

Increased capabilities in supply chain management and decision intelligence tools, along with complex tech stacks, have put a premium on the ability to integrate, synthesize, and use disparate data for faster transformations and long-living business benefits.

Unifying Data to Accelerate Supply Chain Transformation for Competitive Advantage

March 2025

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Introduction

In the quest to drive a more responsive and efficient supply chain, transformation efforts often bog down due to poor data access or quality. Improving the cost, speed, and efficiency of data acquisition and utilization in the supply chain is not just a priority but the core enabler of competitive performance.

Supply chains remain under pressure to be more resilient to disruption and cost-efficient, with almost all organizations on a longer-term digital transformation journey. However, these transformation efforts frequently languish because of limited access to key data, the need to source data from multiple internal and external sources, or poor integration between key systems.

IDC consistently finds that supply chains have not solved these challenges. In IDC's 2024 *Worldwide Supply Chain Survey*, nearly 2,000 supply chain professionals shared their concerns, insights, and priorities. When IDC asked what has stopped companies from responding better to disruption and opportunity, the top answer is, in some ways, "It's the other guys," meaning they see partner constraints as a top roadblock. However, the rest of the list paints two key themes: integration and digital capabilities in the form of older legacy IT systems and applications that either do not or cannot use available data or poor integration between these systems, resulting in siloed data insights. These impose a significant drag on performance, as Figure 1 summarizes. Data issues are central to this legacy "drag" on supply chain transformation.

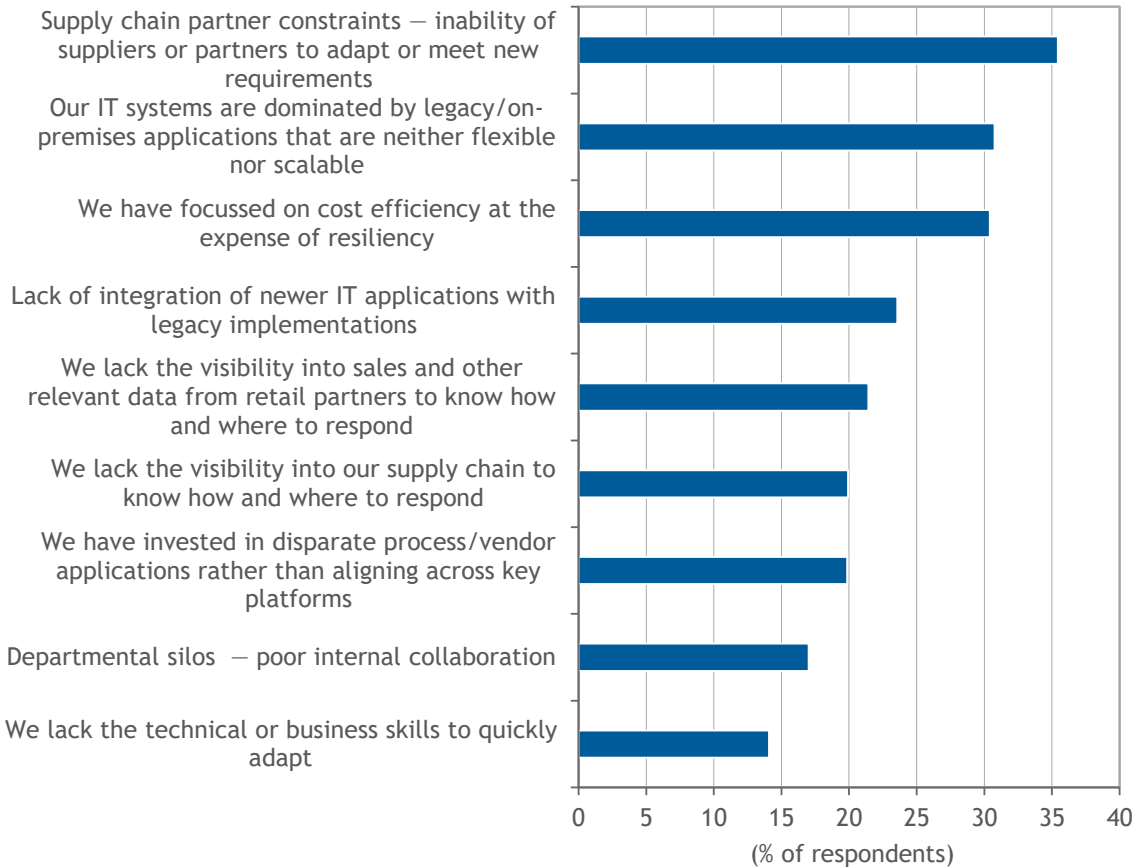
While companies have often viewed data challenges as most pertinent to supply chain planning, the reality is that they are of equal importance to accelerating supply chain fulfillment transformations in a variety of areas, including warehousing, track-and-trace activities/logistics, and global trade/regulatory compliance. For example, some more advanced supply chain organizations have noted to IDC that their broad supply chain orchestration projects must involve the full, end-to-end supply chain. Many organizations seek to elevate supply chain network design, optimize distribution and logistics performance and costs, and identify and manage supply chain risk with early warning signs. To accomplish these goals simultaneously will require going beyond planning to incorporate execution data.

