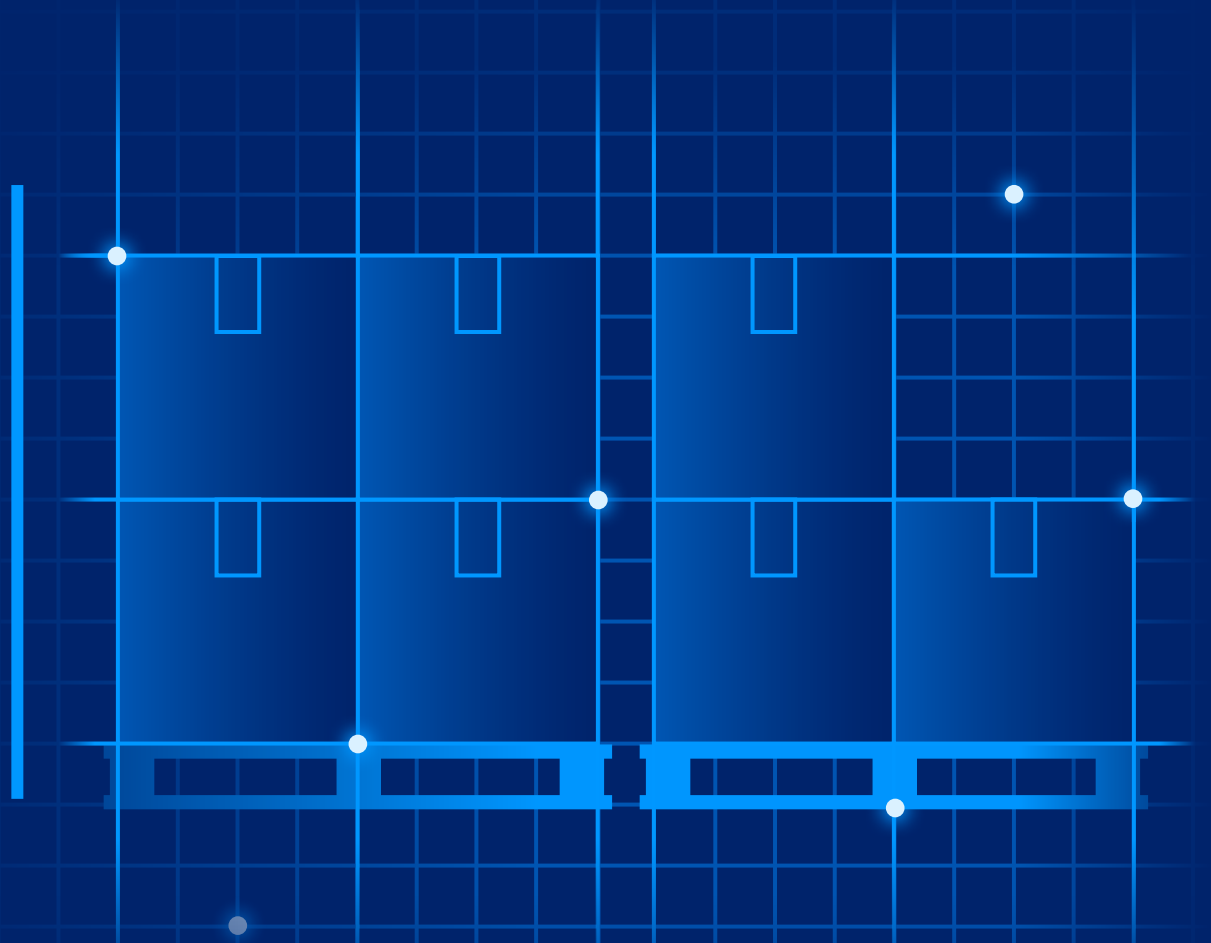
Gartner

The 7 Capabilities Supply Chain Leaders Need to Scale AI

A practical framework for building an AI-ready supply chain

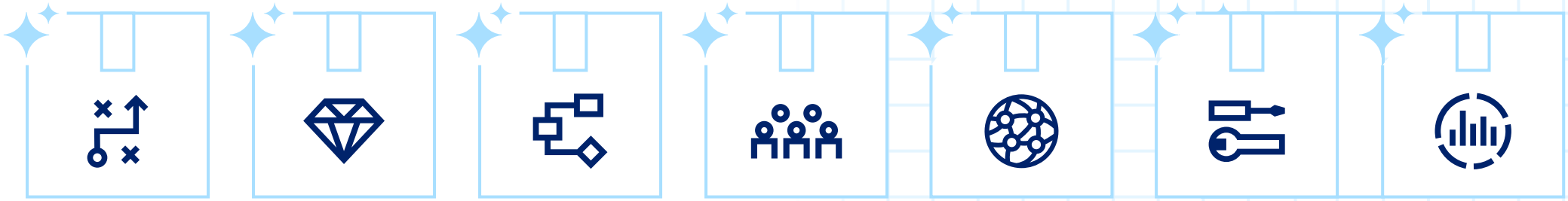


Introduction

AI has the potential to transform supply chain planning, operations and decision making. However, realizing that value requires more than identifying promising use cases or investing in new technologies.

Supply chain organizations need a coordinated set of capabilities to guide AI investments, integrate AI into workflows, prepare their people, manage risk and turn data into better decisions.

This guide outlines seven foundational capabilities that can help supply chain leaders build a stronger foundation for AI adoption and scale.



1 AI strategy

Establish a clear direction for supply chain AI

A supply chain AI strategy defines the function's ambition for AI and establishes how AI initiatives will support business objectives. It should guide prioritization, investment and decision making while aligning with broader enterprise AI and digital strategies.

A clear strategy can help supply chain leaders move beyond isolated experimentation and create a more coordinated approach to AI adoption.

Key activities

- Develop and refine the supply chain AI strategy.
- Communicate the supply chain AI vision, goals and priorities.
- Build and implement the supply chain AI roadmap.
- Evolve the supply chain operating model.
- Manage AI resourcing and costs.

Questions for supply chain leaders

- What business outcomes should AI help the supply chain achieve?
- Which supply chain challenges are most appropriate for AI?
- How should AI priorities align with the broader enterprise strategy?

Get a customizable, step-by-step framework to communicate your AI strategy by downloading **Supply Chain AI on a Page.**

2 AI value

Connect AI investments to measurable outcomes

AI initiatives should be evaluated based on the value they create — instead of adoption for adoption's sake. Supply chain organizations need methods for defining, measuring and communicating the value of AI use cases.

Value may include improvements in cost, service, resilience, working capital, productivity, risk management or decision quality.

Key activities

- Develop the AI value proposition and business case for supply chain.
- Prioritize and pilot initial supply chain AI initiatives.
