RETAIL AI IN OPERATIONS FROM PILOTS TO SCALE

AI point of view for retail transformation leaders



BRADY

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EXECUTIVE SUMMARY

Retail AI has moved beyond experimentation, but enterprise-wide scale remains rare.

This white paper argues that the next advantage will not come from more pilots or isolated tools, but from an operating model that turns trusted data into repeatable decisions across stores, supply chains and digital channels. The research shows that retailers are already investing in AI, yet many struggle to scale because operational data is unreliable, systems are fragmented and insights do not consistently reach frontline workflows.

The core message is clear: dynamic commerce depends on connected data, integrated systems and human-centered execution. Retailers that define the decisions AI should improve, strengthen inventory and product data, embed recommendations into associate workflows, and prove value in real operating conditions will be better positioned to improve availability, productivity, customer experience and margin performance.



RETAIL AI IN OPERATIONS

> Eleven percent of the retail professionals Brady surveyed in the United States, the United Kingdom and Germany have scaled AI across the business. Three in ten have deployed it in several functions. Almost everyone else is still piloting, exploring or waiting.

Those figures come from new research Brady commissioned with Guidepoint, surveying 82 retail professionals in three mature markets.[1] More than three quarters are piloting, deploying or scaling AI right now.

The pattern holds well beyond those three markets. McKinsey's survey of 1,993 respondents across 105 nations found 88% now report regular AI use in at least one business function, yet only about a third have begun scaling enterprise-wide. Just 39% report any EBIT impact at all, and only 6% qualify as high performers attributing 5% or more of EBIT to AI.[2]

Read those numbers together and the strategic question changes shape. It is no longer whether to adopt AI. Honeywell's own research with Wakefield Research, covering 450 retail executives across seven countries on four continents, found 85% had already built AI capabilities and only 1% had none and were not evaluating any.[3] Appetite is settled. Capital is available.

What is missing is an operating model that turns a working pilot into a decision your stores make the same way every day.

Europe puts a number on the prize and on the frustration in the same breath. EuroCommerce and McKinsey size the European AI opportunity at €240 to €320 billion over five years, worth 4 to 10 percentage points of operating profit. In the same study, 80% of European retail executives say it is still too early to determine AI's impact on EBITDA.[4]

Retail is not short of experiments. It is short of repeatability. This point of view looks at where adoption is advancing, why enterprise-wide scale stays rare, and what the leaders do differently. The short version. Trusted data, integrated systems and frontline adoption are the three conditions that turn insight into everyday execution.

ABOUT THIS RESEARCH AND ITS LIMITS

Guidepoint conducted a double-blinded online survey of 82 retail and eCommerce professionals in the United States (51% of the sample), the United Kingdom (37%) and Germany (12%). Respondents work in store operations, supply chain and logistics, transformation, data and analytics, IT or customer experience, and all are involved in AI, data or technology decisions. Store operations accounts for 72% of the sample, so this is a view from close to the floor. 54% are final decision makers and a further 35% sit on the decision-making team. This is a three-market sample, not a global one. Where an independent multi-region study speaks to the same question, it is named alongside the survey finding. Where none does, the finding stands on this three-market sample alone and should be read that way.

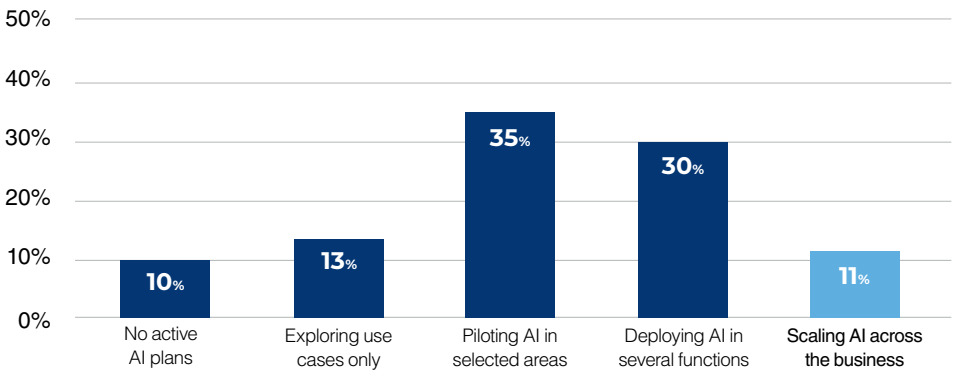


Figure 1: Which best describes your organization's overall AI maturity in retail operations and customer-facing functions?
AI adoption has momentum. Enterprise-wide scale does not.

