

The Case for Investing in Supply Chain Visibility

Three real-world scenarios illustrate where supply chain disruption can be turned into business opportunity.

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The White House's June 2023 report indicates that supply chain disruption has eased — what does this mean for manufacturers' investments in supply chain?

Disruption is not an “if,” but a “when,” and manufacturers who deprioritize supply chain today will be less prepared to adapt to future disruptions. Supply chain performance also remains a key differentiator in business success as a critical enabler of customer service excellence, cost efficiencies and resilience. To hone a competitive edge in today's operating environment, manufacturers must take several steps to adapt their supply chain strategies, including:

- ▶ Evolve from reacting to disruption to establishing the supply chain as a key driver of business value.
- ▶ Establish deep partnerships with key suppliers, as they are an integral part of maintaining quality, predictability, and on-time performance and optimizing cost.
- ▶ Develop an intimate understanding of extended supply chains beyond Tier 1 suppliers and work with all stakeholders to design a sustainable and resilient supply chain operation that drives competitive advantage.

Improving supply chain visibility is a key component of achieving these strategic goals. According to the [2023 BDO Manufacturing CFO Outlook Survey](#), 42% of manufacturers will improve supply chain visibility this year — but many are still not prioritizing this core element. Visibility means having sight beyond Tier 1 suppliers and downstream into customers' operations. Improving visibility is key for navigating disruption, adapting to new stakeholder expectations, modeling strategy and operational changes affecting cost and quality, and complying with regulations. It's enabled by technologies like blockchain, sensors, ERP, and mapping and tracing technology and processes. Ultimately, investing in supply chain visibility will help transform this critical function into a driver of value and resilience for the entire business.

But what do these principles look like in action? How can companies apply visibility to real-life situations? We've outlined three hypothetical scenarios and accompanying solutions to demonstrate how enhancing visibility can help turn disruption into opportunity across manufacturing subsectors.

Outbreak in a food manufacturer's facilities

A food manufacturer operating in the dairy sector detected contamination in one of its facilities. Although the company was able to identify the ingredient responsible for the contamination, they lacked visibility into which facilities used the contaminated ingredient from the same supplier. Consequently, they needed to shut down operations in any region where the potentially affected ingredient could have been used. The crisis resulted in significant revenue losses and damage to the company's reputation.

Solution: Improve visibility to help bolster quality control

To mitigate the impact of future contaminations, the company should consider digitizing all its supply chain data in a platform that can serve as a single source of truth. The platform could then be integrated with other applications such as ERP, MRP, P2P, and WMS. As a result, the company would be able to obtain a real-time view into all aspects of the supply chain and track which ingredients are used in each of their production facilities. By achieving this visibility, the business could quickly identify and isolate any future outbreaks without needing to unnecessarily shut down unaffected facilities. Real-time visibility would enable the company to respond more swiftly to mitigate these incidents, prevent wider disruption, and preserve revenue and its reputation.

The business should also collaborate with its suppliers to establish stronger quality-control procedures. This could include implementing defined quality assurance checkpoints throughout the supply chain to ensure quality without redundancy. This food manufacturer should also consider implementing lot-tracking across different functional areas of the supply chain, from the supplier to final customer delivery, to improve traceability. Finally, the company should develop a standard and random audit program to confirm compliance with the new processes and verify the accuracy of data collected throughout the supply chain. Monitoring will help the company proactively identify lapses in the system before there is a real issue that escalates and causes harm.

As part of the rollout for these new procedures, the company should develop a comprehensive communication plan to inform the general public and customers about its supply chain quality control and visibility improvements. To rebuild trust, the communication plan should emphasize the company's commitment to quality control, safety, and transparency. The plan should also include communications protocols for any potential future outbreaks.

Lastly, in addition to overcoming the outbreak issue, the business could use the supply chain data to improve performance. For example, the company could analyze the data to identify places to streamline the company's manufacturing, logistics, and distribution networks, as well as opportunities to eliminate redundancy and rethink the network footprint to improve resilience.

Transport system failure for medicine

A manufacturer specializing in the production and transport of insulin realized its temperature control system had failed when, upon delivery to a customer, it discovered that the insulin was exposed to high temperatures — and as a result, the entire shipment needed to be destroyed. The manufacturer could not pinpoint where the failure occurred during transport, nor the cause, which hampered the company's ability to resolve the issue.

Solution: Implement real-time monitoring to protect medicine

To mitigate this problem, the company should consider investing in sensors that monitor the temperature of shipments in real-time and transmit that data back to a central location. This will allow the company to pinpoint where and why temperature fluctuations occur and make changes to rectify the issue. It will also allow the company to easily determine which specific batches have been affected, so that a temperature fluctuation does not necessarily require discarding an entire shipment.

Sensors also add another layer of security by detecting whether the product has been tampered with — for example, during an unscheduled stop — and needs to be discarded.

As the federal government has designated pharmaceutical supply chains as a priority for onshoring to the U.S., pharmaceutical manufacturers will likely see new regulatory requirements to safeguard their products. Companies will need to meet these requirements to qualify for onshoring incentives and avoid scrutiny or penalties for imported products. Temperature sensors are one example of measures that pharmaceutical companies can take to improve supply chain visibility and future compliance. Companies may also be required to provide additional visibility into their financing arrangements with foreign suppliers as part of the effort to preserve security.

Adapting to shifting retail business models

An apparel manufacturer is struggling to adapt to shifting business models in the retail industry as more of its clients embrace a direct-to-consumer (D2C) model and experiment with hyper-customization of products. These changes have significant ripple effects throughout the supply chain, including requiring more agile ordering processes and the ability to quickly transfer information.

The manufacturer can't keep up with the new level of agility its customers demand and is worried about losing sales.

Solution: Build the digital thread

To meet its customers' evolving expectations, this manufacturer should prioritize building the digital thread: a communication framework that facilitates seamless communication up and down the value chain.

A true digital thread requires the sharing of information across the entire value chain, including from customers and suppliers. Technologies like ERP, data analytics, blockchain, machine learning, and others that facilitate the collection, analysis, and transfer of data make this level of information-sharing possible. The integration of advanced analytics into planning can help inform production planning, and the use of digital twin technology would enable the business to stress-test supply chain changes before implementation to minimize service disruptions. Additionally, the apparel manufacturer should work with its retail customers to design new demand planning models to account for hyper-customization and establish plans to pivot as customer behaviors continue to evolve, rather than relying on historical trends. Building the digital thread will enable this manufacturer and its customers to respond quickly to changes in demand and be agile enough to shift business models and supply chain strategies to serve evolving needs.

In addition, new labor regulations, import tariffs, quotas on certain materials, Customs & Trade Partnership Against Terrorism (CTPAT) participation, and environmental protection measures make it imperative for the manufacturer and its customers to increase visibility and control of the supply chain to maintain compliance and avoid disruption.

The future of supply chain collaboration

Manufacturers across sectors must balance the challenge of overcoming immediate disruption with the need to drive long-term competitive advantage by investing in supply chain visibility, tracing, and ongoing management. The most successful manufacturers will maintain close relationships with their suppliers and other supply chain stakeholders and will also establish robust processes that support supplier due diligence, onboarding management, and performance monitoring.

Although supply chain conditions continue to improve, investments in visibility will pay off by enabling companies to proactively correct issues and mitigate weaknesses before a major disruptive event occurs. Additionally, greater supply chain visibility can support enhanced decision-making by helping manufacturers spot emerging trends and adapt accordingly to capture opportunities. Businesses that take these steps today can enhance resilience, drive competitive advantage, improve customer confidence, and preserve their reputation.

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