State of AI in Distribution 2026

DISTRIBUTION STRATEGY GROUP

Wholesale distribution has moved past the AI hype cycle. Three years after ChatGPT sparked industry-wide experimentation, the conversation has fundamentally shifted. Leadership is no longer asking whether AI matters — they're asking how to convert pilots into production value.

Our most recent survey tells that story clearly. Many distributors remain in exploring or piloting stages, but this reflects disciplined evaluation rather than hesitation. Executives showed up in force—57% of respondents hold leadership positions, compared to 35% in prior years—bringing the perspective of decision-makers with budget authority and strategic accountability. What they reported was an industry that has moved from curiosity to execution.

The barriers have shifted accordingly. Budget constraints and leadership buy-in, once the primary obstacles, have faded. The challenges now are — to put it bluntly — people. More than half of respondents pointed to skills gaps and change resistance as what's slowing them down. The workforce doesn't yet know how to evaluate, implement, or manage AI-augmented workflow, and that capability gap now outweighs every other barrier.

Where adoption has taken hold, clear patterns emerge. The applications gaining traction share common characteristics: measurable productivity impact, integration with existing systems, and bounded implementation scope. Email order automation leads the pack, followed by cybersecurity and internal chatbots. These aren't flashy moonshots—they're practical tools solving daily operational problems. Meanwhile, warehouse robotics and advanced supply chain AI remain nascent, held back by complexity and data requirements that most organizations haven't yet addressed.

The path forward isn't mysterious. Start where you can win quickly. Build workforce capability before investing in technology. Prove ROI on manageable projects, then scale what works. The industry has the intent—65% plan to increase AI investment over the next two years. The question is whether organizations can build the execution capacity to convert that intent into competitive advantage.

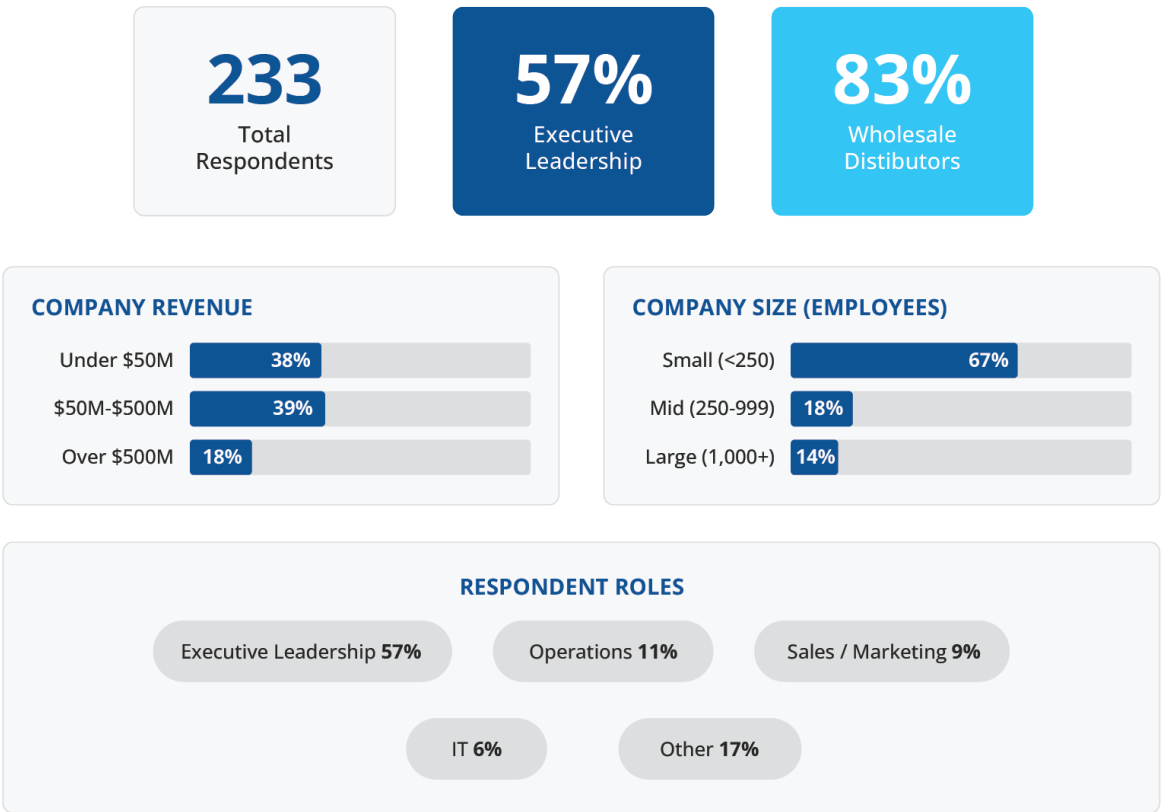
Introduction

This whitepaper synthesizes findings from Distribution Strategy Group's third annual State of AI in Distribution survey, conducted in December 2025. With 233 complete responses and 57% participation from C-suite executives, the data provides a window into how distribution leaders think about AI adoption, where they invest, and what barriers slow their progress.

