services, adding even more complexity to the supply chain. There’s no telling what the future holds, but we can be sure that supply chains will need to adapt to keep up with the public’s never-ending demand for new tech.

New business models are also affecting supply chains. Many industries are being completely reimagined and, in many cases, are moving away from ownership to a non-owned service model. A business that has decided to offer a subscription-based pricing model could drastically alter the demands on its supply chain operations.

How will this affect the supply chain?

The uncertainty facing this industry is thick. Depending on what happens in the next few years, pervasive material and capacity constraints are highly likely. Further dramatic shifts in demand based on large-scale economic factors. More complex supply bases and channels.

On their own, each of these megatrends is earth-shattering in their ability to transform the business landscape. However, in the same way that weather systems colliding can create a “perfect storm,” when some of these trends occur simultaneously (as we saw during the Covid pandemic), the results can be cataclysmic.



The path forward

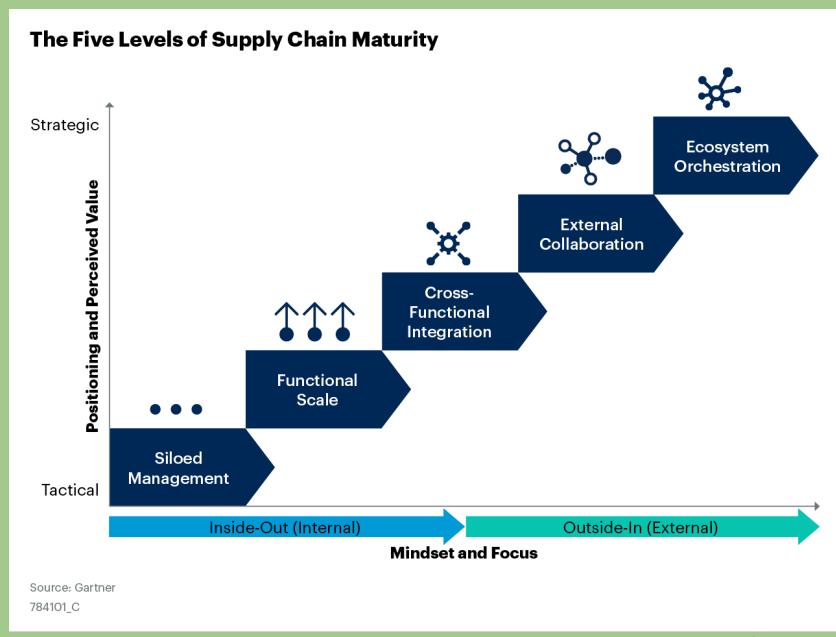
With the stakes so high, the concept of supply chain maturity has become a hot topic in industry circles. (You can read more about the Gartner® five stages of maturity in the sidebar.) Stage 5 maturity can only be achieved when a specific set of criteria—visibility, process orchestration, and aligned decision-making—have been met across the ecosystem.

Increased visibility

A business can only control what it can see and interact with. As many supply chain functions were outsourced and dispersed around the globe, effectively managing such a complex, siloed entity became incredibly difficult. It is difficult to manage volatility without insight into the impact of an event happening right now in a facility thousands of miles away.

Due to their importance in the overall supply chain equation, building healthy relationships with suppliers has become a common focus of many risk mitigation strategies. This includes diversifying the geographic locations of suppliers, placing more emphasis on suppliers that are physically closer to production and distribution centers, and strengthening relationships with current partners.

According to a Gartner® report, **"All companies have differing levels of maturity across supply chain capabilities and activities from an end-to-end and individual functional perspective. The most effective chief supply chain officers (CSCOs) recognize that this is appropriate and don't waste time, money and effort trying to get every capability to best in class or Level 5. They know how the company differentiates itself in the market and only drives capabilities to higher maturity levels, where needed, to support the company's competitive positioning and future strategy."**



Source: Gartner - "Use the 5 Level CSCo Score Supply Chain Maturity Model to Support Strategic Planning" Published 1 March 2023 - ID G00784101 by Michael Dominy and Noha Tohamy, GARTNER is a registered trademark and service mark of Gartner, Inc. and/or its affiliates in the U.S. and internationally and is used herein with permission. All rights reserved.