FOUR PRESSURES, ONE ROOT CAUSE

1. COMMERCE KEEPS FRAGMENTING

Every new channel writes a promise against the same physical stock

EMARKETER forecast global retail e-commerce at $6.419 trillion for 2025, 20.5% of worldwide retail sales, growing 6.8%. The slowest pace since 2022.[5] Growth is no longer arriving through one door. In Deloitte's survey of 330 retail executives, 28% named expanded marketplace presence and 22% named social commerce as 2026 growth opportunities, while referral traffic from ChatGPT and other AI chats already accounts for 15 to 20% of total referrals for some retailers.[6] Salesforce, analyzing more than 1.5 billion shoppers across 37 countries, found use of agentic search as the first step in a shopping journey grew 200% year over year.[7]

2. LABOR VOLATILITY

Means every digitalized process has to survive being run by someone new

UKG's study of 8,200 frontline workers across ten countries found 76% reported burnout in 2025 and 47% perceive two separate cultures in their organization, one for the frontline and one for everyone else.[8] In Europe, EuroCommerce and McKinsey estimate up to 75% of retail roles could change as AI embeds across the organization.[3] Yet in Deloitte's survey, talent and workforce workforce ranked lowest among 2026 priorities, named by just 23%.[6]

3. COST PRESSURE

Is now a permanent planning assumption

The World Trade Organization put world merchandise trade volume growth at 4.6% for 2025, falling to 1.9% in 2026, with tariff actions recorded through February 2026 affecting roughly 11% of global trade.[9] Deloitte found 95% of retail executives expect trade policies to push costs higher and 66% plan onshoring, nearshoring or supplier diversification if input costs rise.[6]

4. AGENTIC COMMERCE

Raises the bar again, and the entry ticket is machine-readable data

Nearly 68% of retail executives expect to deploy agentic AI for key operational and enterprise activities within 12 to 24 months, and 44% report legacy systems slowing innovation, which Deloitte frames as a real need to invest in clean, connected data.[6] Only 27% of commerce organizations say their customer data is fully unified across sales, service, marketing and commerce.[7]

FOUR SYMPTOMS. ONE SHARED DEPENDENCY.

A fragmenting channel mix multiplies the systems making promises about the same physical unit. A volatile frontline means those promises rest on processes run by people with weeks of tenure. Cost pressure removes the cushion that used to absorb the errors. And an AI agent routes around a retailer whose product, inventory and pricing data is not machine-readable.

Every one of them resolves to the same question.
Can you trust what your systems say is true?

FOUR FORCES ARE RESHAPING RETAIL OPERATIONS AT ONCE. THEY LOOK UNRELATED. THEY ARE NOT.

- Commerce keeps fragmenting
- Labor volatility
- Cost pressure
- Agentic commerce



CAN YOU TRUST WHAT YOUR SYSTEMS SAY IS TRUE?

FINDING 1: AI TRACTION THINS OUT AS IT APPROACHES THE SHOP FLOOR

Where AI has landed is not random. It landed where the data was already clean, centralized and structured.

Half of the retailers surveyed have deployed or are scaling AI in demand forecasting and planning. Two in five have done the same in customer service automation. Move toward the store and the picture inverts. Shelf availability and store execution monitoring sits at 15% deployed or scaling, with 54% still exploring or not considering it at all. Loss prevention and shrink detection sits at 13%, with 65% either still exploring it or not considering it at all.

Execution gap made visible

Forecasting runs on tidy historical data. Store execution runs on what is actually on the shelf right now, captured by people mid-shift, in a building where a planogram and reality drift apart every hour.

The cost of that drift is quantified, and it is large enough to change a capital plan. IHL Group, tracking more than 4,500 enterprise retailers and hospitality providers with 50 or more locations each across North America, EMEA, APAC and LATAM, puts global inventory distortion at $1.7 trillion a year, equal to 6.2% of global retail sales. Empty shelves alone account for $690.9 billion, and out-of-stocks make up 65.6% of the total.[10] The same study finds fewer than 30% of retail AI projects move past the pilot stage.