The findings reveal an industry at an inflection point. Widespread piloting is underway. Executive buy-in exists. Funding is available. The bottleneck has shifted from strategic commitment to execution capacity. Distributors know they need AI. The question is whether they can build the skills, systems, and governance structures to operationalize it.

Survey Respondent Profile

State of AI in Distribution 2026 - Who Responded



Industry Context: The Ambition-Execution Gap

The survey data paints a picture of an industry actively working to close the gap between AI ambition and operational execution. Unlike previous years where respondent profiles skewed toward technology enthusiasts, this year's survey captured decision-maker perspectives: 57% of respondents hold executive leadership positions, compared to 35% in prior surveys. This shift matters. The data reflects how leaders with budget authority and strategic accountability view AI — not just how technologists think about it.

The Pilot Stage Dominates

The adoption curve reveals where the industry stands: 63% of distributors remain in "exploring" or "piloting" stages, with only 4% having achieved full integration where AI is central to strategy. From the discussion during the webinar presentation, this finding reflects learning-in-motion rather than paralysis. As one presenter observed, distributors "do not gamble with service and what hits the customer," explaining the cautious pace from pilot to production.

The distribution of adoption stages breaks down as follows: 4% report no AI usage and no current plans, 27% are exploring possibilities, 37% are piloting specific use cases, 15% are scaling proven applications, 4% have AI integrated across functions, and just 4% have AI central to their strategy. The concentration in pilot stage (37%) represents the single largest cohort and the primary conversion opportunity for the industry.

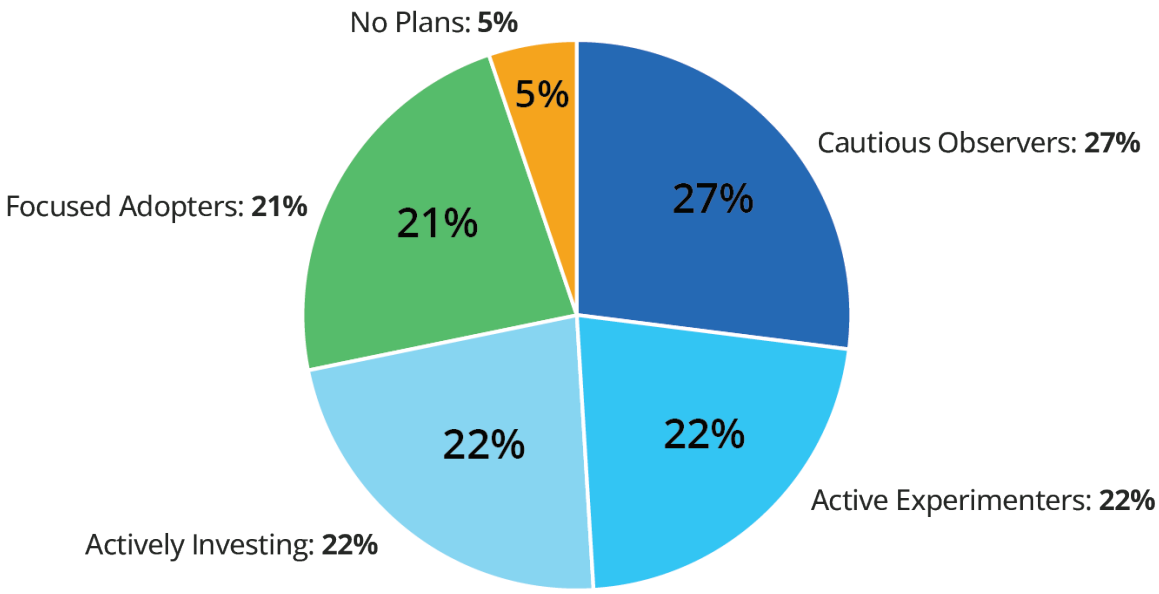
Most Distributors Are Still Piloting AI - Only 4% Have Strategic Integration

Key Business insight: 63% are in early stages and pilots to production process is underway.

Investment Philosophy: Caution Prevails

When asked about their AI investment philosophy, only 43% describe themselves as actively investing or focused adopters. The plurality (27%) identify as "cautious observers," with another 22% describing themselves as "active experimenters" who test without committing. Just 5% report no plans for AI investment. This distribution suggests healthy skepticism rather than resistance—distributors want proof of value before scaling.

Only 43% of Distributors Are Fully Commited to AI Investment



Key business insight: Most are still evaluating or testing - opportunity ecxists for early movers to leap ahead.

