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State of Supply Chain Report 2026

PART 01 02 03

Trends in AI Adoption Across Retail Supply Chains

How A Focus on the Production Chain Can Catalyze AI ROI

Contents

Introduction

For retailers and brands, supply chain technology is at an inflection point. The convergence of persistent volatility (tariffs, demand unpredictability, geopolitical disruption) and the rapid emergence of artificial intelligence (AI) have created both urgency and opportunity for leaders to rethink how they use technology to manage global production networks.

The 2026 State of Supply Chain report reveals an inside view into this evolving dynamic as retail business leaders balance their technology aspirations with their operational realities. The results show that AI is clearly gaining momentum with **40% of respondents reporting usage across their supply chain operations**—up from 24% in 2024 and 27% in 2025. This shift is notable, but a deeper look at the data suggests that the scale of adoption, tangible return on investment and AI maturity across business units are still challenges that retail organizations must grapple with as they mature their AI strategy.

The organizations ahead on this journey are not necessarily those with the largest technology budgets. The leaders have addressed the prerequisites (data integration, cross-functional alignment, and organizational readiness) that allow technology to seamlessly support operations. They have also demonstrated a clear understanding of the power of AI in the context of the **Production Chain**, the critical operational core where products are made, from raw material sourcing through manufacturing, quality, and compliance. This report identifies strategic insights shaping how AI is permeating and evolving leading retailers' technology roadmaps with a focus on unified Production Chain digitization as a competitive differentiator.

Report Author

Tomas Bayas Erazo

Lead Researcher, Analyst
& Author at Inspectorio

Tomas holds a B.S. in economics and a B.A. in literature from Pennsylvania State University. As part of Inspectorio's Product Marketing team, Tomas leads all market and industry research and analysis projects. Through his analytical expertise, Tomas provides strategic insights to guide product development, marketing outreach, and customer support for leading global brands, retailers, and their suppliers.

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AI Has Arrived in Retail Supply Chains With A Focus on Process Optimization

Section 1

AI Has Arrived in Retail Supply Chains With A Focus on Process Optimization

Over half of survey respondents now report either active AI use or active evaluation, but the nature of that adoption tells a more important story than the headline numbers. Progress is real but gradual in the retail industry. And where AI is being deployed, **it is being used as a productivity tool that accelerates existing workflows**, not as a system that fundamentally restructures decision-making.

1.1 Adoption Is Accelerating, But the Gap Between Interest and Impact Remains Wide

Three years of survey data trace a consistent upward trend in AI integration across supply chain processes: **from 24% of respondents in 2024 to 27% in 2025 and 40% in 2026**. The acceleration is meaningful (nearly doubling since 2024), but the story underneath the headline number is more instructive than the number itself.

Of the respondents now using AI, only a fraction report that it is delivering measurable business value. A larger share is still in pilot stages or has deployed AI without yet measuring its impact.

Meanwhile, a quarter of all respondents selected “not sure” when asked whether AI is integrated into their supply chain, a signal that in many organizations, the conversation about AI strategy and capability has not yet reached certain teams and departments. This is not the rapid adoption curve that technology leaders predict in keynotes and earnings calls. It is the measured pace of an industry where risk aversion, operational sensitivity, and regulatory exposure shape every technology decision.

The gap between AI interest and AI impact is where the real strategic questions live: not whether organizations are adopting, but whether the adoption they are pursuing is structured to generate returns.

40%

of respondents report AI usage across supply chain operations in 2026 — up from 24% in 2024 and 27% in 2025

25%

of all 2026 respondents selected "not sure" when asked whether AI is integrated into their supply chain.

1.2 Process-Level Productivity, Not Large-Scale Transformation

Where AI is being deployed, the pattern is remarkably consistent: organizations are applying it to specific, well-bounded operational tasks. Among 2026 respondents with AI in use, **quality inspection and defect detection leads at 74%**, followed by supplier risk monitoring (55%), supplier performance management (47%), and compliance screening (43%). The two most cited outcomes, each at 62%, are faster detection of quality issues and reduced manual workload for audits and documentation.