THE FRONTIER IS NOT A BETTER MODEL. IT IS A BETTER SIGNAL FROM THE PLACE WHERE CUSTOMERS ACTUALLY EXPERIENCE THE BRAND.

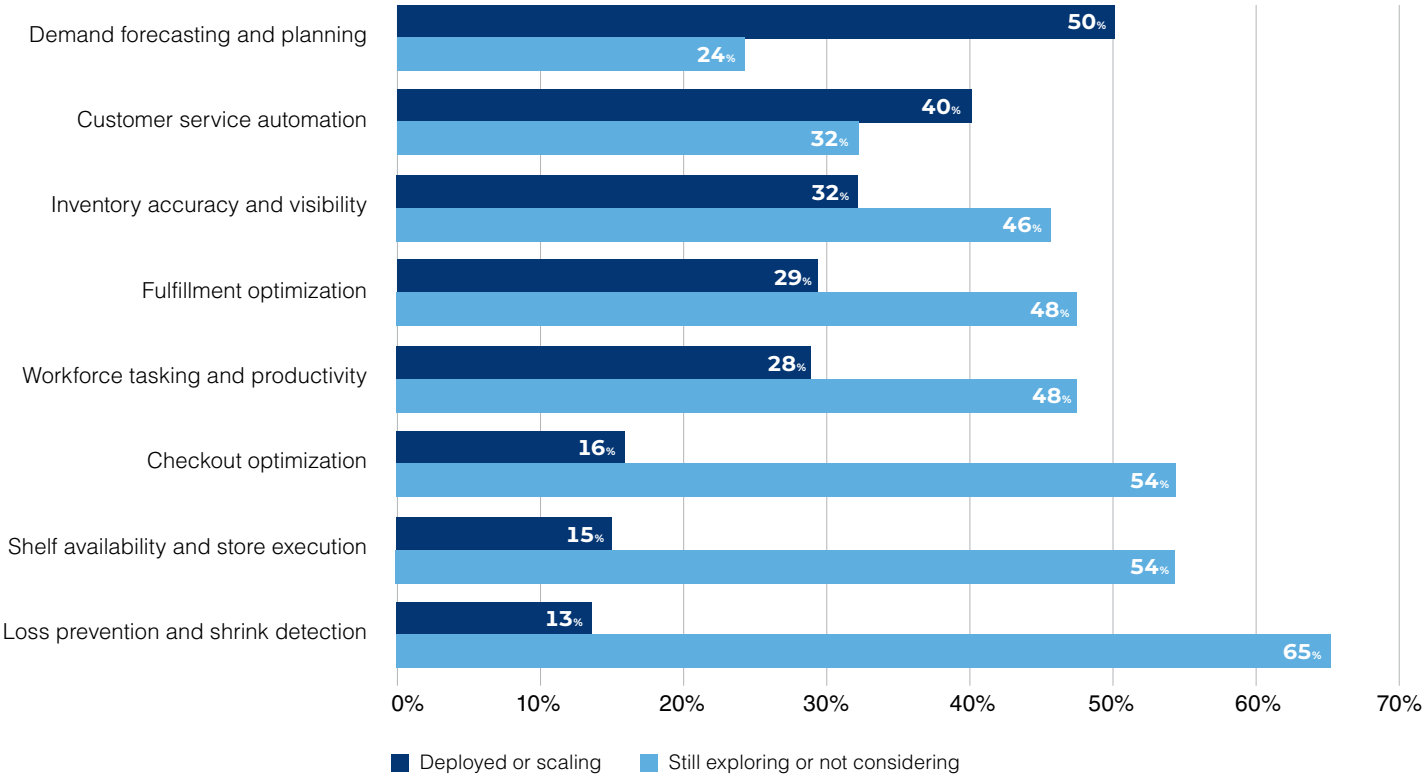


Figure 2: AI traction is strongest furthest from the shop floor
Where is your organization with AI in the following areas today?

FINDING 2: CONFIDENCE BREAKS DOWN CLOSEST TO THE SHELF

Ask retail leaders where they trust their data least and the answer is unambiguous.