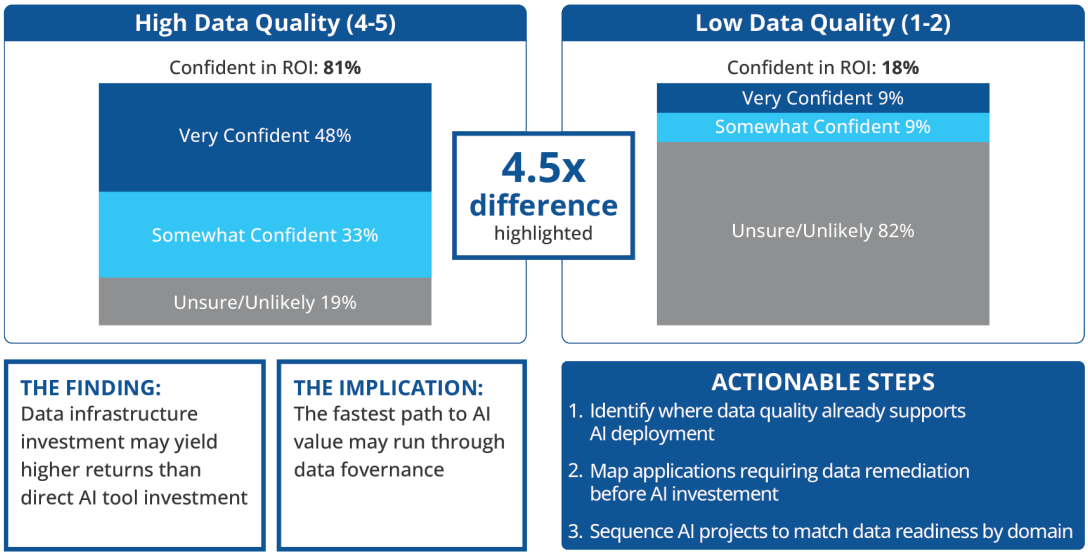
Key Insights from the Research

Data Quality Predicts ROI Confidence

An unexpected finding emerged from the survey: confidence in AI return on investment correlates more strongly with data infrastructure quality than with willingness to invest. Distributors with high confidence in their data quality express significantly higher confidence in achieving measurable AI ROI by 2030. Those with siloed or inconsistent data express doubt regardless of investment intent.

The discussion during the presentation clarified this relationship. Data quality requirements vary by application type. Order automation tolerates imperfect data because the AI processes structured inputs (PDFs, emails) against known ERP schemas. Demand forecasting requires cleaner historical data. The insight for practitioners: assess data readiness application by application rather than pursuing enterprise-wide data cleanup as a prerequisite to all AI work.

AI ROI Confidence: The Data Quality Gap



The survey data reveals a clear progression: respondents rating their data confidence as "high" (4-5 on a 5-point scale) expressed significantly greater confidence in achieving measurable AI ROI by 2030, with 41% reporting they are "very confident." Conversely, those with siloed or inconsistent data environments cluster in the "unsure" or "somewhat confident" categories regardless of their stated investment intent. This suggests that data infrastructure investment may yield higher returns than direct AI tool investment for organizations currently stalled in the pilot phase. The practical implication is counterintuitive: for some distributors, the fastest path to AI value runs through data governance rather than technology acquisition. Organizations should audit their data environment by application area—identifying where data quality already supports AI deployment versus where remediation is required—before committing to new AI initiatives.

People Challenges Dominate Barriers

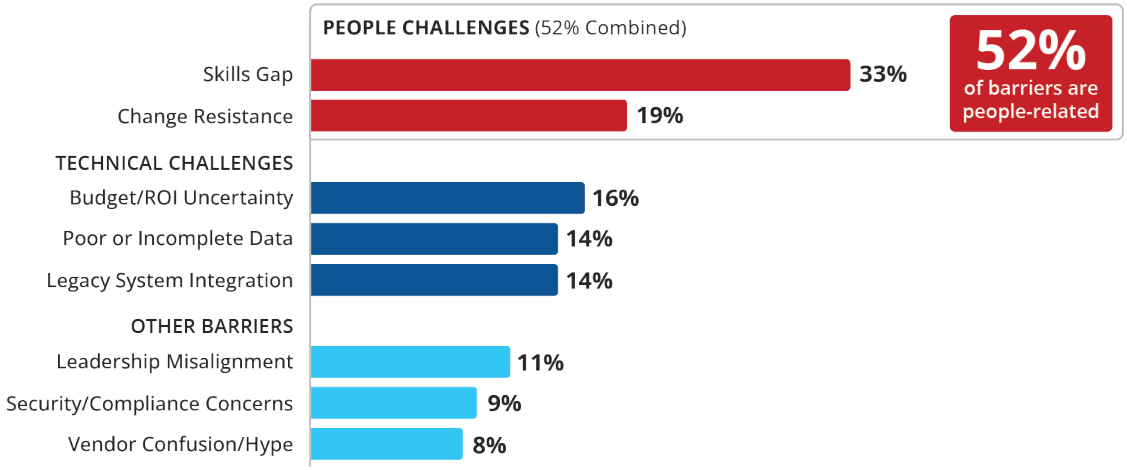
When asked about the biggest challenges slowing AI adoption, respondents cited skills gaps (33%) and change resistance (19%) most frequently — combining for 52% of responses. Budget or ROI uncertainty (16%) and poor or incomplete data (14%) ranked next. Leadership misalignment came last among significant barriers at 11%.