AT A GLANCE

KEY TAKEAWAYS

- » Poor or insufficient data can slow or diminish the impact of supply chain transformation efforts.
- » Conversely, more complete, higher-quality data can accelerate time to value for transformation projects.
- » Data access drives value for supply chain organizations and the ISVs that sell applications to industry.

FIGURE 1: **What Has Prevented Your Supply Chain from Responding More Effectively to Market Changes/Disruptions?**



n = 1,815

Source: IDC's Worldwide Supply Chain Survey, 2024

However, a significant barrier to starting or progressing transformation projects remains. A key concern for many enterprises is the combination of time to value and cost to implementation of change initiatives or new capabilities. IDC finds that one of the primary causes of longer time to value and/or high implementation costs is the challenge of identifying and integrating high-quality data. Thus the market opportunity for a low-code, self-managed data gateway to address data issues appears to be high. At the same time, technology providers seeking to assist supply chains in solving complex, end-to-end supply chain problems are finding that they must do so at increased speed and with cost efficiency. For these technology vendors, disparate data sets have increasingly become an impediment to success.

This has resulted in an emerging trend of data integration tools or data gateways. Vendors of supply chain planning and fulfillment technology as well as providers of supply chain services are looking for partners to help them better manage and reduce the overheads in bringing data together and improving its quality. Some are finding pathways to self-service

data models through low-code solutions. These self-service approaches enable reduced transformation overheads for vendors and supply chain organizations while allowing projects to proceed more quickly, with a faster time to value.

The Importance of Data Cannot Be Overstated

Digital capabilities, increasingly AI enabled, are advancing quickly to meet the needs of the supply chain. Respondents in IDC's most recent global survey view them as the most important technology to advance supply chain goals for the next three years. Yet companies still struggle with data accuracy and data access. End-to-end orchestration applications have begun offering integration in meaningful new ways across functions internally and with partners externally. However, the data remains neglected even as more of it becomes available. The cost, time, effort, and ability to leverage an increasingly sophisticated stack of solutions is a barrier to entry for many. While supply chains know they must leverage orchestration to improve resiliency (and efficiency) and that the path leads through digital transformation, they balk at the cost and time of such transitions.

Supply chain leaders are certainly not blind to this problem, but the way forward is often unclear. A senior CPG supply chain leader recently told IDC: "We are concerned that the quality and reach of our current data will mean that our efforts to implement AI will either fail or be marginalized in the supply chain. What tools are available to us to help alleviate this problem?"

IDC has frequently discussed data's importance and criticality in digital transformations, particularly as AI tools become increasingly commonplace. Whether companies implement decision intelligence, supply chain planning, supply network optimization, supply chain fulfillment, supply chain orchestration, advanced analytics, AI, or generative AI, success largely depends on the quality and completeness of the data.