Inventory data, on-hand and on-shelf, is the top concern for 52% of respondents. Nothing else comes close. Product and SKU master data follows at 34%, associate performance data at 33%, supply chain visibility and store execution data at 32% each.

A closer look

Notice what that list has in common. Every item is operational, high-frequency and generated at the edge of the business rather than in a central system. These are the signals that determine availability, substitution, replenishment, tasking and service.

Confidence in data turns out to track closely with how much of the capture has been automated. In Honeywell's research with Wakefield Research, 53% of retail executives described their data capture as completely or mostly automated, while 46% called it only somewhat or barely automated. Confidence tracks that split. 76% overall rate their ability to obtain trusted data as very strong, rising to 80% among executives whose companies have mostly or completely automated capture and 83% among those with an IT function.[4]

Early AI work survives imperfect data. A pilot in one region, watched by the team that built it, absorbs a lot of noise. Scaled operations do not. Once a recommendation reaches every store in the estate and nobody is watching it individually, the underlying signal becomes the ceiling on the whole program.

Which is why data quality has stopped being an IT issue. It is a transformation priority with a margin number attached.

TOP CONCERN:

52%

OF RESPONDENTS HAVE CONCERNS ON DATA QUALITY FOR INVENTORY, ON-HAND AND ON-SHELF OPERATIONS

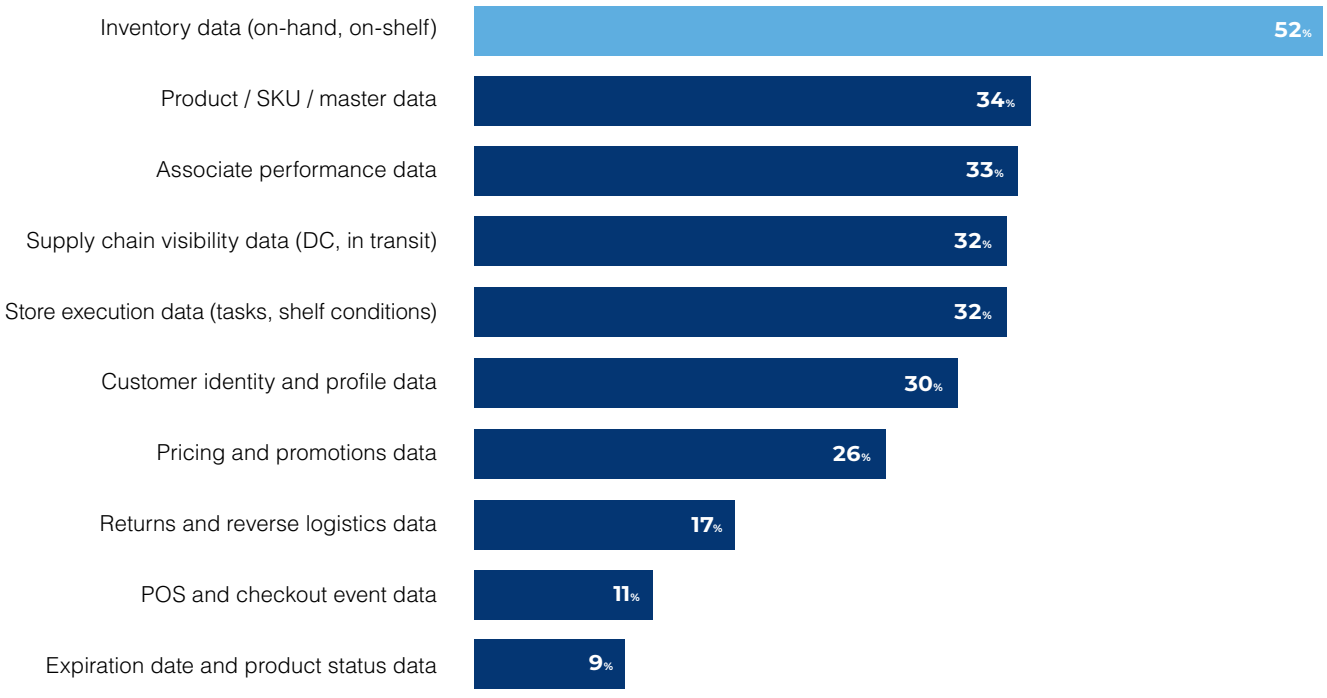


Figure 3: Confidence in data breaks down closest to the shelf
Which areas do you have the most concerns about data quality or confidence today? (Select up to three)

FINDING 3: THE BARRIERS ARE STRUCTURAL, NOT ATTITUDINAL

Nobody in this research is resisting AI. They are running into architecture.

