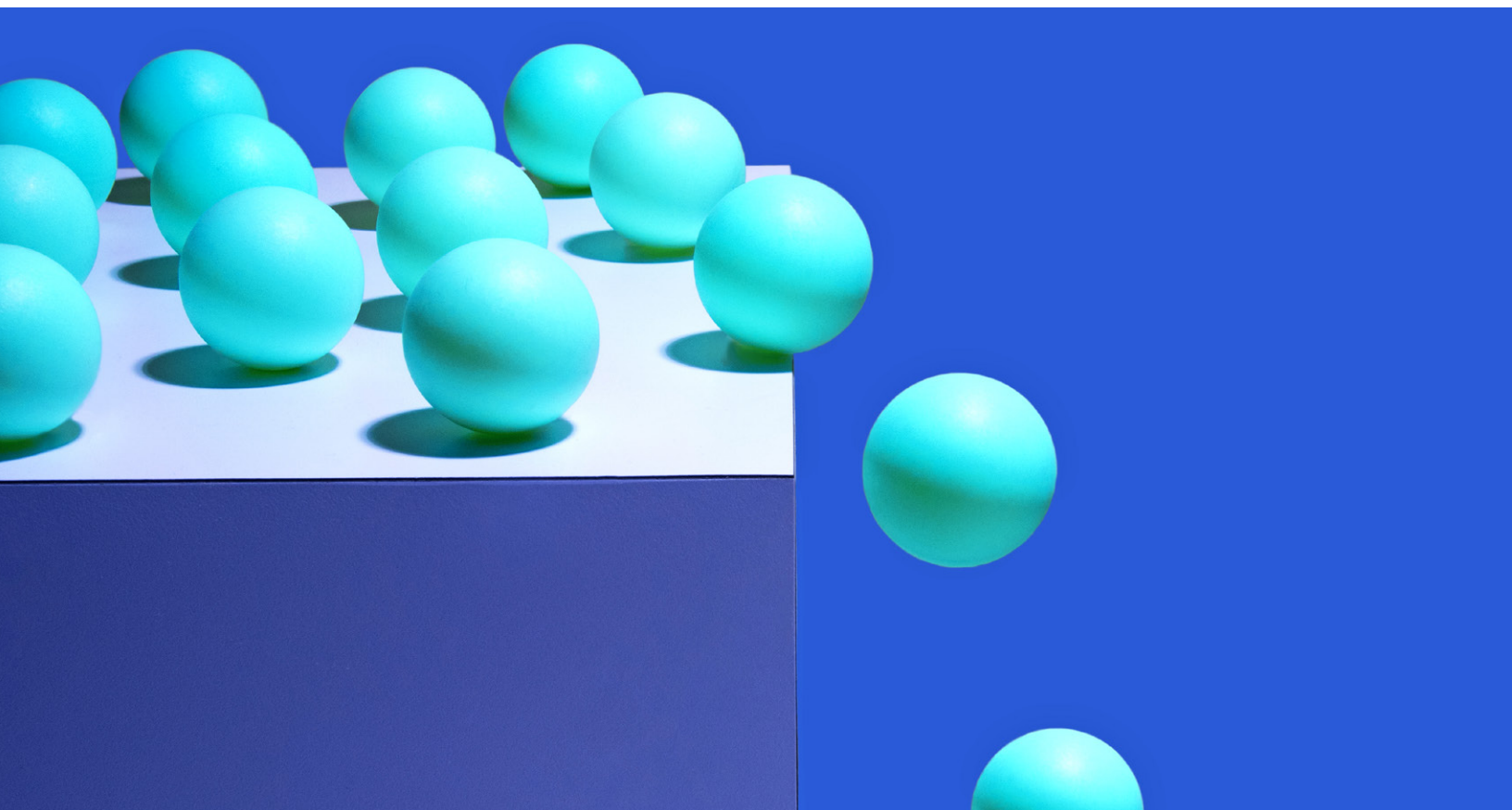McKinsey
& Company

Operations Practice

Supply chains: Still vulnerable

When it comes to supply chain resilience, have companies taken their eyes off the ball?

by Knut Alicke and Tacy Foster
with Vera Trautwein

Supply chain disruptions keep on coming. From missile attacks on commercial shipping in the Red Sea to automotive production delays following floods in Europe, global supply chains continue to experience instability. Meanwhile, trade tensions are choking the movement of semiconductor products, manufacturing equipment, and critical materials.

