



# **BUILD RESILIENCE IN YOUR MANUFACTURING SUPPLY CHAIN WITH DATA**



CHAMPION  
GUIDES

EBOOK

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# INTRODUCTION

The COVID-19 pandemic put supply chains in the spotlight. The worldwide restriction of people and businesses drastically affected all areas of supply, production, and distribution. Many organizations discovered the importance of a resilient supply chain in running a successful business that meets customer demand. At the same time, manufacturers who encountered unavailable or delayed materials realized the importance of understanding the economic balance to supply risk. Today, only 4% of CSCOs view their operations as future-ready and 34% expect to be there by 2023, which is an ambitious undertaking.<sup>1</sup>

Today, manufacturing organizations find challenges in every link of the supply chain: making the right planning and sourcing decisions, managing inventory, handling logistics, fulfilling orders promptly, dealing with pricing fluctuations, and hiring and retaining workers. According to Accenture, 81% of supply chain leaders said that the pandemic has been their organization's greatest stress test.<sup>2</sup>

While some disruptions are out of their hands (such as container ships getting stuck in the Suez Canal), manufacturing leaders are looking for ways to gain more visibility and control of their supply chains. A recent McKinsey survey of executives showed that 93% of respondents want to increase flexibility, agility, and resilience in their supply chains.<sup>3</sup>

Data is an important element in creating that resilience. Data can reveal what's happening at every step of the chain, from product development to sales, and the location of issues or bottlenecks. Third-party data can reveal what outside factors may affect production, warehousing, and order fulfillment.

There are three ways data can increase resilience in your supply chain:

1. **Full visibility into the supply chain**
2. **Accurate analysis and forecasting for future planning**
3. **Better collaboration with supply chain partners**

In this ebook, you'll learn more about how each of these data capabilities can help you quickly recover from problems and gain more control over your supply chain.

# FULL VISIBILITY INTO THE SUPPLY CHAIN

## WHAT'S THE DATA CAPABILITY?

The most important data capability for creating supply chain resilience is data transparency. “The COVID-19 pandemic highlighted the need for more transparent supply chains across industries,” according to a recent McKinsey survey. “The few players that had the skills, capabilities, and technology to precisely track SKUs across the supply chain have not only weathered the crisis but have also gained an edge on less-advanced competitors.”

## HOW DOES IT CREATE RESILIENCE?

Real-time data and performance transparency along the entire supply chain enables you to pinpoint risks and errors and develop solutions earlier—sometimes even before they have an impact on customers or finances. Extending visibility beyond tier 1 suppliers and back through the base commodities enables manufacturers to increase their planning horizon for upstream supply chain disruptions. Data transparency also helps you understand the financial implications of actions or events. According to McKinsey, “companies with real-time visibility have been able to react to the [COVID-19 pandemic] disruption much more quickly, make fact-based decisions, and minimize the negative impact on their supply chains—or even gain a competitive advantage.”<sup>4</sup>

## WHAT'S THE OBSTACLE?

The problem is that most manufacturing organizations still operate in silos of data across multiple systems and databases, often by disconnected data systems managed by different teams. These siloes make end-to-end visibility and collaboration across functions difficult, creating stale data that forces manufacturers and suppliers to deal with inventory imbalances and inefficiencies across the supply chain. A centralized system that connects data and enables insights across the entire supply chain can create data transparency and enable faster problem resolution. McKinsey says this approach “typically improves fill rate by 10% and reduces excess inventory by more than 30%.”<sup>5</sup>



# ACCURATE ANALYSIS AND FORECASTING FOR FUTURE PLANNING

## WHAT'S THE DATA CAPABILITY?

Once you have end-to-end data transparency across your supply chain, the next step is to use third-party data and advanced analytics to reach deeper insights and make better decisions. First-party internal data is not sufficient to understand the impact and develop resilience strategies for unforeseen events, such as the COVID-19 pandemic, the Suez Canal blockage, or the changing purchasing patterns of customers. Incorporating external data to augment internal supply chain data enables early warning of supply and demand changes. Concurrently, advanced analytics can provide granular and timely insights that will help them predict demand to optimize inventory levels, production, and order fulfillment.