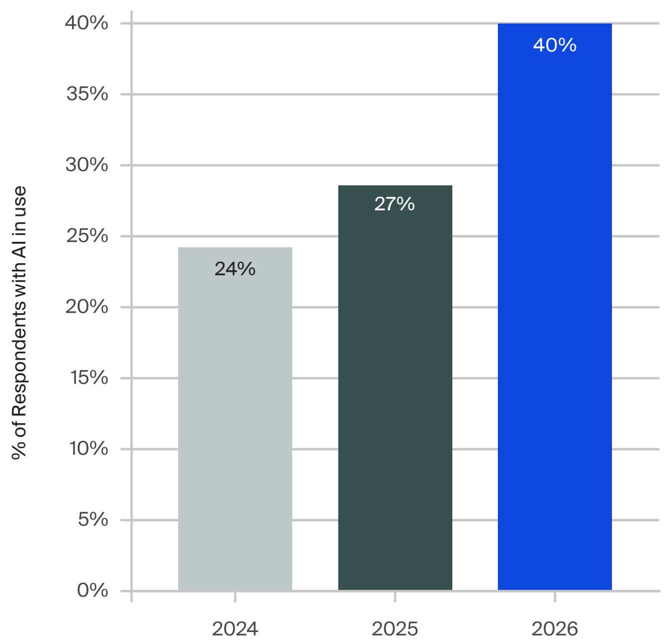
These meaningful efficiency gains suggest that AI is accelerating existing workflows, surfacing patterns faster, reducing manual review cycles, flagging anomalies earlier, rather than reshaping how sourcing, compliance, or production decisions are made. The distinction between AI as a productivity layer and AI as a decision engine matters. In compliance, for example, AI is proving valuable for processing regulatory documents faster, but outputs still require human legal verification. In sourcing and production, the value lies not in replacing judgment but in identifying patterns that human analysts would take weeks to notice, hidden inefficiencies in factory production flow, bottlenecks in lead times, cost anomalies across supplier networks.

What stands out is where AI is not yet being applied. Most adoption is concentrated in areas where the business case is well-established, and the risk of error is manageable: quality checks, documentation, and supplier monitoring. Meanwhile, higher-stakes domains such as dynamic sourcing decisions, real-time production rebalancing, and demand-driven allocation, areas where speed and pattern recognition could create significant competitive advantage, remain largely dependent on manual processes and human judgment.

For supply chain leaders evaluating AI investments, this research suggests that the highest-return opportunity may not be the next tool, but the next use case. Rather than adding another AI application to a domain already being served, the greater value may lie in identifying operational areas where current processes are slow, manual, and imprecise, and where even an imperfect AI-driven approach would meaningfully outperform the status quo.

> **"You can't hide anymore. The data shows you which factories are really efficient, which lines are slow, and why. If you can take meaningful time out of lead times through that kind of visibility, that's real money."**
>
> Ronnie Robinson
> Supply Chain Executive

AI Integration in Supply Chain Processes (2024 – 2026)



02

For AI Laggards, Organizational and Technical Barriers Remain

Section 2

For AI Laggards, Organizational and Technical Barriers Remain

While the data confirms that AI interest and adoption are accelerating across the retail supply chain community, it is equally clear that a mix of organizational and technical challenges must be addressed before AI becomes a mission-critical source of strategic value. **The barriers that persist are not about whether the right tools exist. They are about whether organizations are structured to use them.**

2.1 Organizational Barriers: The Demand for Certainty in an Uncertain Domain

The most underappreciated finding in this research may be that the primary barriers to supply chain AI adoption are not about technology at all. Among respondents who have not adopted AI, the leading barriers are **budget constraints or competing priorities (39%)**, integration complexity with existing systems (36%), and lack of internal skills or change management capacity (36%). Every leading barrier in 2026 is internal and organizational, not technological.

Retail business leaders must constantly manage the balance between the pragmatic and the possible. While AI visionaries list endless opportunities for innovation, actual operators must weigh the risk of negative outcomes that could impact business performance or brand perception. The risk is that companies adopt AI because it is fashionable rather than because it solves a specific, measurable problem.

If this wave of AI does not lead to long-term business value and sustained adoption, it joins the growing list of digital initiatives that produced activity without impact.

39%

cite budget constraints or competing priorities as the top barrier to AI adoption.

36%

point to integration complexity - tied with skills and change management capacity.

At the leadership level, the issue often manifests as a demand for perfection. Organizations reject tools that are 80–90% accurate, while ignoring that very little in business achieves perfection. The instinct to wait for flawless outputs before deploying new systems sounds prudent, but it often masks a deeper resistance to changing established workflows. **The organizations furthest ahead tend to be those willing to deploy imperfect tools, learn from the outputs, and improve iteratively.**

Trust is a related but distinct obstacle. Even where AI is delivering value, uncertainty about the reliability of underlying data sources makes organizations reluctant to treat AI outputs as inputs to consequential decisions. This is compounded by internal guardrails around proprietary data that slow experimentation, and by the reality that many companies are deploying AI broadly without first identifying where it will create measurable business benefit. The risk is that teams adopt new tools without the discipline to tie them to specific outcomes, producing activity without impact.

The counterpoint is encouraging. Technology itself is becoming more accessible than ever. Newer AI-driven and cloud-based tools are cheaper, more flexible, and faster to deploy than the legacy systems they replace. **The tools are no longer constraints. Organizational readiness is.**

The survey data reinforces this: **25% of all 2026 respondents selected "not sure" when asked whether AI is integrated into their supply chain**. In a quarter of organizations, the conversation about AI has not yet reached a level of clarity where leaders can assess their own status. The implication for leadership is direct: organizations that treat technology adoption as a procurement exercise will likely repeat the patterns that have stalled previous waves of investment.
The harder and more important work is building the conditions under which technology can succeed: data readiness, talent, process redesign, and institutional willingness to act on imperfect information.