This finding challenges common assumptions. Leadership buy-in is not the problem — executives have committed. The problem is execution capacity. Organizations lack the internal skills to implement AI solutions, and workforces exhibit natural resistance to workflow changes. As noted in the presentation, "the problem is execution capacity" and "workforce capability must be addressed before technology investment will pay off."

Skills gaps alone account for 33% of barriers, nearly double any other obstacle. This isn't general technology illiteracy; it's a specific deficit in understanding how AI tools work, how to evaluate vendor claims, and how to manage workflows once AI is introduced. Change resistance (19%) compounds the problem: employees who don't understand AI are far more likely to resist it. Technical barriers like legacy systems and data quality (14% each) rank lower, with security concerns and vendor confusion trailing further behind.

The sequence matters. Organizations that invest in awareness and upskilling first, often find change-resistance resolves itself — employees who understand what AI can and cannot do exhibit less reflexive opposition. Those that lead with technology and skip the people work tend to encounter workforce friction that stalls or kills implementation.

What's Blocking AI Adoption? People Challenges Lead



Leadership buy-in ranks last. The problem is execution capacity, not strategic commitment.

Recommendation:
Address Skills Before Technology

The data is unambiguous: people challenges outweigh all other barriers. Before investing in additional AI tools, organizations should:

- **Start from the field level.**
  The discussion emphasized identifying friction points where work happens: "What's getting in the way the most for customer experience? What's getting in the way the most for efficiency?" Use these pain points to frame AI training around problems employees already want to solve.

- **Require leadership engagement.**
  Leaders "cannot abdicate not knowing how these tools work," as noted in the webinar. Executives should develop hands-on familiarity with AI tools rather than delegating understanding entirely to IT or operations teams.

- **Adopt role-based training.**
  Rather than generic AI awareness programs, structure training around how specific roles (inside sales, warehouse, credit) can use AI to enhance their daily workflows. The discussion recommended "upskilling people" through programs that help employees "know what AI is" and "look at it from a role-based" perspective.

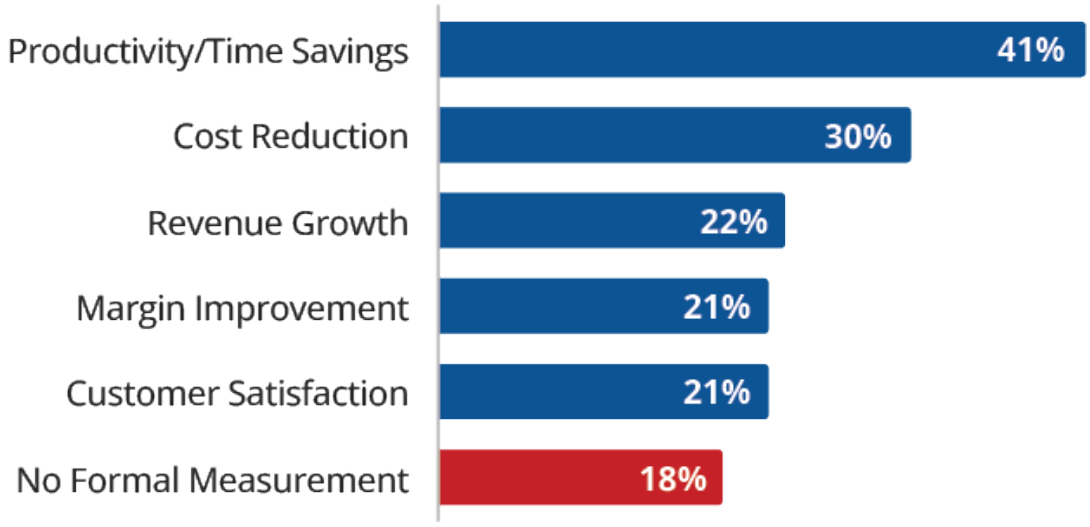
- **Sequence training before technology pilots.**
  The presentation was direct: investing in upskilling "will help you more than anything before trying to jump into an AI project that may or may not help you if you don't skill people up first."

ROI Measurement Remains Inconsistent

Eighteen percent of respondents have no formal ROI tracking for AI initiatives—a significant improvement from prior years but still a material gap. Among those who do measure, productivity or time savings dominates (41%), followed by cost reduction, margin improvement, and customer satisfaction. The variety of metrics suggests the industry lacks standardized approaches to AI value measurement.

The mismatch between stated priorities and measurement practices deserves attention. If 88% cite productivity as their primary AI driver, ROI measurement should focus on productivity metrics. The data suggests this alignment is improving but remains incomplete.

