ANALYST BRIEF
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**Supply chain application purchase decisions are based not only on meeting current internal business needs and external customers' expectations but also on how the supply chain must evolve to meet future needs and expectations.**

# AI-Powered Business Suite for Supply Chain

*May 2025*

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## Introduction

The current business environment is a challenge for most companies, with various disruptions threatening to affect both revenue and profitability. Although the global COVID-19 pandemic has mostly receded into history, macroeconomics (inflationary pressures, fears for a global recession, tariffs, and energy cost) remain a major concern. In IDC's 2025 *Global Supply Chain Survey,* over 75% of companies identified macroeconomic issues, either economic uncertainty generally or tariffs specifically, as their top concern over the next five years. Operations leaders (chief operating officers [COOs], chief supply chain officers [CSCOs]) rated them even higher at 82%.

Yet it is not solely external disruptions that affect company operations; there are internal challenges as well. As noted in Figure 1, companies cite IT systems dominated by legacy/on-premises applications that are neither flexible nor scalable as a major impact on responsiveness. In addition, companies increasingly have hybrid IT systems with a mix across implementation types (cloud, on premises) and disparate application vendors that add latency and depress responsiveness.

## AT A GLANCE

### KEY STATS

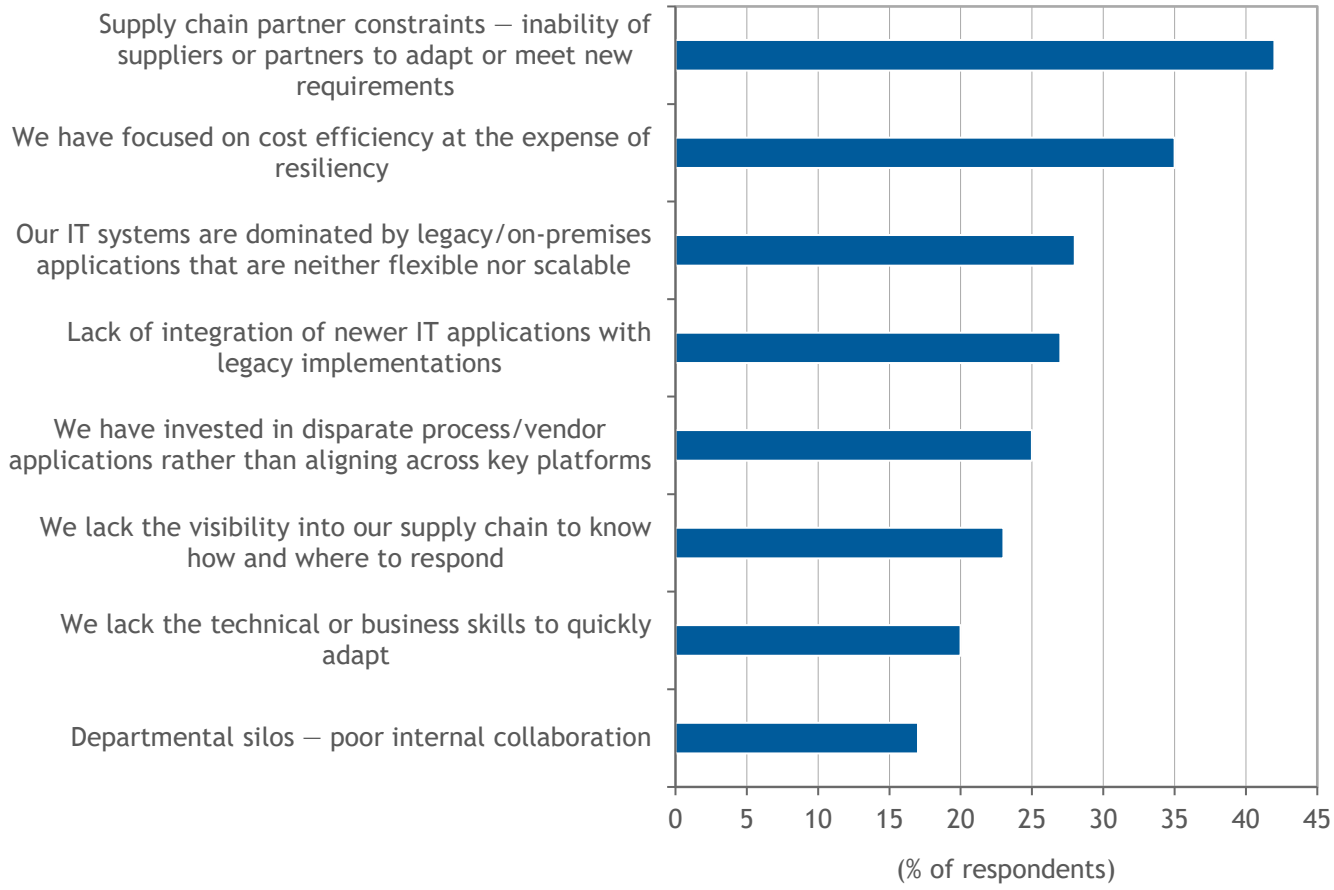
- 82% of operations leaders cite macroeconomic conditions as their top concern over the next five years.
- 60% of supply chains say the ability to respond to disruptions is impeded by legacy "drag."
- 35% of companies saw over 10% improvement in innovation time to market, and 37% saw similar magnitudes of improvement in overall people productivity from AI-powered applications.