The latest McKinsey Global Supply Chain Leader Survey suggests that problems like these remain the norm, not the exception, with nine in ten respondents saying they have encountered supply chain challenges in 2024 (see sidebar, "About the research"). More worryingly, there are signs that, when it comes to supply chain resilience, companies are taking their foot off the gas. The survey results identify considerable gaps in the ability of organizations to identify and mitigate supply chain risks, with few new initiatives aimed at addressing those weaknesses.

The biggest gap could be the one at the top of the organization. Few surveyed supply chain executives believe that their boards have an in-depth understanding of supply chain risk. Only a quarter have formal processes in place to discuss supply chain issues at board level. All this could leave companies dangerously exposed to future disruptions.

A brief history of turbulent times

Since 2020, McKinsey has conducted annual surveys of supply chain leaders to ask about the performance of their supply chains, the impact of volatility and disruption on their supply chains, and their efforts to manage those challenges. The surveys occurred during a period of unprecedented supply chain turbulence that included the COVID-19 pandemic and its aftermath. This environment pushed supply chains to the top of the agenda, as companies took action to keep their businesses running in difficult conditions.

Those actions were initially rapid, tactical changes, with a focus on larger inventories and buffer stocks. But companies also took more strategic actions, accelerating projects to improve supply chain visibility, revamping their planning capabilities, and pursuing regionalization and dual-sourcing strategies to improve structural resilience.

Progress made

Our latest research shows that companies are now reaping the benefits of the strategic resilience projects they have implemented over the past three years. Supply chain footprints are evolving, with 73 percent of survey respondents reporting progress on dual-sourcing strategies. Additionally, 60 percent of respondents are acting to regionalize their supply chains.

Survey respondents also report good progress in their efforts to improve supply chain intelligence, planning, and risk management. The share of respondents with comprehensive visibility of their tier-one suppliers reached 60 percent, making this the second year in a row that this measure has increased by ten percentage points. More than three-quarters of companies believe they have sufficient internal capabilities to manage supply chain risk, along with effective decision-making structures.

Two-thirds of survey respondents say that they are making progress in the implementation of advanced-planning and -scheduling (APS) systems. These systems make up a key component of modern supply chain digitization. They enable companies to plan more accurately, respond to disruptions more rapidly, and improve their resilience by evaluating multiple supply chain scenarios.

Furthermore, companies are beginning to unwind the short-term measures that they put in place during and immediately after the COVID-19 pandemic. The number of survey respondents relying on bigger inventory buffers to manage disruptions has fallen sharply to 34 percent,

About the research

The fifth annual McKinsey Global Supply Chain Leader Survey was conducted among senior supply executives from a range of industries and geographies (exhibit). A total of 88 leaders completed the in-depth survey, which asked them about the status and evolution of their supply networks, planning, digitization, and risk management processes. Responses were collected between April 26 and June 10, 2024.

Exhibit

We surveyed 88 global supply chain leaders across seven industries about their networks, planning, digitization, and risk management.

Survey respondents, %

%	Industry
26	Consumer and retail (packaged goods, food and beverage)
23	Life sciences (medtech, pharma)
16	Automotive, aerospace and defense
11	Advanced electronics, high tech
10	Construction, engineering and infrastructure
8	Chemicals, advanced materials
6	Commodities (oil, gas, metals and mining)