How Distributors Measure AI ROI



Distributors with strong data infrastructure are 4.5 times more likely to express confidence in AI ROI than those with siloed or inconsistent data — regardless of how much either plans to invest. The implication is counterintuitive. For organizations stalled in the pilot phase, the fastest path to AI value may run through data governance rather than technology acquisition.

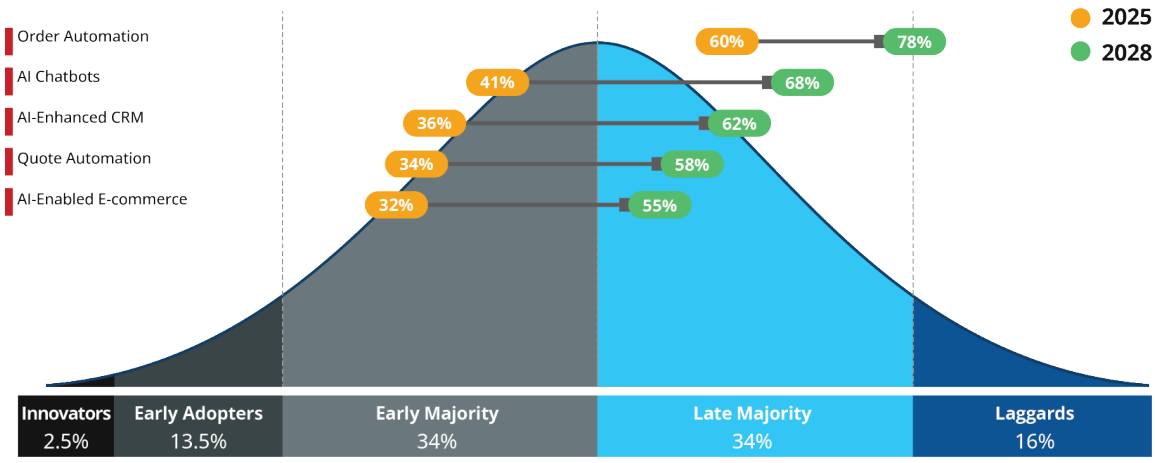
The lack of standardized measurement compounds the challenge. Productivity leads as the preferred ROI metric (41%), but cost reduction, margin improvement, revenue growth, and customer satisfaction all cluster around 20-30%—with no industry consensus on which matters most. Nearly one in five organizations have no formal measurement at all, meaning they cannot distinguish successful pilots from failed experiments. When everyone measures differently, peer benchmarking becomes unreliable and vendor ROI claims become impossible to validate. The fix is straightforward: establish measurement frameworks before launching pilots, not after.

AI Application Adoption Summary

The survey examined adoption across six functional domains: customer-facing applications, warehouse and operations, supply chain and procurement, finance and back office, HR and workforce, and IT and cybersecurity. Clear patterns emerged Customer-facing and IT security applications lead adoption, while warehouse robotics and physical automation lag. The following summarizes adoption by application category.

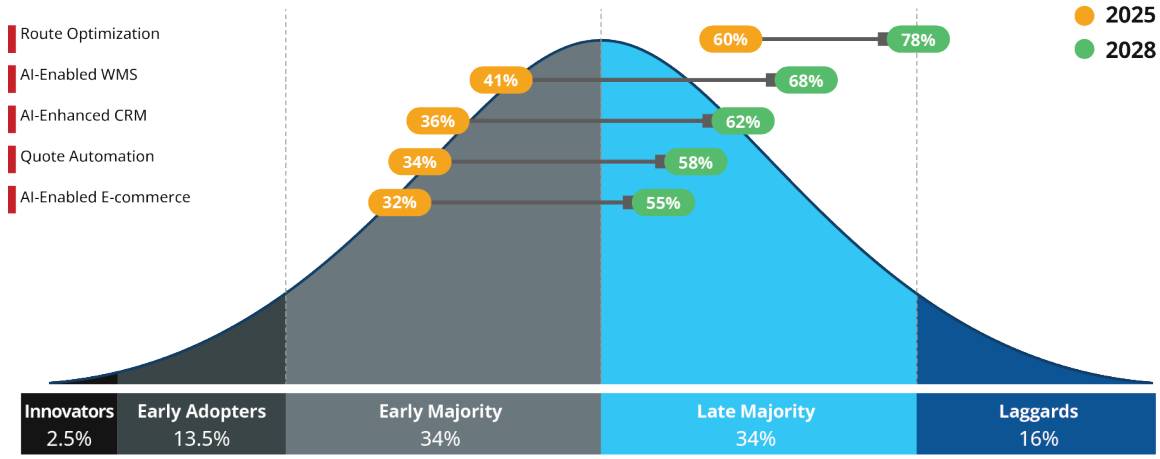
Customer-Facing AI Applications

Email order automation leads customer-facing AI adoption, reflecting high-ROI workflow automation that integrates with existing ERP systems. The presentation noted this application is "easily measurable" and "takes a lot of the manual burden off of people." A 32-point gap exists between traditional CRM adoption (68%) and AI-enhanced CRM capabilities (36%), suggesting significant upgrade potential within existing platforms.