## WHAT'S THE ANALYTIC CAPABILITY?

Advanced analytics such as machine learning forecasting algorithms use historic demand patterns as well as internal and external data sources to improve accuracy. Companies that produce or service assets in the field—for example, trucks, autos, wind turbines, and even refrigerators—are generating IoT data. This operation data can be applied in models supporting predictive maintenance, energy consumption, or improved performance. Incorporating third-party data such as weather, service records, and other environmental conditions into these models enhances analytics results further. The McKinsey survey also states, “Compared with organizations that reported problems, successful companies were 2.5 times more likely to report they had pre-existing advanced analytics capabilities.” Analytics can also create new business models and strategies. One trend that is being fueled by data analytics is the reporting, monitoring, and improvement of ESG operational data. Evaluating equipment, selection of suppliers, and logistics methods play a key role in not only reporting but taking corrective actions.

## WHAT'S THE OBSTACLE?

The key to making these algorithms helpful is feeding them with data—not only seamless data streams from your internal systems but also data from second and third parties. Second parties include suppliers, distributors, customers, and logistics partners. Third parties include virtually everyone outside of this network, such as financial information on companies, ESG details, logistics, and market statistics. Information such as supplier inventories, asset usage from customers (IoT), and weather patterns can improve the analytics so you can make better supply chain decisions. But incorporating external data for advanced analytics traditionally involved costly, timely, and cumbersome ETL procedures. Manufacturers must choose a better way to have timely access and incorporate external data for deeper insights.

# BETTER COLLABORATION WITH SUPPLY CHAIN PARTNERS

## WHAT'S THE DATA CAPABILITY?

Operational leaders are well aware that the supply chain lifecycle of an item requires both data and operational collaboration. There are constant back-and-forth discussions on product data models between retailers, suppliers, and shipping partners. Manufacturers, customers, and suppliers must collaborate on purchase orders, inventory, movements, and making adjustments on each end. Carriers handle revolving inventory as it is sent out and then returned. The data-sharing opportunities in the supply chain are endless. A Deloitte study found “a single global shipment through the network of cargo ships, ports, airlines, rail lines, and trucking companies can involve as many as 30 businesses and up to 200 unique interactions, from its manufacturer to its final destination.”<sup>6</sup>

## HOW DOES IT CREATE RESILIENCE?

When changes or disruptions occur with supply chain partners, timely data collaboration becomes vital. Manufacturers need as much time as possible to respond to raw material shortages, logistics constraints, or changing consumer trends. Visibility into each other's channels enables the optimization of resource allocation, better forecasting of purchasing trends, and the likelihood of fewer returns, to name just a few benefits.

## WHAT'S THE OBSTACLE?

Traditional methods of data sharing, which involve copying or moving data between multiple entities and systems in a supply chain network, become complex, time-consuming, and risky. Deloitte also mentions that, “Fragmentation is among the biggest hurdles across the global movement of goods today. A lack of horizontal connectivity across providers, cargo owners, and end customers makes coordination difficult, contributing to systemic industry inefficiency.” Companies need a way to exchange and collaborate on data in a simple, timely, and secure manner.



# SUMMARY

The global manufacturing supply chain has become more than a cost center—it's now a revenue driver. According to Accenture, 48% of surveyed executives said that the chief supply chain officer is an enabler of top-line growth.<sup>7</sup>

It's clear that success rides on the supply chain; it's more important than ever to create resilience in your supply chain to continue driving revenue, mitigating risks, and increasing efficiency.

To create resilience, focus on leveraging first-party proprietary data from all internal teams, second-party data from partners, and third-party data from external sources. Together, these layers are your competitive advantage.

**Snowflake can help you leverage data to increase resilience in your manufacturing supply chain.**

[To learn more, visit Snowflake for Manufacturing](#)





# ABOUT SNOWFLAKE

Snowflake enables every organization to mobilize their data with Snowflake's Data Cloud. Customers use the Data Cloud to unite siloed data, discover and securely share data, and execute diverse analytic workloads. Wherever data or users live, Snowflake delivers a single data experience that spans multiple clouds and geographies. Thousands of customers across many industries, including 510 of the 2022 Forbes Global 2000 (G2K) as of July 31, 2022, use Snowflake Data Cloud to power their businesses. Learn more at [snowflake.com](https://snowflake.com).

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## CITATIONS

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