Integration complexity is rated a major or critical barrier to scaling AI by 55% of respondents, ahead of every other constraint. Poor data quality follows at 41%, data silos and fragmented systems at 40%, and legacy infrastructure at 39%. Limited frontline adoption sits at the bottom of the list at 12%.

Rating breakdown

That ranking is instructive. The things people worry about in the abstract, vendor lock-in and change management, are not what stops them. What stops them is that the pilot lives in one system and the workflow lives in four others.

The industry benchmark tells the same story from a different angle, and across more markets. Manhattan Associates and Incisiv evaluated 330 capabilities across more than 400 specialty retailers in North America, EMEA and LATAM, classifying just 7% as unified commerce leaders with 33% still at the basic stage. Leaders achieve close to twice the growth rate of basic peers, and 38% of what defined a leader in 2024 had become table stakes by 2026.[11]

Twice the growth is not a technology gap. It is an operating-model gap. The leaders sequenced their work so each use case strengthened a shared foundation instead of adding another island.

TOP CONCERN:

55%

THINK INTEGRATION COMPLEXITY IS MAJOR OR CRITICAL BARRIER TO SCALING AI

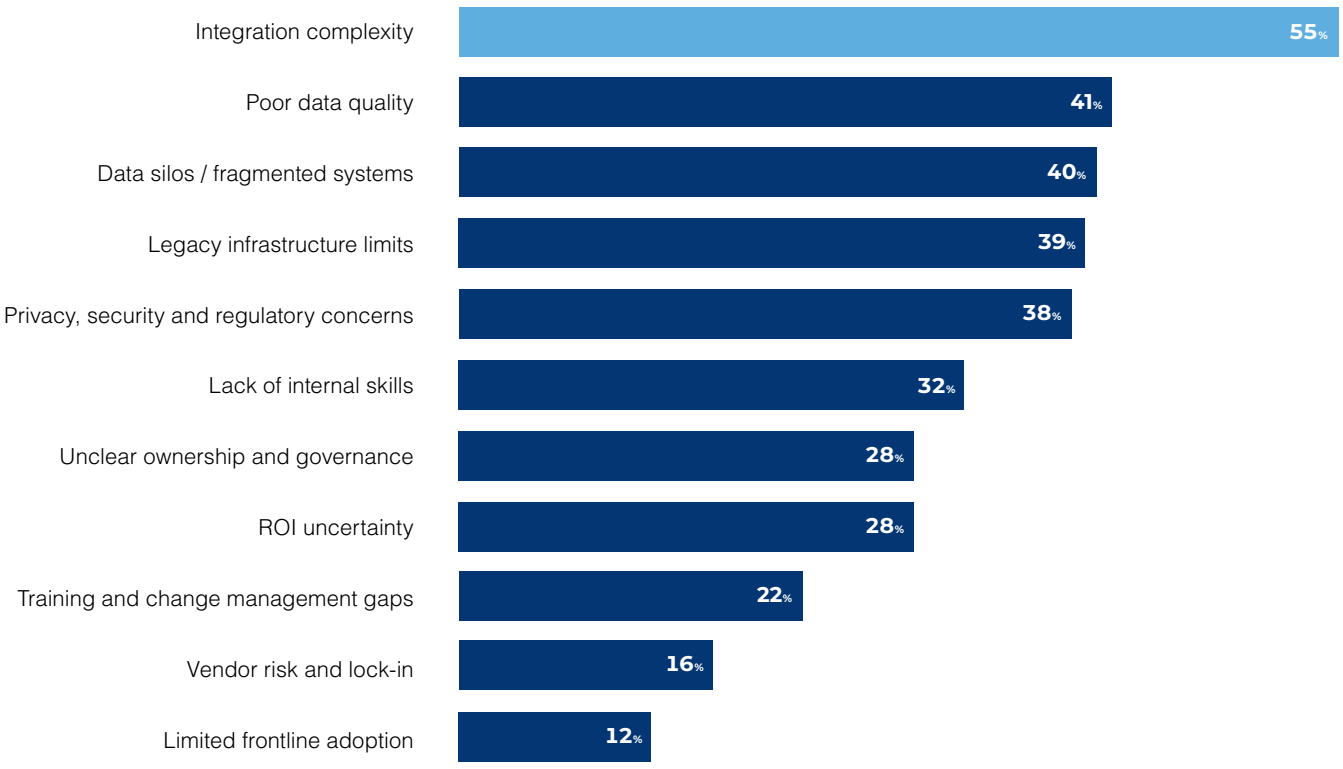


Figure 4: Barriers to scale are structural, not attitudinal
Rate each barrier as a major or critical limit on scaling AI today.

FINDING 4: INTEGRATION AND PROOF ARE WHAT UNLOCK THE DECISION TO SCALE