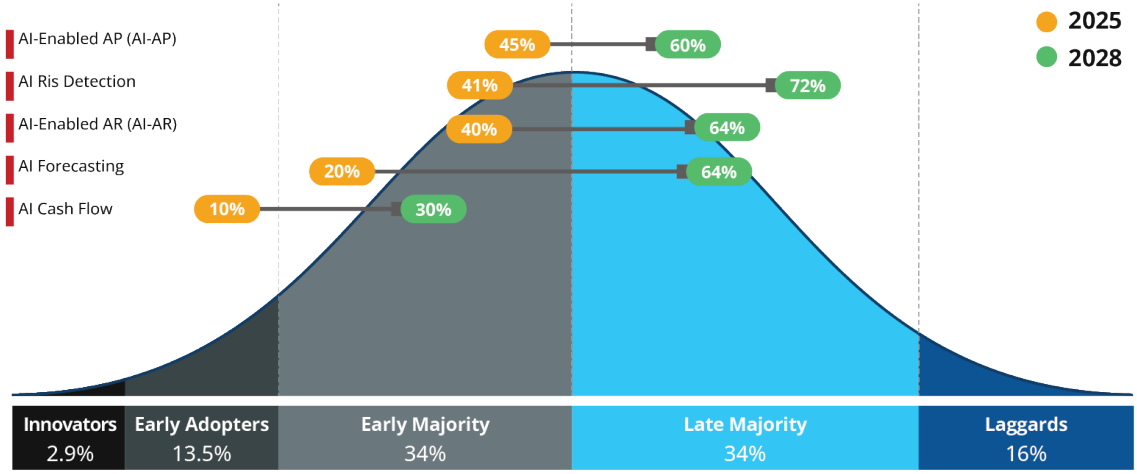
Warehouse & Operations AI

Route optimization leads warehouse AI adoption, benefiting from longer market presence and clear efficiency metrics. Physical warehouse technologies (AI-WMS, robotics) lag at 10%, though the discussion noted economics are improving with robots now available at price points accessible to mid-sized distributors. Demand forecasting represents the largest expected growth category (+36 points), reflecting supply chain pressure and improved data availability.



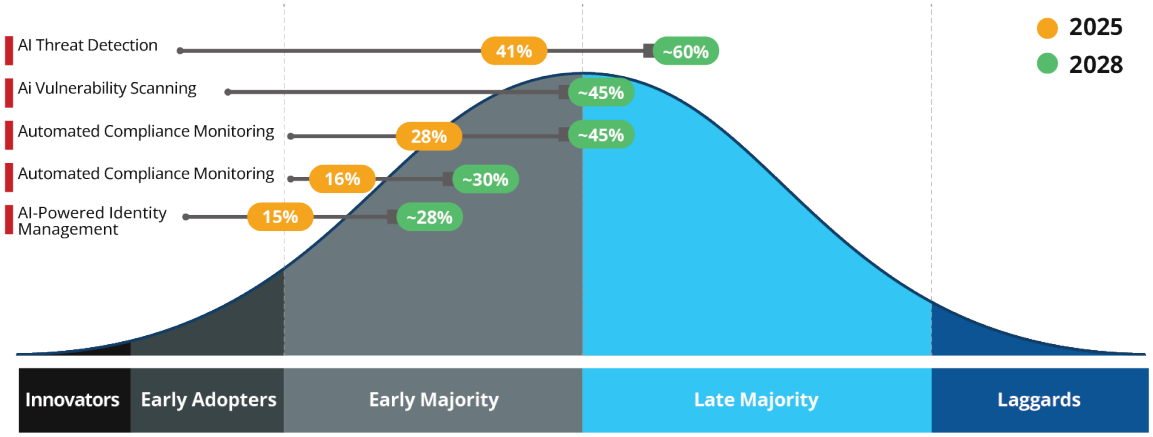
Finance & Back Office AI

While ERP adoption is near-universal (83%), AI-specific finance applications remain nascent. Automated AP/AR leads AI adoption (43%), while strategic applications like cash flow forecasting (15%) and credit risk assessment (12%) lag. The discussion highlighted an emerging opportunity: viewing credit management strategically as a "revenue lever rather than a clerical function" through AI-powered risk modeling.