> "Building trust in AI requires two things: understanding the data behind it and being able to validate its accuracy. Today, AI is best used to inform decisions and strengthen connections as organizations learn and improve."
>
> **Scott Lercel**
> VP of Global Sourcing,
> Dick's Sporting Goods

2.2 Technical Barriers: Data Fragmentation and Disconnected Systems

If there is a single structural impediment that emerged most consistently across this research, it is data fragmentation. The data needed to manage modern supply chains (supplier performance, compliance status, quality metrics, traceability records) is scattered across systems, tiers, functions, and geographies. Until that data is unified and trustworthy, the ability to translate operations data into high-value business outcomes using AI will remain largely unrealized.

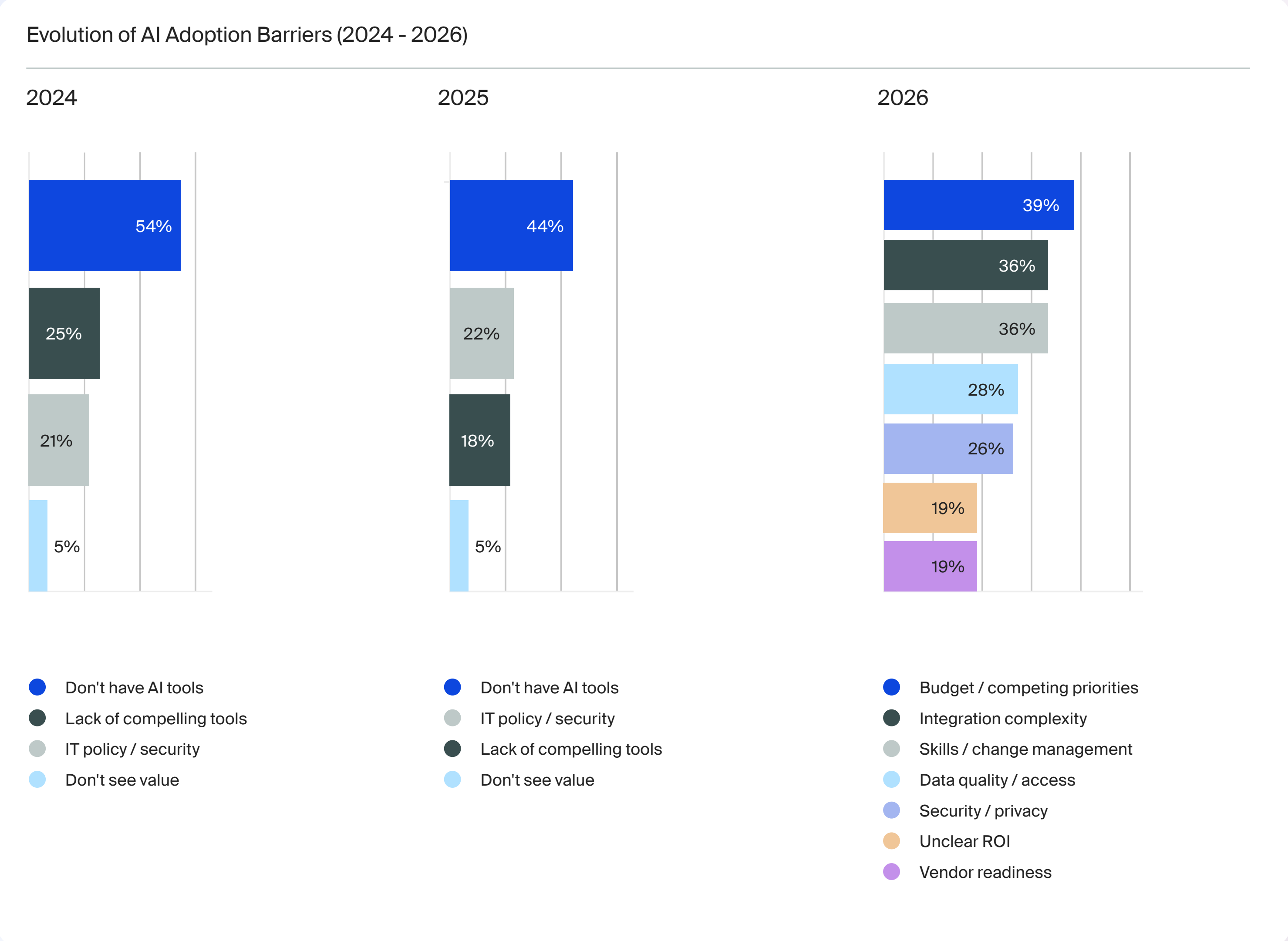
Data quality and data access limitations were cited as barriers by **28% of respondents** who have not adopted AI, and security and privacy concerns by 26%. But the problem runs deeper than what a single survey question captures. AI is only as effective as the data it operates on. Without structured, credible inputs, matched to the right products, the right purchase orders, the right suppliers, AI tools produce outputs that cannot be trusted at the precision levels that compliance and sourcing decisions demand.