Source: McKinsey Global Supply Chain Leader Survey, April 26–June 10, 2024

McKinsey & Company

from 59 percent. Some of that drop was forced upon them, however: 6 percent of respondents report that they wanted to increase safety stocks but were prevented from doing so by cash or capacity constraints.
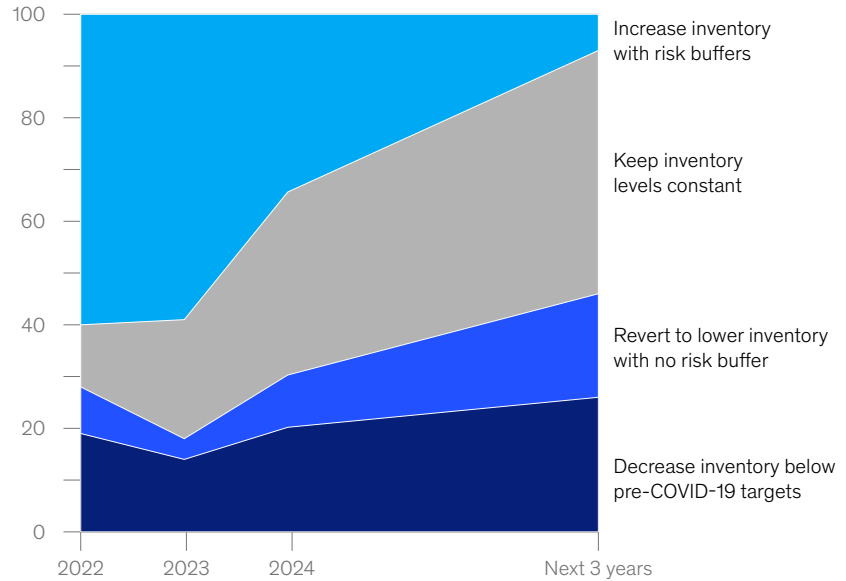
Perspectives on future inventory strategy are evenly split among survey respondents (Exhibit 1). A share of 47 percent say that they plan to keep their overall inventories at current levels, with some planning changes in assortment or location across their networks. Meanwhile, 46 percent of respondents expect to reduce or eliminate risk buffers, with inventories falling back to or below prepandemic levels. Only 7 percent are planning further increases in network inventory.

Exhibit 1

Inventory buffers are no longer the preferred way to mitigate supply chain risks.

Inventory management approach over previous year and planned for next 3 years,[1] % of respondents

Increase inventory with risk buffers

Keep inventory levels constant

Revert to lower inventory with no risk buffer

Decrease inventory below pre-COVID-19 targets

[1]Question: How have your inventory levels evolved across your global network (raw materials to finished goods) in the last year?
Source: McKinsey Global Supply Chain Leader Survey, April 26–June 10, 2024 (n = 88)

McKinsey & Company

Progress slowing

There are also plenty of signs that the revolution in supply chain resilience is losing momentum. The percentage of respondents pursuing dual-sourcing, regionalization, or nearshoring strategies has remained flat over the past two years, for example (Exhibit 2). Overall investment in supply chain digitization is leveling off after rapid growth between 2020 and 2023.

Exhibit 2

Companies are implementing fewer measures to improve supply chain resilience, and recent growth in digital spend is slowing.

Footprint resilience measures in implementation over previous year,[1] % of respondents

	+7% per annum	+2% per annum

Investments in supply chain digitization[2]