Historically, the effort to collect, integrate, harmonize, normalize, and sanitize all data, for all functions, plus external data, has been cumbersome, time-consuming, and expensive. Unfortunately, it is unavoidable, as every modern solution requires robust and high-quality data. Thankfully, the rapidly evolving field of low-code solutions and a growing list of data integrators are starting to provide effective tools to better enable data within the supply chain. Low-code solutions have been promising self-service models for some time. A variety of applications have emerged in recent years to support end users building their own solutions, and the "do it yourself" spirit has recently been making inroads in the supply chain data field.

Tech vendors and consultancy firms have seen the value of bringing in a wide range of data sources, stitching them together, and making them available to end-user communities. Some vendors are now leveraging the power of data management technology and best practices in data gathering and coupling those with self-service solutions to enable supply chains to rapidly integrate disparate data and build usable representations of the data to support many activities.

IDC has written extensively about the need for a supply chain "connective tissue" and the ability to use and disseminate data throughout the supply chain to enable true end-to-end orchestration. However, IDC has not always articulated the "how" behind the "what." If supply chain orchestration is the broad organizing principle, there are several obvious components.

Benefits

When IDC asks manufacturers and retailers what will drive differentiation between supply chains that are good versus those that are great, their answer is always the same: "Those supply chains that better utilize available data will be more resilient and outperform those that do not or cannot." It is intuitively obvious that supply chains that can act based on data-driven insights will achieve better results than those that act on seat of the pants–driven insights. At the same time, if we accept the persistence of disparate ERP, manufacturing, and supply chain IT tools, then we must also accept the importance of mechanisms to better tie these systems together and ensure that harmonized and normalized data is freely available and not siloed within disparate applications. Indeed, the challenge for the supply chain will be to better integrate these applications in an environment where the aspiration may be for an integrated platform or suite, but the reality is far different.

IDC has also talked extensively about the importance of speed in the supply chain and the ability to quickly respond to internal and external disruptions. If, as is often the case, disruptions are unpredictable, then supply chains that can react faster will outperform those that cannot. Again, this leads back to the point referenced previously in Figure 1 that older systems impose legacy drag on the supply chain and slow response — precisely what companies do not want. Supply chain organizations that can better access, consolidate, and utilize data will accelerate time to value and drive competitive advantage because they will be more agile and able to:

- » **Accelerate supply chain transformation by improving the speed of data access and harmonization.** If new capabilities are necessary to drive better supply chain performance and optimize operational efficiency, delaying these projects limits or postpones these benefits. Having a faster, more responsive supply chain is important, but making bad decisions more quickly is not helpful. The right decision depends on the right data.
- » **Improve the ability to respond to disruptions.** Disparate data limits a supply chain's ability to react quickly to a broad range of disruptions, including natural disasters, political instability, labor shortages, cost inflation, or cyberattacks. Delayed decisions have significant costs, either because companies are too slow to identify limited mitigation opportunities or through lapses in production output or delivery performance. Either will impact revenue, delivery performance, and customer satisfaction.
- » **Improve the success of AI investments.** In a market environment where AI tools are poised to dramatically improve the supply chain's performance, poor or non-harmonized data won't just be "garbage in; garbage out" — it will be "faster garbage in, faster garbage out." In other words, even the best AI tools will not be useful if the underlying data is insufficient.

Flexible tools that allow supply chains to ingest high-quality data quickly and effectively will be more resilient, more efficient, and better able to overcome challenges and seize opportunities. The potential customer base for such tools is not just the manufacturer or retailer but also application vendors that sell more traditional supply chain software.