> **"If you don't have credible data—specific, structured, matched to actual products—there's no way you can use AI effectively. And manual validation will not work at the scale we need."**
>
> **Thiwanka De Fonseka**
> Chief Sustainability Officer,
> Komar

The problem operates at every level of the supply network. Suppliers are overwhelmed by fragmented, duplicative data requests from multiple brands, each using different formats, platforms, and standards. **Audit fatigue remains a structural problem** that has been discussed in major industry forums for years and remains unresolved. At the brand level, critical information lives in separate systems that do not communicate.

The gap runs deeper than data availability. Many sustainability measurement systems still operate at the factory level rather than at the product or process level needed for meaningful intervention, and even the data that is collected may not be specific enough to support accurate analysis. The distance between "data exists somewhere" and "data is structured, accessible, and trustworthy" is where most organizations are stuck.

The question is no longer whether the right tools exist. It is whether organizations have the data quality, architecture, and integration to make those tools productive.



03

The Strategic Opportunity Ahead—Converged Operations, Data Streams, and AI Layered Across

Section 3

The Strategic Opportunity Ahead—Converged Operations, Data Streams, and AI Layered Across

The first two sections of this report describe where the industry stands: **growing AI adoption concentrated in process-level tasks, constrained by organizational and technical barriers that are fundamentally about readiness, not tool availability**. This section turns to what the data reveals about the path forward, and the strategic opportunity that emerges when those barriers are addressed.

3.1 Regardless of AI Maturity, Retail Executives See Technology as the Foundation for Resilience

The first generation of supply chain technology investments were justified primarily on efficiency: reducing manual workload, automating repetitive tasks, and cutting costs. That framing remains relevant but is no longer sufficient. Technology is increasingly being reconceived as foundational infrastructure for resilience and competitive differentiation, the organizational capacity to monitor, anticipate, adapt, and respond in an environment where disruption is the norm rather than the exception.

Three years of survey data confirm the sustained weight of external pressures driving this shift. Respondents rating the effect of regulatory changes at 4 or 5 on a 5-point scale have remained above 50% every year: **66% in 2024, 68% in 2025, 52% in 2026**. The slight decline this year likely reflects shifting dynamics in the United States, but the underlying complexity is not abating. Tariff uncertainty, demand volatility, and regulatory proliferation are not disruptions to navigate past; they are permanent features of the operating landscape.

> **"The one thing I can be sure is permanent is this volatility. It's not going away. Tariffs, demand swings, new regulations every quarter. The question is whether your systems can keep up, or whether you're still scrambling with spreadsheets when the next disruption hits."**
>
> **Luis Marquina**
> Chief Operating Officer,
> Intradeco

In this environment, the value of technology extends well beyond cost reduction. It lies in the ability to see emerging risks earlier, to connect signals across functions that would otherwise remain siloed, and to respond to shifts (in regulation, in sourcing economics, in supplier performance) before they become crises. The companies best prepared for disruption are not those reacting fastest, but those that maintain structured, ongoing visibility into what is coming, enabled by centralized systems, regular review processes, and digital tools that surface signals proactively. Awareness of what's on the horizon and the ability to model scenarios and decisions based on evolving market dynamics is what separates prepared organizations from those that are merely reacting.

Yet the survey data reflects an industry that recognizes this imperative but has not fully acted on it. **64% of respondents cite stronger supplier monitoring as a primary risk strategy** and 59% cite diversification, but only **26% cite investment in digital visibility and early-warning systems.** In response to trade tensions, most organizations have focused on structural hedges: 40% added secondary suppliers; 37% shifted sourcing to new regions. **Just 15% pursued technology investments specifically to bolster sourcing agility.**

The compliance budget trajectory underscores the urgency. The share of respondents reporting budget increases has dropped from 75% in 2025 to 50% in 2026, even as regulatory complexity and execution strain remain elevated, 54% rate compliance execution strain at 4 or 5 on a 5-point scale. Organizations are being asked to manage more with proportionally less. That dynamic makes technology-driven efficiency not a strategic option but an operational imperative.

64%

cite stronger supplier monitoring as a primary risk strategy.