### WHAT'S IMPORTANT

In an environment where decisions need to be made in hours, or even minutes, operating with older, poorly integrated tools increasingly drives uncompetitive performance.

FIGURE 1: ***What Limits Effective Supply Chain Response***

**Q** ***What has prevented your supply chain from responding more effectively to market changes/disruptions?***




*n = 1,848*

*Source: IDC's Supply Chain Survey, April 2025*

Disruptions rarely affect one "domain" in the supply chain, whether planning, warehousing, logistics, or even direct procurement, so tools that focus on the domains will not optimize response. The ability to combine the power of artificial intelligence (AI), data, and applications on a single technology platform connects supply chain processes end to end and increasingly differentiates supply chain performance. It is not hard to imagine a future where supply chain management is defined within the intersection of applications, data, and AI, each leveraging the other two and driving the business forward. Specifically, organizations tell IDC that AI is the most important technology for their supply chain, both in the short term and longer term. Traditional AI/machine learning remains important for demand planning and algorithmically driven processes, generative AI (GenAI) is increasingly being used to manage supply chain skills training and regulatory compliance, and agentic AI is emerging as a mechanism to drive productivity. In IDC's 2025 *Supply Chain Survey,* over 37%

of companies have seen productivity improvements in excess of 10% by applying AI to business process and worker capabilities.

IDC fully expects that supply chain applications will progress from being agent led to agents replacing entire functional areas to a stage where we ultimately see agents starting to replace entire applications. Think of each agent as a specialized AI service constantly communicating and learning in real time. These agents work as a coordinated network, each taking cues from the others. A sudden shift in demand might trigger the supply chain planning agent to reallocate factory resources, the finance agent to update projections, and the workforce agent to recommend additional staffing. All of this happens simultaneously, connected by the unified data and solid applications previously discussed.

The business impact is felt widely, across multiple functions — whether it is the chief financial officer looking for ways to balance suitable growth with business profitability, the chief procurement officer looking to improve supplier performance and manage procurement risk, or the chief operating officer/chief supply chain officer looking to identify disruptions and respond quickly to minimize impact or to seize on new business opportunities. No function is unaffected by operational disruptions, and all will benefit from a collective set of tools that both align and prioritize speed and agility.

Companies have told IDC for some years now that their longer-term strategy is to move to an integrated suite of IT systems to better manage both external and internal challenges. While short-term priorities would often get in the way, and frankly the vendor tools were not always accommodating, that longer-term goal is now more a reality than an aspiration.

## *Supply Chain Priorities*

Supply chain application buying behaviors and needs have been gradually evolving for some time. Successive global/regional disruptions continue to reveal persistent "cracks" in the supply chain and accelerate the velocity at which change is occurring. Application purchase decisions are based not only on how the supply chain must meet both current internal business needs and external customers' expectations but also on how the supply chain must evolve to meet future needs and expectations. The biggest barrier that COOs/CSCOs and their teams face is having the right data (depth and breadth) and insights to fully understand what is happening in the supply chain in real time, what the correct reactive/proactive steps are, and how best to implement them quickly to ensure that supply chain operational capabilities remain strong. Recently, a high-tech supply chain leader noted to IDC that "Data and analytics challenges are preventing us from making timely and fully informed supply chain decisions. Too often, we must rely on instinct and gut feel to make highly impactful decisions. Sometimes, we get it right; sometimes, we don't. We need the right data and intelligent insights at our fingertips."