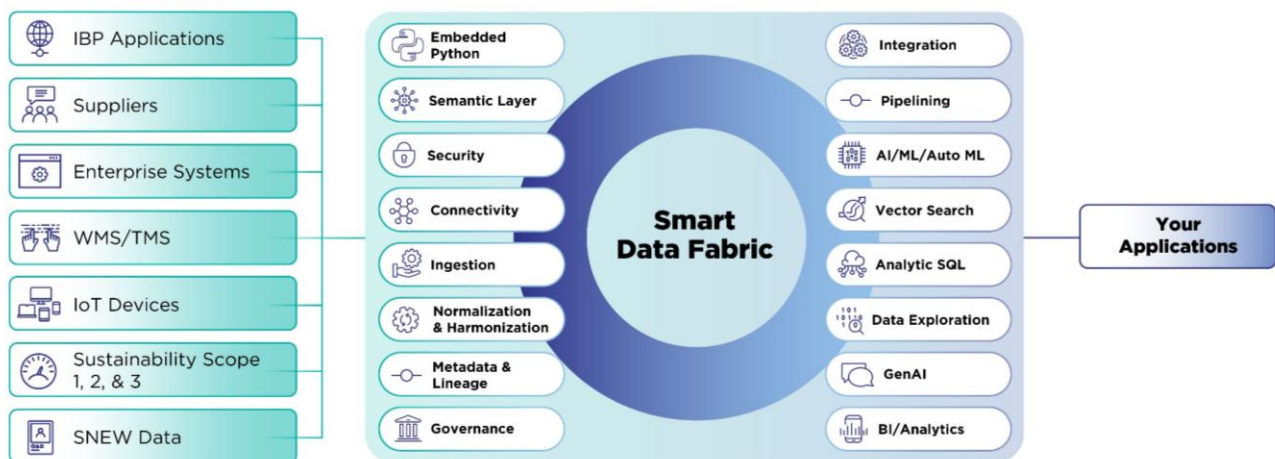
Besides the value of improving current transformations, high-quality, low-code, integrated data also offers long-lasting value post-transformation. Accurate and consistent integrated data is the lifeblood of end-to-end supply chain management. As supply chains scale, enterprises invariably recognize the priority of supply chain resiliency. All businesses

aim to be earlier, smarter, faster, and more efficient than competitors. Recognizing market opportunities and challenges and responding to them with intelligence is critical to success.

Considering InterSystems

InterSystems Data Fabric Studio with supply chain module is a low-code, self-service, fully managed solution designed to provide unified data access for supply chain practitioners. It aims to deliver timely, accurate, consistent data to empower better decisions and improve risk and performance management, sustainability reporting, and operational efficiency. The solution also serves as a front-end data gateway for a range of supply chain software applications (see Figure 2).

FIGURE 2: *InterSystems Data Fabric Studio*



Source: InterSystems, 2025

InterSystems Data Fabric Studio does not require provisioning, integrating, and maintaining multiple data management technologies, which increase costs and complexity. Instead, it leverages a modern, smart data fabric architecture to connect to live data from the source while simultaneously integrating and transforming it with business rules and validation checks to deliver consistent and trusted data in a single solution. InterSystems Data Fabric Studio makes it faster and simpler to integrate, harmonize, and normalize disparate data and deliver it to the right users and applications at the right time and in the proper format. It is designed to provide quick and easy access to live and historical data for supply chain practitioners, data analysts, and supply chain applications.

InterSystems Data Fabric Studio supports a modern supply chain data strategy to accelerate data unification through a low-code managed service. Key benefits are:

- » **Speed up decision intelligence:** The solution harmonizes and normalizes disparate data from any source and delivers it to the right data consumer at the right time, in a secure and controlled environment.

- » **Reduce implementation time frames:** As a front-end data gateway for supply chain management applications, the solution enables companies to reduce implementation times, lowering operational costs and accelerating time to value.
- » **Increase operational efficiency:** Organizations can achieve unified supply chain data and automate data processing activities in a secure and controlled environment, minimizing reliance on development resources and eliminating operational risk.
- » **Enable an end-to-end solution:** The product is a complete solution that provides end-to-end data integration, harmonization, automation, analytics, and the ability to build a customer-extensible canonical data model.
- » **Accelerate digital transformation:** The solution offers a self-service approach that reduces digital transformation overhead for supply chain application vendors and end users, enabling faster time to value.

