

# The AI-Native Supply Chain

CSCOs: Balance innovation and risk to achieve competitive advantage in the next business era.

## Introduction

AI is no longer a futuristic concept but the foundation for the next business era. Two-thirds of CEOs believe AI will define the next business era, and 75% identify it as the technology that will most significantly impact their industry.<sup>1</sup>

Despite this recognition, a significant execution gap exists within supply chain organizations. Three in five currently use AI only to enhance individual, siloed use cases, and just 17% report having successfully scaled their AI pilots.<sup>2</sup> Why? More than half fear increased exposure to risks associated with data security, privacy, IP leakage and malware.<sup>3</sup>

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All step-jumps in capability require deep change, but 77% of CEOs acknowledge that their legacy operating systems and approaches to digital transformation are inadequate for an AI-dominated future.<sup>1</sup> Simply adding AI-driven functionality to the existing, traditional supply chain model is insufficient.

Chief supply chain officers (CSCOs) must build AI-native supply chains, balancing innovation and risk. AI-native supply chains look and feel different: Previously hard-to-access data will be available to decision makers in real time; agents will largely run many workflows independently with human managers ensuring supervision and exception management; and tighter integration of ecosystems (both internally and with external partners) will allow for coordinated decisions and new growth opportunities.

CSCOs leading the way in building AI-native supply chains are already realizing impact, with 80% seeing positive returns from their AI investments.<sup>3</sup>

To transform your supply chain, focus on three key areas: operating model, organizational structure and technology.

### Characteristics of AI-native supply chains



Source: Gartner

## Supply chain operating model

Sixty-three percent of AI leaders are already implementing or have finished redesigning their workflows based on what AI can make possible.<sup>3</sup> Explore new reasoning and orchestration capabilities, identify redundant processes and change the operating model to that end. Shifting from function-centric silos to a decision-centric human-AI structure helps scale resources.

Reimagine the supply chain operating model beyond human constraints and around AI's potential.



Conduct end-to-end process and core decision mapping.



Simulate different decision-making scenarios.



Define future autonomy targets and metrics.

Source: Gartner

Redesign the organizational structure with new roles geared to an AI-native supply chain.



Prioritize “good enough” legacy systems.



Build a unified data layer above existing systems.



Build agility into the supply chain technology stack.



Before investing in agents, start with AI assistants.



Build toward an autonomous orchestration layer.

Source: Gartner

## Supply chain organizational structure

High-cost human capital must be reallocated away from transactional tasks toward strategic activities like model training, audit and relationship management. But rather than upskill existing profiles, create AI-native roles to lead and manage the next-generation supply chain. Sixty-three percent of AI leaders are tailoring new roles to AI capabilities and redesigned workflows.<sup>3</sup>

## Supply chain technology

Transforming to an AI-native supply chain does not mean jettisoning your existing tech stack. Modernizing the tech stack helps to avoid workflow disruption, reduce cost and mitigate resistance. Three-quarters of AI leaders are deploying agent-to-agent workflows for process optimization.<sup>3</sup> A segmented investment strategy that builds on existing high-value technologies while selectively developing “greenfield” AI capabilities can maximize long-term ROI.

### Make targeted investments to restructure and upgrade the technology layer.



Assess capabilities and workflows.



Map new roles from reimagined workflows.



Develop new roles and responsibilities.



Create a workforce evolution plan to cultivate collaborative human-AI culture.

Source: Gartner

Sources:

<sup>1</sup> 2025 Gartner CEO and Senior Business Executive Survey.





<sup>2</sup> 2025 Gartner AI Adoption in Supply Chain Survey.

<sup>3</sup> 2026 Gartner CSCO Role-Based Survey.

This document is based on the Gartner “Supply Chain Executive Report: Build an AI-Native Foundation for Supply Chain Competitive Advantage.” Clients may access the full Supply Chain Executive Report on the [client portal](#).

# Actionable, objective insights

Explore these additional complimentary resources and tools for supply chain leaders:

<p><b>Tool</b> </p> <p>Supply Chain AI Strategy on a Page</p> <p>Get a customizable step-by-step supply chain AI framework.</p> <p><a href="#">Download Now</a></p>	<p><b>Tool</b> </p> <p>AI Use-Case Prism for Supply Chain</p> <p>Download the guide to target supply chain AI investments.</p> <p><a href="#">Download Now</a></p>	<p><b>Article</b> </p> <p>Unlock the Full Potential of Supply Chain Talent With AI Upskilling</p> <p>Learn actions to unlock the full potential of supply chain talent.</p> <p><a href="#">Learn More</a></p>	<p><b>Report</b> </p> <p>The GenAI Productivity Paradox</p> <p>Understand key strategies to maximize ROI of supply chain GenAI.</p> <p><a href="#">Download Now</a></p>
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