IT & Cybersecurity AI

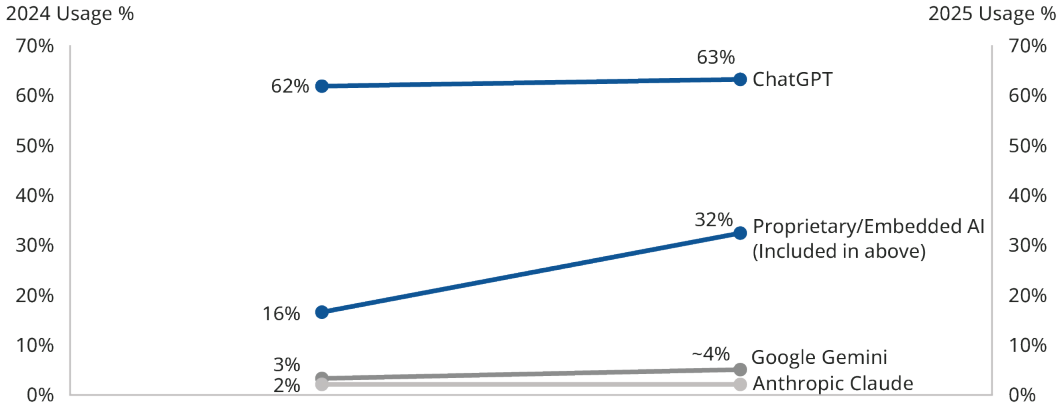
AI threat detection (41%) is the most adopted AI application across all functional domains surveyed. Cybersecurity represents a compelling AI use case: clear ROI through breach prevention, manageable implementation (often SaaS-based), and executive urgency. This success pattern—clear value proposition, bounded scope, measurable outcome—could inform deployment strategies for other AI initiatives.



Large Language Model Usage

The year-over-year LLM platform data reveals a shift toward enterprise solutions. Proprietary and embedded tools doubled from 16% to 32%, driven largely by Microsoft Copilot adoption within existing environments. ChatGPT usage plateaued at 63%, suggesting market saturation for consumer-grade tools. The platforms like Claude and Gemini offer superior capabilities for operational use cases but have not yet achieved distribution industry penetration.

LLM Usage Shifting from ChatGPT to Enterprise Tools Like Copilot



Key business insight: ChatGPT has plateaued. Enterprise-embedded tools (e.g. Copilot) are rapidly gaining ground.

Strategic Recommendations

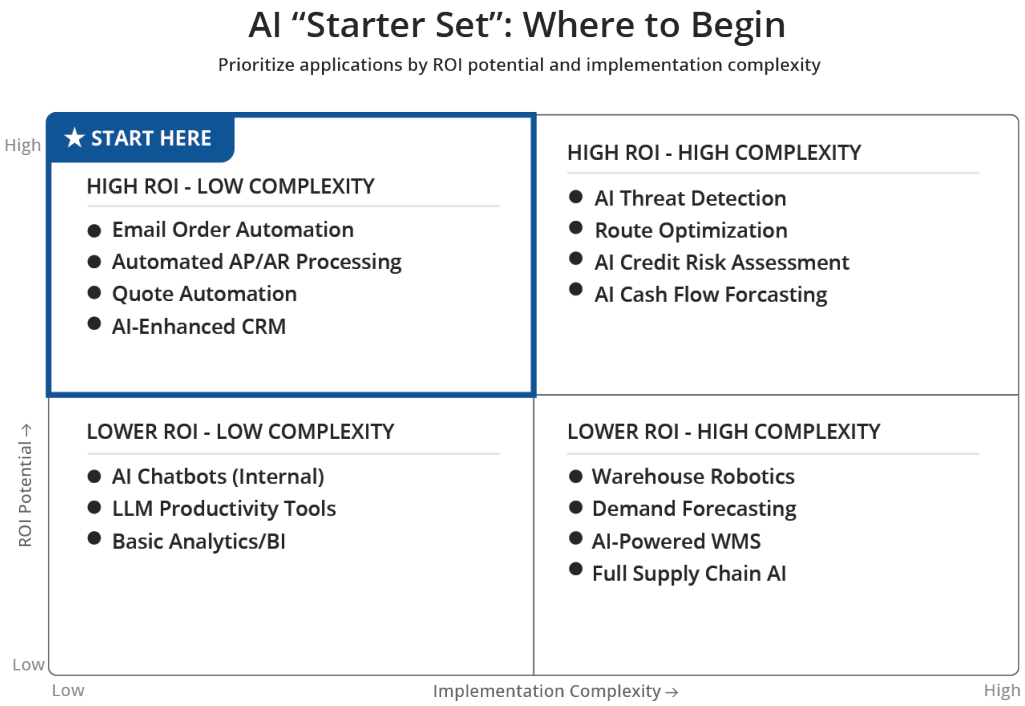
Based on the survey findings and webinar discussion, five strategic recommendations emerge for distribution leaders navigating AI adoption.

1. Address Skills Gaps Before Technology Gaps

The data is unambiguous: people challenges (52%) outweigh all other barriers. Before investing in additional AI tools, assess workforce AI literacy and invest in role-based training programs. As emphasized in the presentation, "upskilling people" will help more than "trying to jump into an AI project" without foundational capabilities. Consider formal training programs, strategic hiring for AI skills, and vendor partnerships that include knowledge transfer.