Dual sourcing

Inventory buffers

Regionalization

Nearshoring
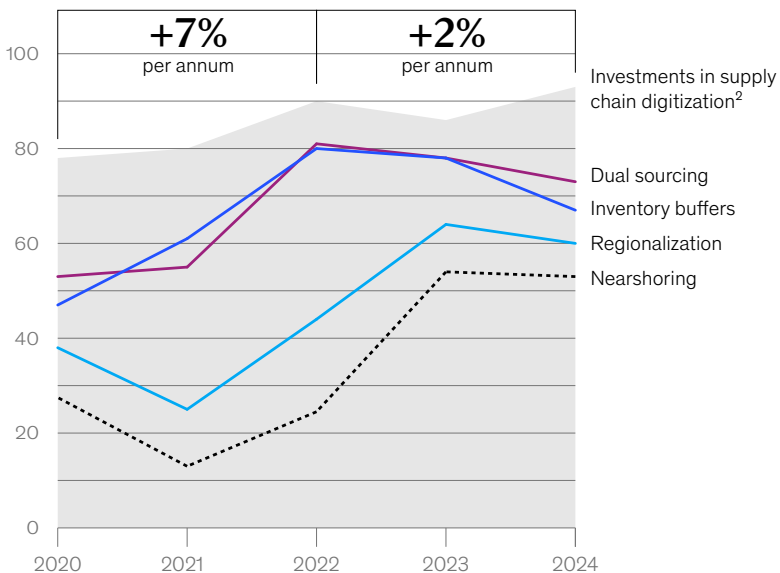
[1]Question: Which of the following footprint resilience options (if any) have you already started or completed implementing in the last year?
[2]Question: To what extent have you increased investment in digital supply chain technologies in the last year?
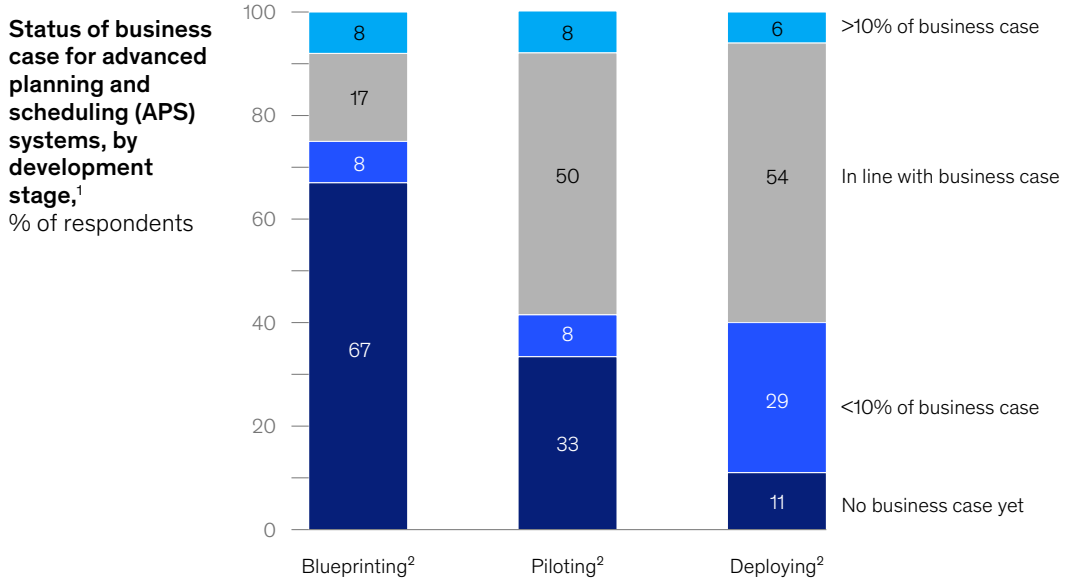Source: McKinsey Global Supply Chain Leader Survey, April 26–June 10, 2024 (n = 88)

McKinsey & Company

While two-thirds of surveyed companies are investing in APS systems (up 14 percentage points from the previous year's numbers), only 10 percent have completed their deployments. And companies are unclear about the value that these systems deliver. One-third of respondents admit that they don't have quantified business cases for APS systems, and 15 percent say that their implementations haven't met business objectives (Exhibit 3).

Exhibit 3

Companies are slow to create the business case for advanced planning and scheduling systems.

Status of business case for advanced planning and scheduling (APS) systems, by development stage,[1]
% of respondents

Note: Figures may not sum to 100%, because of rounding.
[1]What is the value captured from APS deployment?
[2]What is the current status of your APS deployment?
Source: McKinsey Global Supply Chain Leader Survey, April 26–June 10, 2024 (n = 88)

McKinsey & Company

Considerable gaps remaining

This slowdown in resilience-boosting activity for supply chains would be understandable if organizations had completed the work that they set out to do. But survey respondents are all too aware of limitations in their supply-chain-management systems. Companies continue to improve their understanding of direct suppliers, for example. The share of respondents who say that they have good visibility into deeper levels of the supply chain fell by seven percentage points, the second consecutive annual decline in this measure (Exhibit 4).

Exhibit 4

Tier-one transparency continues to increase, but at the expense of deeper-tier analysis.