Solving these supply chain data challenges is a high-priority initiative and investment for CSCOs. Specifically:

- Supply chain business processes and data silos that inhibit or prevent broad learnings and data usage
- Ability for supply chain operational staff to easily utilize the insights from data analytics in the timescales required
- Integrated solutions that can be easily and quickly implemented and operated by nontechnical resources that reside in the supply chain or at least outside of IT (At the same time, some users may require options for advanced functionality.)

- Products and solutions that dramatically improve the supply chain's current ability to extract intelligent insights from operational data
- Best-in-class data security
- Costs/pricing that align with the value that is created by the solution that is purchased

Beyond these strategic objectives, the ability for more tactical or operational roles to do their jobs more efficiently and effectively is critical. Operational supply chain workers will have tactical or operational roles in specific areas of the supply chain and be very focused on the challenges and opportunities specific to their role. A warehouse manager, for example, will be most interested in tools and applications that can provide them with better analytics about inventory and product flow within the warehouse. Conversely, a transportation manager will care about how tools and analytics can help better plan and deploy trucks. This is all about operational roles doing their jobs well and having the tools they need to be both efficient and effective. While they may conceptually care about overall supply chain strategy, the principal focus is on the day-to-day challenges of their jobs and how they can better utilize data and analytics in service of that goal.

## *Leveraging an AI-Powered Business Suite for Supply Chain Efficiency and Resiliency*

IDC defines a suite as a set of interconnected and integrated software applications that work as one across the full breadth of an organization. A suite allows companies to align and integrate data, leverage specific capabilities/applications, and optimize the power of artificial intelligence. The extent to which AI conveys competitive advantage will depend heavily on the degree to which process intelligence informs applications and the scope/scale of available data. In detail:

- **Comprehensive data:** As companies look to modernize their operations, the ability to align and integrate data from the perspective of both capacity and quality will be important. Speed to decision is critical, of course, but very often, capability transformation is slowed by functional/process silos and disconnected systems and data.
- **Applications alignment and integration:** It has been the experience of IDC that application vendors can struggle to articulate the way in which AI will convey competitive advantage; yet the answer seems clear that best-in-class capabilities will be the foundation for differentiated performance. Applications that are aligned and integrated into a single suite with market-leading performance will allow companies to elevate their business performance by making decisions more quickly and with data-driven insights.
- **Powered with AI:** Over the next three to four years, generative AI and agentic AI advancements will help push applications to a state where the majority of offerings available will be significantly enhanced and augmented by agent-driven capabilities. This transition will be much more easily accomplished with an integrated suite. Indeed, in IDC's recent *AI Survey,* almost half of respondents viewed the inclusion of GenAI capabilities as a significant driver of retention of their current supply chain applications.

If you cannot predict a disruption, you had better be able to respond to it quickly. In other words, anticipate where you can, and be quick to respond where you cannot. Those supply chains that can see earlier and react more quickly will outperform those that cannot. A high-tech supply chain planning manager recently told IDC, "Although visibility and

collaboration are key competencies for our supply chain, we continue to look for technology tools to continue to allow us to make planning decisions more quickly." The supply chain benefits of better and more integrated supply chain tools are significant. For AI specifically, 35% of companies saw over 10% improvement in innovation time to market and 37% saw similar magnitudes of improvement in overall people productivity.

## Conclusion

As disruption continues to plague the supply chain, operating with older, poorly integrated tools increasingly drives uncompetitive performance. In an environment where decisions need to be made in hours, or even minutes, IT system drag is simply no longer tolerable.

Modern applications, leveraging data and rapidly evolving AI tools within a single platform, are increasingly best practice. IDC would recommend that companies across all industries, and of all sizes and scale, explore these platforms to see what they can do for their supply chain and the business. As IDC has noted for years, if the supply chain doesn't work, the business doesn't work.

# About the Analysts

### ***Simon Ellis,*** *Group Vice President, Worldwide Supply Chain*

As group vice president, Simon Ellis currently leads the U.S. Manufacturing Insights, U.S. Energy Insights, and Global 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.

### ***Mickey North Rizza,*** *Group Vice President, Enterprise Software*

Mickey North Rizza is group vice president for IDC's Enterprise Software. She leads the Enterprise Applications and Strategies research service along with a team of analysts responsible for IDC's coverage of the next generation of enterprise applications including digital commerce, employee experience, enterprise asset management and smart facilities, ERP, financial applications, HCM and payroll applications, procurement, professional services automation and related project-based solutions software, supply chain automation, and talent acquisition and strategies.

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