2. Start with High-ROI, Low-Friction Applications

The adoption data points to a "starter set" of applications that deliver value without requiring perfect data or extensive integration: email order automation, AI-enhanced finance (AP/AR processing), quote automation, and AI-enhanced CRM. These applications share characteristics that enable early success: clear productivity metrics, integration with existing ERP systems, and manageable implementation scope. Build organizational confidence through early wins before tackling complex supply chain or warehouse automation projects.



Strategic Guidance

Start top-left. These applications share characteristics that enable early success: clear productivity metrics, integration with existing ERP systems, and manageable implementation scope. Build organizational confidence through early wins before tackling complex warehouse automation or supply chain AI projects. The adoption percentages reflect current industry penetration—higher adoption signals proven, lower-risk implementations.

3. Distinguish Generative AI from AI-Enabled Applications

The presentation emphasized distinguishing two AI value tracks. Generative AI (large language models, chatbots) enables employee productivity and internal workflow enhancement. AI-enabled applications (embedded in CRM, ERP, WMS) deliver embedded operational value. Both matter, but they require different evaluation frameworks and implementation approaches. Assess your needs in both categories rather than treating AI as a monolithic investment.

4. Establish ROI Measurement Discipline

With 18% of organizations lacking formal ROI tracking for AI initiatives, measurement discipline represents an execution gap. Before launching new AI projects, define success metrics aligned with stated priorities. If productivity is the primary driver (cited by 88%), ensure productivity metrics anchor the measurement framework. Track outcomes consistently to build the business case for scaled investment.

5. Leverage Existing Technology Partners

The discussion highlighted an often-overlooked opportunity: existing technology vendors increasingly embed AI capabilities within platforms distributors already use. Before evaluating new AI point solutions, engage current ERP, CRM, and e-commerce vendors to understand available AI features. This approach reduces integration complexity, leverages existing data relationships, and accelerates time-to-value.

Conclusion

The State of AI in Distribution 2025 reveals an industry that has moved decisively from curiosity to execution. The pilot stage dominates (63%), but this reflects disciplined evaluation rather than hesitation. Executive commitment exists. Investment is flowing. The barriers have shifted from strategic buy-in to operational execution—skills gaps, change management, and data quality.

The application adoption data provides a roadmap. Customer-facing applications (email order automation, chatbots, AI-enhanced CRM) lead because they offer clear ROI, bounded scope, and measurable productivity gains. Warehouse and supply chain applications lag not because the technology is immature, but because implementation complexity and data requirements create higher barriers. IT security has emerged as an unexpected AI success story, demonstrating how clear value propositions and urgent business needs accelerate adoption.

The path forward is clear: start where you can win fast, prove value, then scale. Progress beats perfection. Momentum beats waiting. Distributors who invest in workforce skills, establish measurement discipline, and prioritize high-ROI applications will convert today's pilots into tomorrow's competitive advantages.

The Path Forward: From Pilot to Production

A sequenced approach to converting AI exploration into operational value

1 UPSKILL YOUR WORKFORCE

Address the people barrier before investing in technology deployment

52% of adoption barriers are people-related

- Implement role-based AI training programs
- Require leadership hands-on engagement
- Establish change management protocols
- Build internal AI evaluation capability

→

2 DEPLOY THE STARTER SET

Prioritize high-ROI, low-complexity applications with proven adoption patterns

Target applications with 35–62% industry adoption

- Email order automation (62% adoption)
- Automated AP/AR processing (43%)
- Quote automation (~35%)
- AI-enhanced CRM 36%)

→

3 SCALE WHAT WORKS

Prove ROI on initial deployments, then expand systematically to complex domains

Build toward 65% planned investment increase

- Document and communicate ROI metrics
- Expand to adjacent use cases
- Advance to supply chain and warehouse AI
- Integrate AI across functions

GUIDING PRINCIPLES

I **Progress Over Perfection**
Imperfect action today outperforms delayed optimization

II **Momentum Over Waiting**
Early movers compound learning advantages over time

III **Wins Build Confidence**
Proven ROI on simple projects unlocks complex initiatives

THE IMPLICATION

Organizations that invest in workforce capability, establish measurement discipline, and prioritize proven applications will convert today's pilots into sustainable competitive advantage. The industry has moved past the question of whether to adopt AI. The differentiator now is execution velocity.

DISTRIBUTION STRATEGY GROUP

About Distribution Strategy Group

Distribution Strategy Group provides proprietary analytics platforms and expert content that wholesale distributors use to drive growth. Through the Customer Experience RX, Employee Experience RX, and Demand RX platforms, DSG delivers actionable insights on customer loyalty, workforce engagement, and revenue optimization.

DSG serves as the authoritative voice on AI adoption in wholesale distribution, producing research that reveals critical gaps between recognition and implementation. The organization connects distribution executives with proven strategies, concrete metrics, and peer experiences that turn insight into measurable outcomes.

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