Challenges

While self-service, low-code data solutions present great promise, there are a few key considerations for tech solution buyers:

- » For tech solution buyers, evaluate whether existing supply chain applications meet the organization's data needs or whether it needs to bring in a broader set of data across operations and the enterprise. How important is it for your organization to differentiate itself from mainstream packaged applications, and what level of value does this bring to the supply chain? Where can the organization best spend its strategic budget? Is it prepared to leverage the data, or are there foundational steps that still need to be taken on the journey to maturity?
- » For software vendors, evaluate the current cost and speed of onboarding data to their applications. Can the vendor realize customer benefits quickly and at competitive costs, or can partners help address data integration?
- » As for providers of low-code data solutions, demonstrate to other tech providers and businesses that they can streamline implementations and ongoing operations by working with a trusted partner, rather than solving them in-house.

Conclusion

Supply chains need to move at speed to maintain and/or grow competitive advantage and to be resilient and efficient in the face of disruption and volatility. One of the most critical steps toward resiliency and efficiency is the ability to leverage more data, faster, to drive insights and decision-making.

By finding tech partners that enable self-service data gateways and reducing the need for internal data teams and the implied hiring and expenses, companies can accelerate their digital transformation, improve their access to data, and continue their path to supply chain resiliency. Data is no longer just the foundation for advanced supply chains, it is becoming an accelerator for digital transformations to realize supply chain resiliency. Self-service data models are an emerging trend and are being used to reduce both the cost and duration of supply chain transformations.

About the Analysts



Simon Ellis, Group Vice President, Manufacturing Insights and Worldwide Supply Chain Strategies

As group vice president, Simon Ellis currently leads the U.S. Manufacturing Insights, U.S. Energy Insights, and Worldwide Supply Chain Strategies practices at IDC, specializing in advising clients on manufacturing/energy strategies, supply chain digital transformation, sustainability, cloud migration, network, and ecosystem design. Mr. Ellis works with end-user companies, supply chain organizations, and technology providers to develop best practices and strategies leveraging IDC quantitative and qualitative data sets. Within the Supply Chain practices, Mr. Ellis contributes extensively to the Supply Chain Planning and Multi-Enterprise Networks Strategies practice while overseeing the Supply Chain Execution practices. These Supply Chain practices specialize in advising clients on supply chain network design, S&OP, global sourcing (profitable proximity and low-cost sourcing), warehousing and inventory management, transportation, logistics, and more.



Eric Thompson, Research Director, Worldwide Supply Chain Planning

As a research director, Eric Thompson is a member of IDC's Worldwide Supply Chain Strategies Program, responsible for providing research, analysis, and guidance on key business and IT issues pertaining to manufacturing, retail, and healthcare supply chains. He currently leads the Worldwide Supply Chain Strategies: Planning and Multi-Enterprise Networks practice, providing fact-based research, analysis, and insight on best practices and the use of information technology to assist clients in improving their capabilities in these critical supply chain areas.

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More About InterSystems

InterSystems, a creative data technology provider, delivers a unified foundation for next-generation applications for healthcare, finance, manufacturing, and supply chain customers in more than 80 countries. Our data platforms solve interoperability, speed, and scalability problems for large organizations around the globe to unlock the power of data and allow people to perceive data in imaginative ways. Established in 1978, InterSystems is committed to excellence through its 24x7 support for customers and partners around the world. Privately held and headquartered in Boston, Massachusetts, InterSystems has 39 offices in 28 countries worldwide.

The InterSystems Difference for Supply Chain

InterSystems provides an AI-enabled supply chain decision intelligence platform that predicts disruptions before they occur, and optimally handles them when they do, so you will be ready to manage the unexpected with confidence. It includes a real-time data gateway that unifies disparate data sources, and a set of next-generation solutions that complement your existing technology infrastructure to accelerate decision making and time to value, driving efficiencies throughout your entire supply chain.

For more information, please visit [InterSystems.com/SupplyChain](https://www.intersystems.com/SupplyChain).



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