- Develop and update the AI use case portfolio.
- Measure and track the value of supply chain AI implementation.

Questions for supply chain leaders

- How will we define success for each AI initiative?
- Which metrics will demonstrate value to supply chain and enterprise stakeholders?
- How do we assess the value/relevance of AI tools and use cases?

Align innovative ideas with supply chain strategy and goals, channeling investment efficiently and driving measurable value at pace with the **Workshop for Identifying High-Value AI Use Cases for Supply Chain Performance Improvement** (client-only).

3 AI workflows

Embed AI into the way supply chain work gets done

AI creates value when it is integrated into supply chain tasks, decisions and workflows. Tools that operate outside established processes may struggle to achieve adoption or deliver consistent results.

Workflow integration may involve automating activities, augmenting employee decisions or redesigning processes around new AI-enabled capabilities.

Key activities

- Use AI to plan supply and demand.
- Use AI for sourcing and procurement.
- Use AI to manufacture products.
- Use AI for delivery and logistics.
- Orchestrate AI use across workflows.

Questions for supply chain leaders

- Which workflows would benefit most from AI-enabled decision support?
- Where should human judgment remain essential?
- How will we coordinate the use of AI tools across end-to-end supply chain workflows?

Learn how to redesign operating models, talent and technology to scale AI capabilities and AI adoption.
Watch the **Building AI as the Foundation for Supply Chain Competitive Advantage webinar.**

4 AI people and culture

Build an AI-ready supply chain workforce

People are central to successful AI adoption. Supply chain employees need the skills to use AI effectively, understand its limitations and adapt to changing ways of working.

Leaders also need to create an environment where teams can experiment responsibly, share lessons learned and adopt new capabilities with confidence.

Key activities

- Upskill for AI.
- Promote AI use and AI-driven innovation.
- Manage AI-related cultural change.
- Evolve supply chain roles and staffing.

Questions for supply chain leaders

- Which roles and skills will become more important as AI scales?
- Do employees understand how to use AI effectively and responsibly?
- How are we supporting teams through changes in their work?