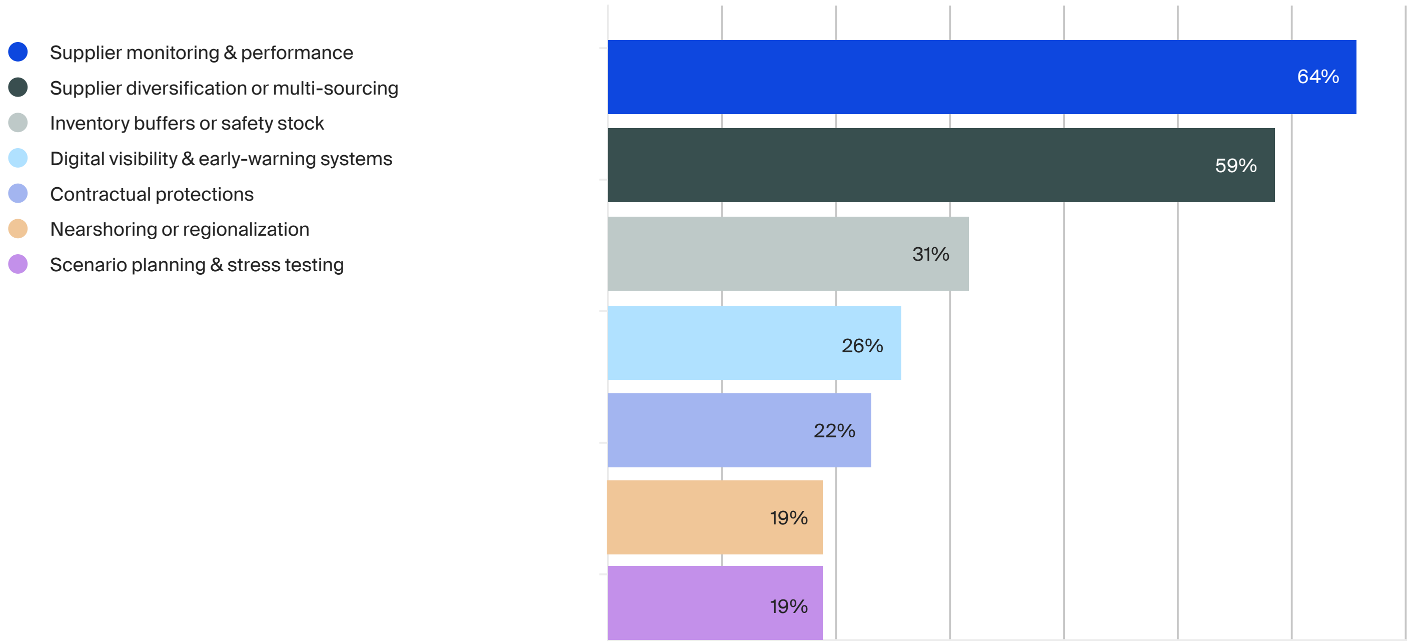
26%

cite investment in digital visibility and early-warning systems.

15%

pursued technology investments specifically for sourcing agility.

Primary Risk Mitigation Strategies (2026)



3.2 AI Leaders See Converged Production Chain Processes, Data, and Partners as the Opportunity for Transformative Innovation

For most of the past two decades, quality, compliance, sourcing, sustainability, and trade operated as distinct functions, with separate systems, teams, and decision frameworks. **That model is breaking down.** Regulatory convergence, risk complexity, and the growing recognition that isolated optimization creates blind spots elsewhere are driving a fundamental shift toward integrated supply chain intelligence, and the organizations furthest ahead in AI adoption are already building toward this convergence.

The regulatory environment is accelerating this shift. Regulatory requirements have made social responsibility directly relevant to customs clearance, collapsing what were once separate compliance domains into a single operational reality. Trade compliance, social responsibility, and sustainability functions that historically operated independently are now being forced together by the practical reality that failure in one domain can halt operations in another.

> **"These functions hadn't been very connected before. Social responsibility was over here, trade compliance was over there. But now, if your social compliance isn't right, your goods don't clear the border. That changed everything."**
>
> Global Trade and Compliance Executive at a U.S. Retailer

European regulations around human rights due diligence and Digital Product Passports are extending this convergence further, making sustainability, labor practices, and environmental impact directly relevant to market access. Functions that historically operated in parallel must now operate in concert.

The strategic opportunity lies in the sequence: **digitize and connect the underlying supply chain processes first** (breaking silos between quality, compliance, sourcing, and sustainability data) and **then layer AI across that connected foundation**. Organizations that can integrate these data streams into a single view of supplier and product performance are gaining a meaningful advantage in both risk management and operational efficiency. Those still reconciling information across separate platforms face growing friction, particularly under the kind of time pressure that tariff changes, regulatory enforcement, or supply disruptions create.

Among current AI users, **62% report reduced manual workload** and **52% cite better risk identification**, demonstrating that the returns are real where organizations have committed to deployment. The organizations positioned to lead in the next phase of supply chain technology are those building toward a converged operating model: connected workflows, integrated data, and AI layered across the full Production Chain to surface trends, simulate scenarios to account for those data signals, and then execute tasks across teams and partners based on the agreed upon path forward.