Transparency of supply chain by tier reached,[1]
% of respondents
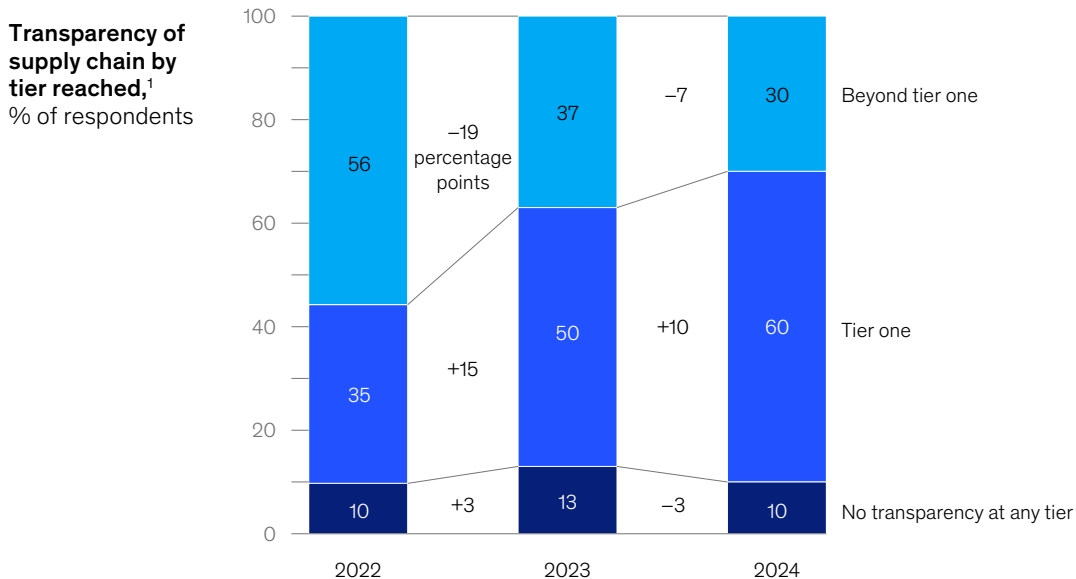
Note: Figures may not sum to 100%, because of rounding.
[1]Question: How would you describe your multitier transparency today as a consequence of the supply chain disruptions of the past year(s)?
Source: McKinsey Global Supply Chain Leader Survey, April 26–June 10, 2024 (n = 88)

McKinsey & Company

This should be a concern because major disruptions often start deep in the supply chain. And once companies experience a supply chain disruption, it takes them an average of two weeks to plan and execute a response—much longer than the typical weekly cycle for sales and operations execution.

Meanwhile, pressure for better transparency in the deep-tier supply chain is rising. New supply chain laws increasingly require companies to ensure that all inputs are produced in compliance with environmental and human rights standards. The European Union's Corporate Sustainability Due Diligence Directive is already in force for some companies, for example. Only 9 percent of survey respondents say that their supply chains are currently compliant with the new rules, with 30 percent admitting that they are behind or significantly behind in their compliance efforts.

A shortage of talent, particularly digital talent, continues to hamper supply chain transformation efforts. Of those surveyed, 90 percent say that their companies lack sufficient talent to meet their digitization goals. That number hasn't changed in any meaningful way since the first survey in 2020.

Survey respondents also remain concerned that their senior management teams have a limited knowledge of supply chain issues. The share reporting that their boards have a deep understanding of supply chain risks increased this year but remains low at 30 percent. Perhaps more concerning is a steep drop in the frequency that supply chain risks are discussed at a senior-management level. In the 2023 survey, almost one-half of respondents said that their organizations had a regular reporting cadence for supply chain risk. This year, that share dropped to one-quarter, with most companies reverting to ad hoc reporting in response to disruptions or the emergence of major new risks.

The way forward

To stay ahead of future supply chain challenges, companies must continue their ongoing efforts to build resilience and take new actions to address blind spots in their systems, processes, and capabilities. The data from our survey provide some insights into how this can be achieved.

Don't let imperfect data be the enemy of good digitization

Data issues make up a major bottleneck for many ongoing digitization projects. While there is a correlation between data quality and the value achieved from digital efforts with supply chains, no survey respondents with deployed APS systems think that their data are perfect, yet many are satisfied with the performance of their new systems.