Reducing cross-functional siloes

Supply chain efficiency relies on collaboration across all tiers and functions. For one, it improves communication between the different functions and helps ensure that everyone has access to the information they need to make informed decisions and take appropriate action. By working together, different functions can better coordinate their activities and ensure they align with the overarching risk mitigation strategy. This can help reduce delays, minimize waste, and improve the overall efficiency of the supply chain.

Cross-functional integration can also help make the supply chain more agile and responsive to changes in demand, supply, or other external factors. Cross-functional integration empowers different functional partners to quickly adjust their plans and processes to address issues as they arise, minimizing disruptions and delays.

When it comes to suppliers, removing those barriers and aligning cross-functional parties toward a common set of goals can yield many benefits, as outlined in the infographic below.

- **Improved communication:** Open and transparent communication ensures that everyone is aligned toward the same goals, timelines, and expectations. This can reduce misunderstandings and minimize delays.
- **Enhanced coordination:** Sharing information, resources, and expertise with suppliers improves a company's ability to weather demand and supply shocks because there is better alignment of activities, smoother hand-offs, and more efficient use of resources.
- **Greater flexibility:** When confronting a threat, a rigid supply chain doesn't bend – it breaks. The flexibility afforded by removing siloes ensures that a supply chain can respond to changes in demand, supply disruptions, or other unforeseen events. They can quickly adjust plans and allocate resources to address issues as they arise, minimizing the impact of disruption.
- **Improved risk management:** It may seem like a fairly basic function, but planning is the key to identifying potential risks and developing contingency plans to mitigate them. It's impossible to avoid all disruption, so it makes sense to have a strategy in place to help minimize their impact.
- **More innovation:** Innovation rarely grows from a single seed. It takes a wide range of perspectives, backgrounds, expertise, and skill sets to drive innovation. Sharing ideas and expertise can lead to everything from the development of new technologies, processes, and even products.

Communication and strong relationships with suppliers can provide valuable insight that probably cannot be gleaned when a CSCO sits in an office that is hundreds or even thousands of miles away. Increased collaboration and communication can provide insight that leads to the development of new ideas, technologies, or processes that can maximize the potential of your supply chain.

External collaboration

When you mention “collaboration” in a supply chain setting, most people will assume you are referring to internal collaboration within their own organization and teams. The proper level of visibility for supply chain transformation goes deeper than the first tier and outside of the organization to include every ecosystem and tier.

External collaboration expands the sightlines for supply chain managers, allowing them to get a better picture of what’s happening far beyond their four walls. It can help foster partnerships and cooperation with suppliers, customers, and other stakeholders outside the organization. It can provide greater visibility into demand, supply, and other external factors impacting a supply chain’s overall performance.

These relationships can also alert a supply chain manager to impending risks such as supply disruptions, quality issues, and regulatory compliance, and therefore reduce the impact of those risks on the business. They can also help improve forecasting, planning, and decision-making, leading to increased efficiency. That level of insight can help to keep a supply chain ahead of the curve and allow it to respond more effectively to volatile market conditions.

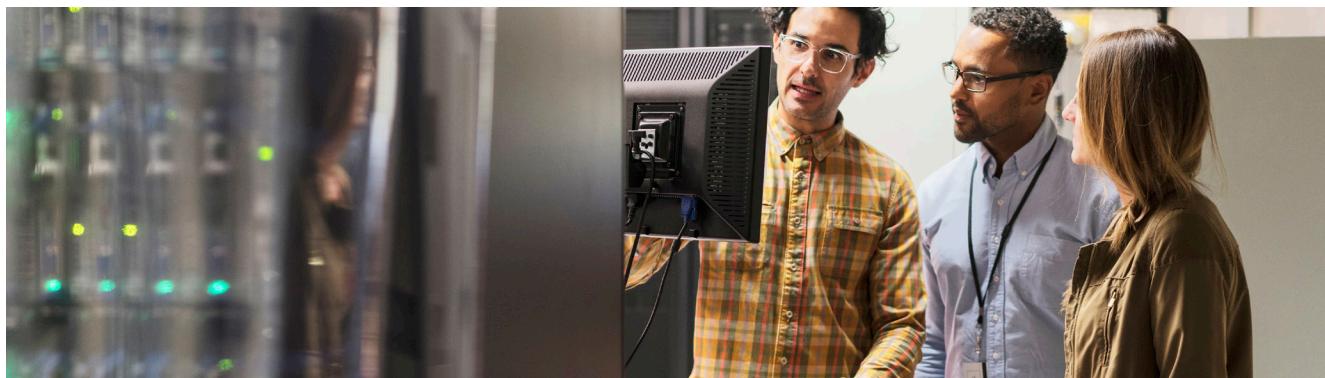
External partnerships also have the potential to help a supply chain expand its market reach in new markets or geographies by providing access to new customers or growth opportunities. There’s also a strong chance that external collaboration can lead to improved customer satisfaction, by empowering supply chain managers with a better understanding of how to meet the needs and expectations of customers.