> **“We had critical path management on Excel and expensive systems nobody wanted to throw away. Within 18 months we transformed that into an AI-based collaborative model with suppliers. The technology is finally usable and worth the investment. But you have to be willing to let go of what you already have.”**
>
> Sourcing & Product Executive

62%

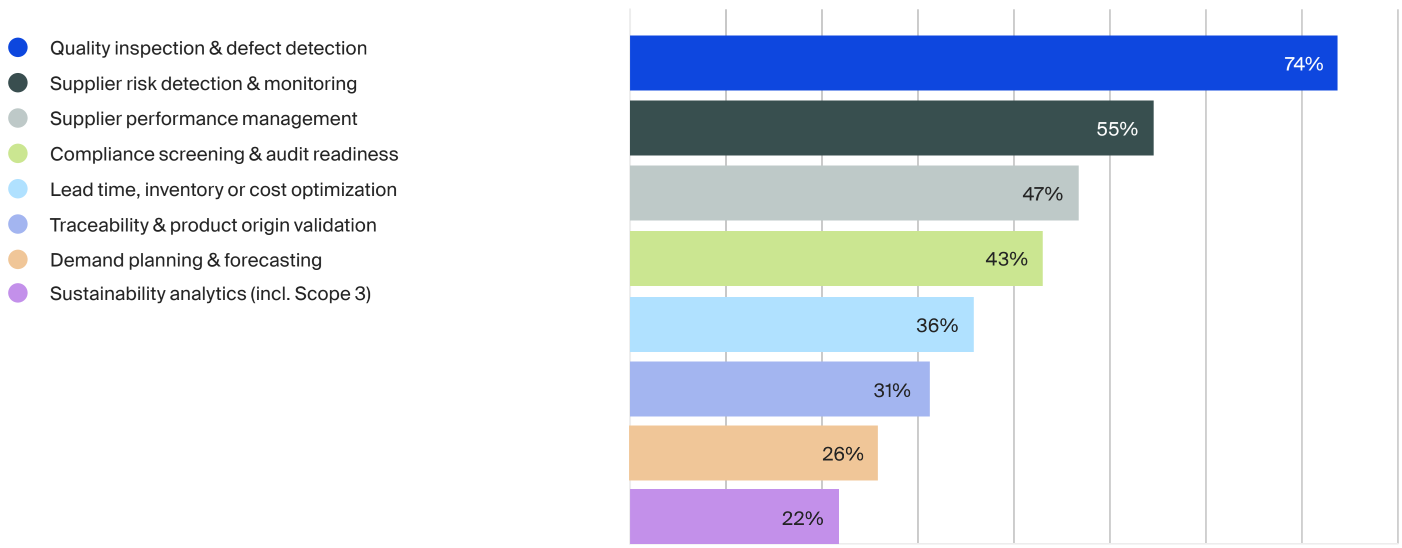
of current AI users report reduced manual workload as a primary outcome.

52%

Cite better risk identification as an outcome of AI deployment.

AI Objectives Among Users (2026)

% of AI-adopting respondents citing each objective



Inspectorio POV: From Data Foundation to Measurable Returns

POV Author

Nathaniel Fleming

Vice President of Product Marketing at Inspectorio

The findings in this report describe an industry where the prerequisites for AI value **(unified data, cross-functional integration, and organizational readiness)** remain unmet for most organizations.

Inspectorio's position at the center of brand, retailer, and supplier sourcing operations – the Production Chain - offers a direct view into both the challenge and the opportunity. Across its network, the Production Chain generates **tens of millions of discrete data points** (inspection results, audit findings, certifications, corrective actions, supplier contacts, and compliance documents) creating one of the most data-dense environments in which AI can be applied.

Inspectorio's AI ecosystem, **Paramo**, translates this data density into business value across the Production Chain, operating on three levels that each build on the foundation beneath.

Data Gravity: Primary data collection at scale

66%

defect rate reduction over seven years at one large-scale retailer — preventing an estimated 1.4M defective units annually.

$4.8M

per year in margin protection at a global apparel manufacturer — 75% defect rate reduction across its sample-inspected population.

The first is what Inspectorio calls **Data Gravity**: primary data collection at scale. Unlike tools that rely solely on third-party or self-reported inputs, **Inspectorio captures structured, first-party data directly from production floors, audit cycles, and field operations.**

This primary data layer, enriched by broader industry benchmarks, gives AI models the specificity and accuracy that compliance and sourcing decisions require.

The results are tangible: one large-scale retailer reduced its defect rate by **66%** over seven years, preventing an estimated **1.4 million defective units** annually. A global apparel manufacturer achieved a **75% reduction in defect rates** across its sample-inspected population, translating to approximately **$4.8M per year** in margin protection.

Paramo's Copilots: Generative AI to compress decision cycles

68%

reduction in compliance assessment cycle times at one retailer — with 38% fewer corrective actions.