This suggests that companies might benefit from approaching data quality with the 80/20 rule by pressing on with the implementation of digital tools once most data are available, with processes in place to fix the gaps later.

Take on the talent-building challenge

The past three years have seen a dramatic shift in how companies approach digital-talent acquisition (Exhibit 5). After slightly favoring a homegrown approach in 2021, most respondents had turned to the market to fill talent gaps by 2023. This year, the pendulum has been swinging back again. Faced with an acute shortage of digital talent across all industries, company leaders are now revamping their internal training and talent development

Exhibit 5

Supply chain leaders are pivoting back toward in-house training programs.

Talent develop-ment actions taken over previous year,[1]
% of respondents
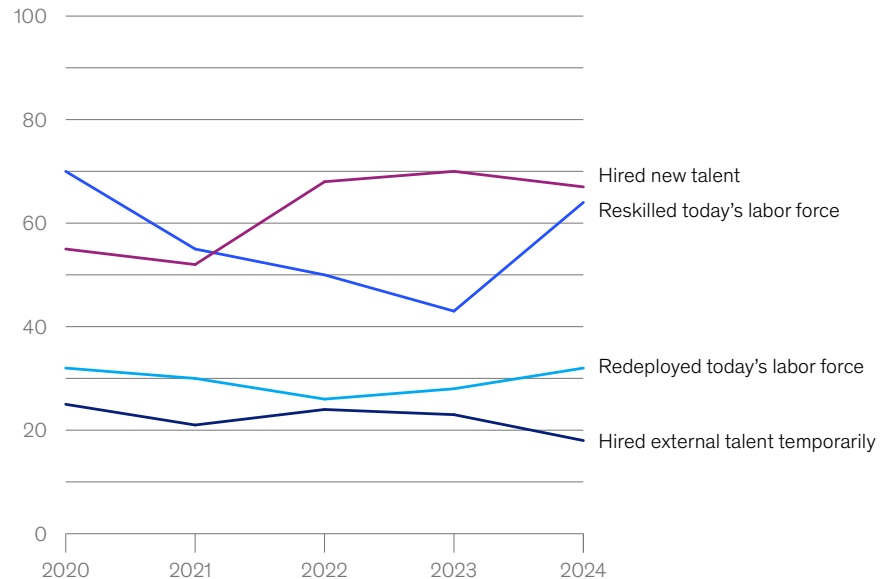
[1]Question: Which actions have you taken to get the right digital talent for your supply chain organization in the last year?
Source: McKinsey Global Supply Chain Leader Survey, April 26–June 10, 2024 (n = 88)

McKinsey & Company

capabilities. In the long run, this may be the most effective way to secure a sustainable supply of skills.

Accelerate the adoption of AI

The rapid development of advanced digital tools is opening new opportunities in supply chain planning, operations, and risk management (Exhibit 6). These tools are already shaping organizations' digitization plans, as evidenced by a substantial increase in interest in demand-planning tools. In the coming years, we expect these technologies to provide additional functionality in other areas.