The building blocks of a connected supply chain

The root of all this disruption is not at the enterprise level—it is buried deep within the complexity of modern supply chains. To address the issue, companies must start by gaining insight and visibility into those deep, far-flung corners and collaborating with the parties entrusted to manage them. They need access to a broad network that infiltrates the supply chain down to its lowest base layers.

Many tools are available to help CSCOs gain insight into specific parts of their supply chains, or even enable collaboration, but frequently these resources are not interconnected or comprehensive. The next-gen supply chain management tool sees all, knows all, and integrates smoothly across all tiers and functions, end to end. This begins with proper planning based on demand fluctuations and historical analysis.

Traditional supply planning is inherently internally focused and removed from supply chain execution and external events. Whereas connected planning encompasses all resources to run the business—all departmental functions to make, move and sell products, and all parties within the enterprise and upstream, downstream, and logistics ecosystem partners. It has continuous feedback on the realities of execution and exception management. With this connected and integrated data, companies can leverage business impact analysis to proactively detect unplanned risks and deviances to the plan, as well as an automated re-planning response. Furthermore, technology’s use of artificial intelligence (AI) automates the mundane at every step in the process and helps scrutinize the high-impact events that need human intervention.



A truly comprehensive solution

Imagine a CSCO has just implemented a cross-functional, comprehensive, AI-driven, end-to-end supply chain management platform. The siloes have been removed, there is full, cross-functional integration, and all parties are aligned to the same goals and strategies. Now that all of these disjointed parties are finally playing in the same sandbox, they can start to realize the benefits of a truly connected supply chain. Each player will not only provide insight and information into the different functions, but they will also be contributing to the overall success of the entire value chain.

So how does a CSCO choose the right solution? Four essential building blocks are required to achieve full collaboration and visibility:

Network



A comprehensive, multi-enterprise network that reaches through the supply chain to connect all ecosystems and tiers, including demand, supply, logistics, and global trade. The network can provide real-time information to improve overall decision-making and coordination.

Data



CSCOs need to be able to capture uniform, decision-grade data from disparate partner systems, which can then be harmonized and synchronized to make it uniform. This data enables the creation of a “digital twin” of the physical supply chain. This construct can be run through various simulations to show CSCOs how well their supply chain will react to certain disruptors.

Applications



Rather than relying on a patchwork of different systems, some of which may be outdated or insufficient, applications should be unified, intelligent, and AI-enabled, with the breadth and depth to tackle any SCM process. “Smart” applications can provide CSCOs with insight into what’s happening across all ecosystems and help them to understand the impacts of any resulting singularities. This insight gives them the flexibility to prioritize and make better business decisions, turn those decisions into action across all internal and external parties, and learn from the experience for improved future performance.

Processes



Multi-tier, multi-enterprise processes can further help break down siloes across all enterprise functions and all tiers of partners. They also create shared value with end-to-end-process orchestration, resulting in a more harmonized, unified, and fully aligned supply chain.

About e2open

e2open is the connected supply chain software platform that enables the world’s largest companies to transform the way they make, move, and sell goods and services. With the broadest cloud-native global platform purpose-built for modern supply chains, e2open connects more than 400,000 manufacturing, logistics, channel, and distribution partners as one multi-enterprise network tracking over 12 billion transactions annually. Our SaaS platform anticipates disruptions and opportunities to help companies improve efficiency, reduce waste, and operate sustainably. Moving as one.TM Learn More: www.e2open.com.

1. United States Environmental Protection Agency. Scope 3 Inventory Guidance. Feb. 14, 2023. [<https://www.epa.gov/climateleadership/scope-3-inventory-guidance>]

© e2open LLC 2022 Confidential. All rights reserved. E2open and the e2open logo are registered trademarks of e2open, LLC. Moving as one. is a trademark of e2open, LLC. All other trademarks, registered trademarks, or service marks are the property of their respective owners.