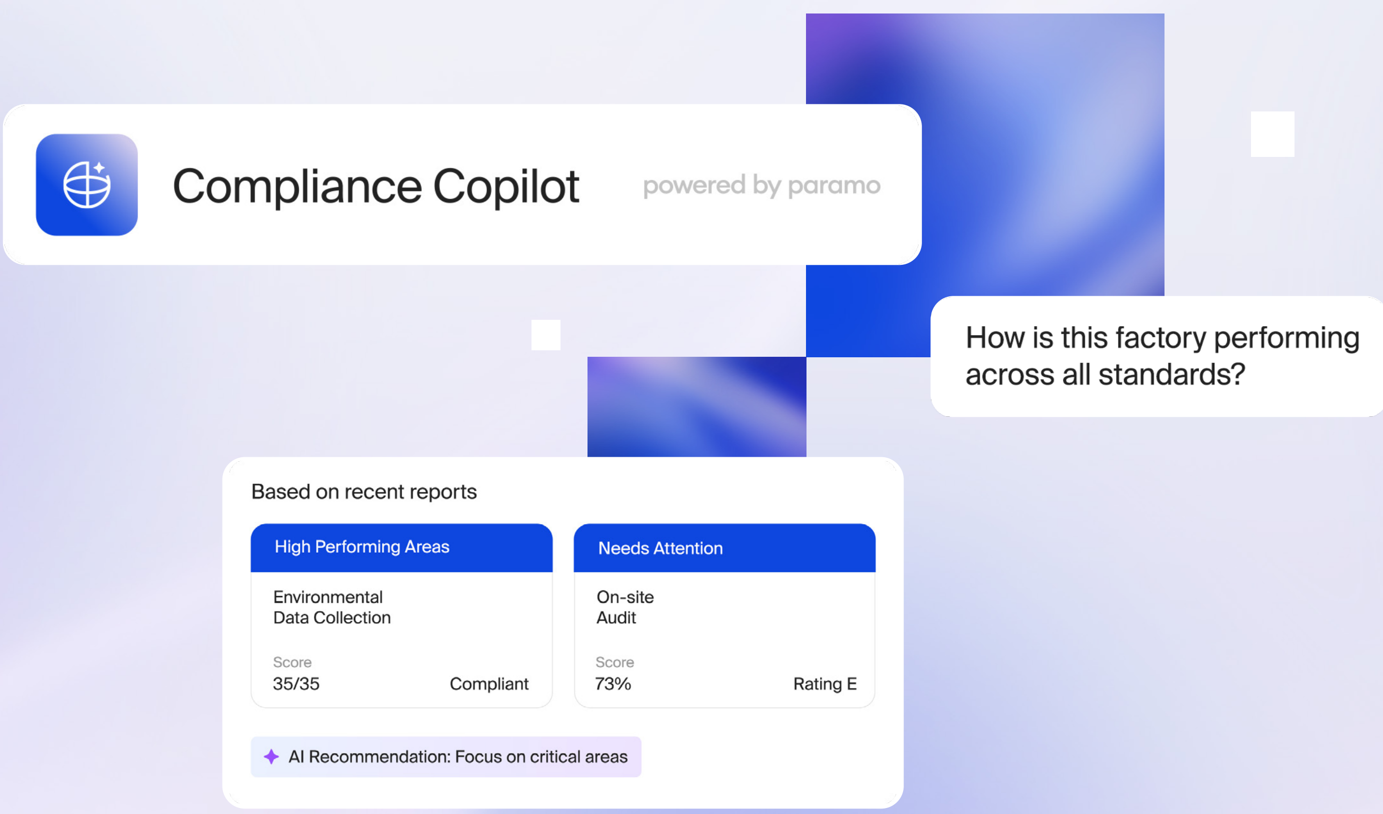
$1.7M

annually in planner productivity unlocked at a major sporting goods retailer — 86% of time-and-action records automated.

The second is **Paramo's Copilots**, which apply generative AI to compress decision cycles that historically required days of manual review.

Copilots surface real-time insights and recommendations aligned with user-driven processes across quality and compliance workflows.

One retailer **cut compliance assessment cycle times by 68%** and **reduced corrective action volumes by 38%**, while a major sporting goods retailer automated 86% of its time-and-action records, unlocking over **$1.7M annually in planner productivity**.



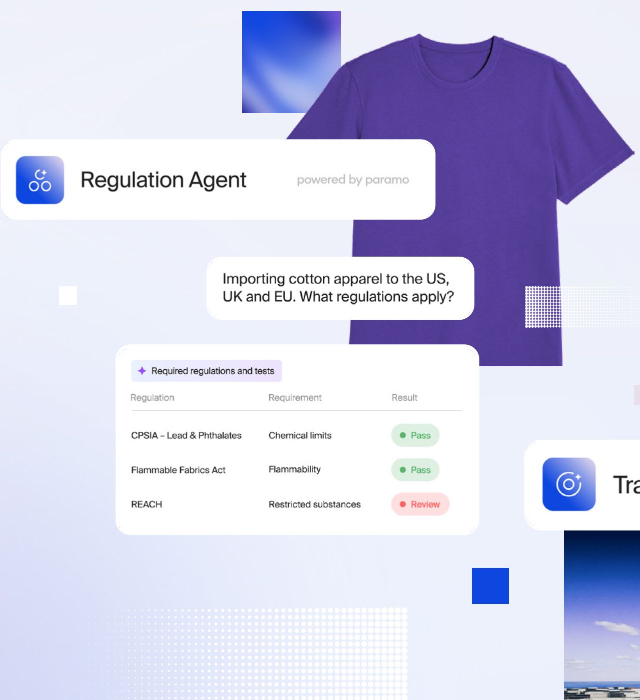
Paramo's AI Agents: Beyond insight, into autonomous execution