A major opportunity is in supply planning: AI systems can automate the analysis of multiple structured and unstructured data sources from multiple supplier tiers, logistics providers, shop floor data systems, and in-house demand-forecasting systems. Another is in early-warning systems for potential supply chain risks that evaluate data from sources as diverse as supplier financial information, long-range weather forecasts, and social media traffic.
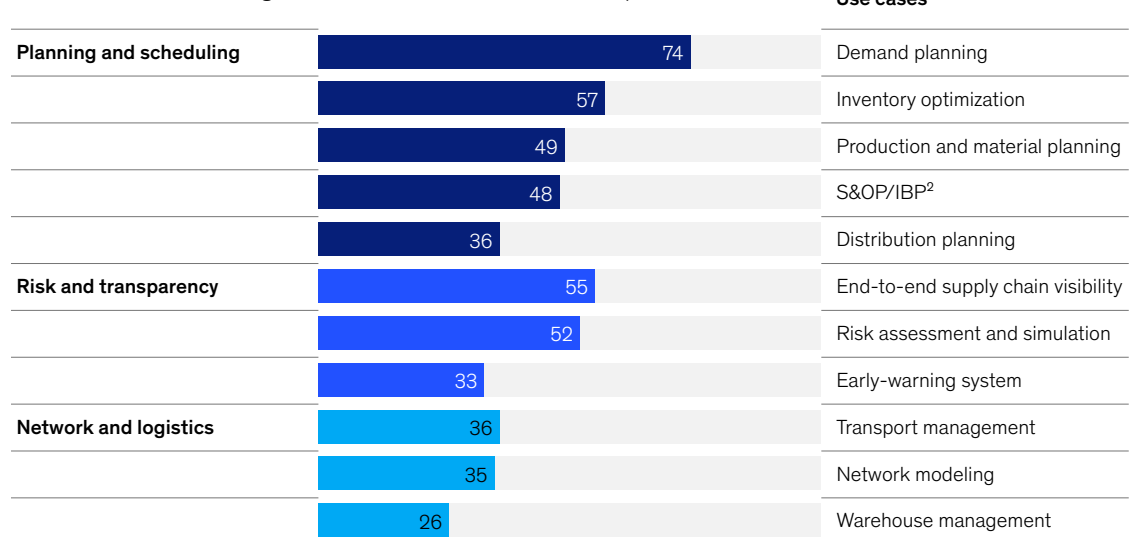
Close the boardroom gap

Supply chain leaders failed to grab a seat at the top table when supply disruption was at the forefront of senior-management teams' agenda. Now they must find ways to educate and inform senior management about supply chain issues and challenges. Best practice here is still rare, but some survey respondents are taking proactive steps, including giving regular board updates on major risks, risk trends, and potentially disruptive events;

Exhibit 6

Interest is rising in AI-based supply chain tools, especially for demand planning.

Interest in advanced digital and AI-based tools,[1] % of respondents

Category	Value	Use cases
Planning and scheduling	74	Demand planning
	57	Inventory optimization
	49	Production and material planning
	48	S&OP/IBP[2]
	36	Distribution planning
Risk and transparency	55	End-to-end supply chain visibility
	52	Risk assessment and simulation
	33	Early-warning system
Network and logistics	36	Transport management
	35	Network modeling
	26	Warehouse management

[1]Question: In which supply chain areas have you or are you planning to implement advanced analytics beyond your enterprise resource planning and advanced planning and scheduling systems (eg, optimization algorithms, machine/reinforcement learning, deep learning, predictive modeling, AI, gen AI, robotic process automation)?
[2]Sales and operations planning/integrated business planning.
Source: McKinsey Global Supply Chain Leader Survey, April 26–June 10, 2024 (n = 88)

McKinsey & Company

integrating risk analysis more explicitly into sale- and operation-planning processes; and publishing regular risk reports and quantitative risk indicators.

———————

While companies have made strides in strengthening their supply chains, the latest McKinsey Global Supply Chain Leader Survey shows that substantial vulnerabilities remain. A slowdown in resilience-building efforts, gaps in supply chain visibility, compliance challenges, and talent shortages leave many organizations exposed to future disruptions. To safeguard against these risks, businesses must prioritize ongoing digitization, talent development, and proactive risk management while ensuring that supply chain issues receive attention at the highest levels of leadership.

Is your organization paying enough attention to supply chain resilience? As a simple gauge, consider how many of these questions you can confidently answer with "yes":

— Do you have a plan to build or acquire the digital talent your supply chain needs?

— Do you understand the risk status of your tier-two and tier-three suppliers?

— Do you have an effective early-warning system for internal and external supply chain risks?

— Does your supply planning use AI to evaluate risk scenarios quantitatively?

— Is your average time to recovery from supply chain disruptions less than one week?

— Does your board thoroughly understand supply chain risks?

— Is your board willing to budget for the mitigation of supply chain risks?

Knut Alicke is a partner in McKinsey's Stuttgart office, **Tacy Foster** is a partner in the Carolinas office, and **Vera Trautwein** is a senior expert in the Zurich office.