Adapt to an operating reality where AI is transforming talent pipelines, workflows and workforce strategy.
Explore the 3 Actions CSCOs Must Take to Redesign the Workforce for AI (client-only).

5 AI governance

Enable responsible AI adoption and manage risk

AI governance provides the policies, standards, decision rights and oversight needed to support responsible AI use across the supply chain.

Effective governance should help the organization manage risks without unnecessarily preventing useful experimentation and deployment.

Key activities

- Govern supply chain AI investments.
- Establish ethical supply chain AI principles.
- Govern AI use and behaviors.

Questions for supply chain leaders

- Who is accountable for supply chain AI decisions?
- Which uses of AI require additional review or approval?
- How will we monitor AI outputs and performance over time?

Build autonomous-ready operations, intelligence and workforces to compete in the next business era.
Explore three capabilities critical to leading in the autonomous era.

6 AI tools

Select and deploy tools that support supply chain priorities

The right tools can help supply chain organizations apply AI within priority use cases and workflows. However, tools should be evaluated in the context of business needs, existing technology environments, data requirements and the organization's ability to adopt and manage them.

Key activities

- Select supply chain AI tools and vendors.
- Manage AI tool roll-out and user education.
- Continuously improve AI utility and adoption.

Questions for supply chain leaders

- Do we build, buy or blend our AI tools and solutions?
- Can the tools integrate with existing supply chain systems and processes?
- How will we evaluate tool performance and user adoption?

Lead the creation of a supply chain AI strategy and governance model to enable pilot deployment in the supply chain. Use the Gartner Accelerator to **Deploy AI Pilots in the Supply Chain** (client-only).

7 AI data

Build the data foundation for effective AI

Data quality, accessibility and governance directly affect the usefulness of AI. Supply chain organizations need to manage the data used by AI tools and ensure that employees can interpret and act on AI-generated insights.

Supply chain data may span internal functions, enterprise systems, suppliers, logistics providers, customers and other value chain partners. This can create additional complexity around consistency, ownership and access.

Key activities

- Acquire and prepare data inputs for AI.
- Build AI-based tools to analyze supply chain data.
- Govern AI-generated data and outputs.

Questions for supply chain leaders

- Is the data needed for priority use cases available and reliable?
- Who owns and governs critical supply chain data?
- How are data gaps and quality issues identified and addressed?

Supply chain AI capabilities for maturity

Tier 1 capabilities	AI strategy	AI value	AI workflows	AI people and culture	AI governance	AI tools	AI data
Tier 2 activities	Develop and refine the SC AI strategy	Develop the AI value proposition and business case for SC	Use AI to plan supply and demand	Upskill for AI	Govern SC AI investments	Select SC AI tools and vendors	Acquire and prepare data inputs for AI
	Communicate the SC AI vision, goals and priorities	Prioritize and pilot initial SC AI initiatives	Use AI for sourcing and procurement	Promote AI use and AI-driven innovation	Establish ethical SC AI principles	Manage AI tool roll-out and user education	Build AI-based tools to analyze SC data
	Build and implement the SC AI roadmap	Develop and update the AI use case portfolio	Use AI to manufacture products	Manage AI-related cultural change	Govern AI use and behaviors	Continuously improve AI utility and adoption	Govern AI-generated data and outputs
	Evolve the SC operating model	Measure and track the value of SC AI implementation	Use AI for delivery and logistics	Evolve SC roles and staffing			
	Manage AI resourcing and costs		Orchestrate AI use across workflows				

Source: Gartner

Understand your supply chain's AI maturity

These seven capabilities provide a foundation for assessing where your supply chain is prepared to adopt and scale AI — and where further development may be needed.

The Gartner AI Maturity Assessment for Supply Chain helps CSCOs and supply chain organizations evaluate their current maturity, define a target state for the next 12 months and identify high-priority gaps across these seven capability categories.

The assessment provides:

- A view of current and target maturity
- A visualization of the largest maturity gaps
- Recommendations and resources to support improvement

Get started to understand your supply chain's AI maturity and identify the capabilities to prioritize next.

Actionable, objective insights

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

Report

The AI-Native Supply Chain

Build AI as the foundation for supply chain competitive advantage.

Download Now

Webinar

How Supply Chain Leaders Can Redesign Work, Roles and Teams for AI

This webinar explores the impact of AI on the supply chain workforce and the practices that distinguish high-performing organizations.

Watch Now

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