93%

drop in failed inspections at one major retailer over seven years — avoiding ~$4.8M annually across 116,000+ inspections.

227%

increase in inspections per inspector at another brand — operating with 251 fewer inspector equivalents and avoiding ~$1.9M/yr in network overhead.

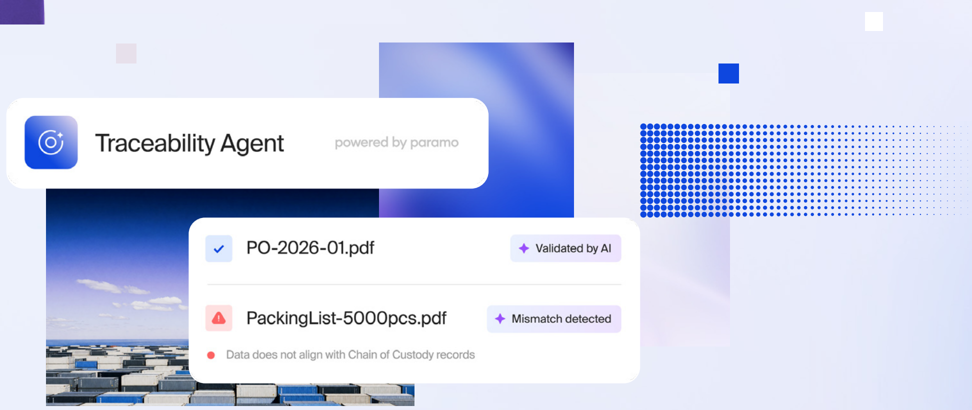


The third is **Paramo's AI Agents**, which move beyond insight into autonomous execution. Agents handle tasks such as traceability of document validation, regulatory compliance benchmarking, and CAPA generation — converting multi-step, manual processes into one-click workflows aligned with team KPIs.

One major retailer saw a **93% drop in failed inspections** over seven years, avoiding an estimated **$4.8M annually** in re-inspection churn, rescheduling, and delay handling across more than **116,000 inspections**. Another brand increased inspections per inspector by **227%**, operating with **251 fewer inspector equivalents** while scaling volume—avoiding nearly **$1.9M annually** in network overhead.

In a global trade environment defined by tariff complexity, inflationary pressure, and margin compression on both sides of the buyer-supplier relationship, retailers and brands need Production Chain strategies that protect margins without destabilizing vendor economics or pushing costs downstream.

That is the model Inspectorio is building alongside leading global brands: **Production Chain orchestration powered by Paramo** — grounded in ecosystem-validated primary data, layered with Copilots and Agents, and measured in returns.



Conclusion

Building the Bedrock for AI with the Production Chain

The **state of supply chain technology in 2026** is defined by a gap between the capability now available and the organizational capacity to use it. **The tools and technologies are more powerful and accessible than ever.** Adoption is growing but remains nuanced. And three years of survey data confirm that the constraints have shifted decisively from external access to internal adoption.

The themes that define this landscape are clear. AI has arrived in supply chains but as a targeted, process-level productivity tool with transformative potential. For organizations that have not yet adopted, the barriers are organizational and technical: a demand for certainty before deployment, insufficient change management capacity, and data fragmentation that undermines the foundation AI requires. Across the industry, technology is being reconceived as foundational infrastructure for resilience, made more urgent as compliance demands grow while budget increases slow. And the organizations furthest ahead are those building toward converged supply chain operations: **connecting quality, compliance, sourcing, and sustainability data into integrated Production Chain platforms with AI layered across.**

For the executive leaders responsible for supply chain strategy, the question is no longer whether to infuse your supply chain operations with AI technology. It is whether their organizations are prepared to make those investments productive. The most important investments may not be in new tools, but in the data architecture, cross-functional alignment, and organizational readiness that determine whether technology delivers lasting strategic value. The data suggests that some retail business leaders are finding that the structure of a **Production Chain technology strategy is a good starting point for AI integration across key processes and workflows.** This approach keeps AI investments grounded in high-quality data and established workflows so that the path to agility, resilience, and ROI is clear and achievable.

Intelligent supply chains start here.
Learn more at inspectorio.com

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