We asked what would most increase confidence to scale AI. The answers are practical and actionable.

Stronger integration across systems leads at 59%. Clearer ROI evidence follows at 51%, and proven use cases from peers at 48%. Better governed data comes in at 30% and more executive sponsorship at just 7%.

Read that as a sequence rather than a list. Retail leaders are not asking to be convinced that AI works. They are asking to be shown it works in conditions like theirs, connected to the systems they already run, with a number a CFO will accept.

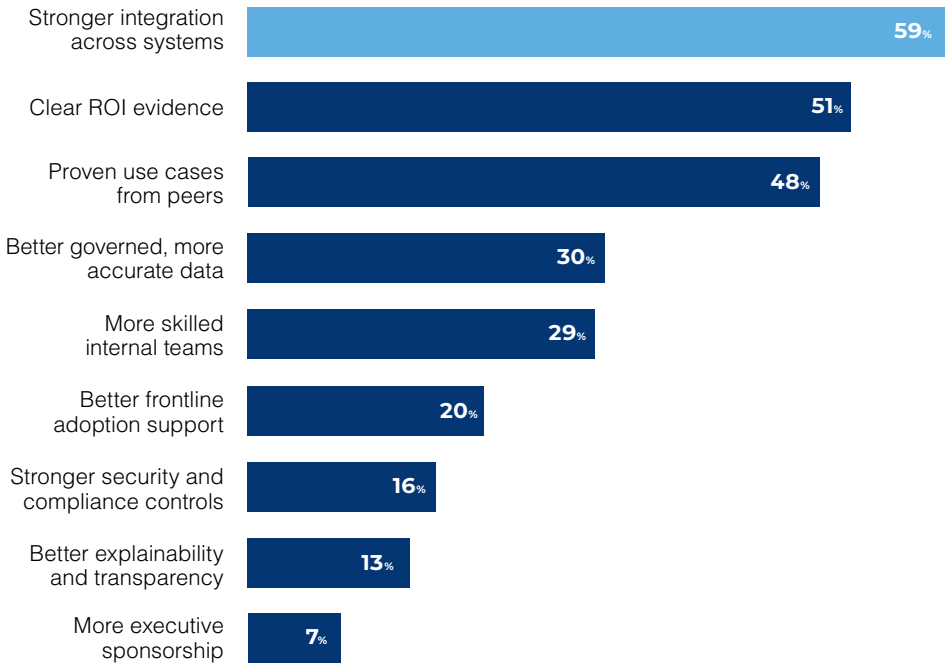


Figure 5: Integration and proof are what unlock the decision to scale
What would most increase your confidence to scale AI? (Select up to three)

Desired outcomes

The outcomes they want are equally grounded. Lower operating costs top the list at 55%, then better forecast accuracy at 49%, customer experience and personalization at 45%, workforce productivity at 43% and inventory accuracy and availability at 39%.

Cost, accuracy, forecasting and productivity. Those are operating metrics with short feedback loops, and that is the point. The window for proving value is narrowing rather than widening. Gartner predicts more than 40% of agentic AI projects will be canceled by the end of 2027, citing escalating costs, unclear business value and inadequate risk controls.[12]

Pilots designed as technology tests answer the wrong question. Pilots designed as proof of value answer whether the workflow fits, whether associates adopt it, and whether the number moves.

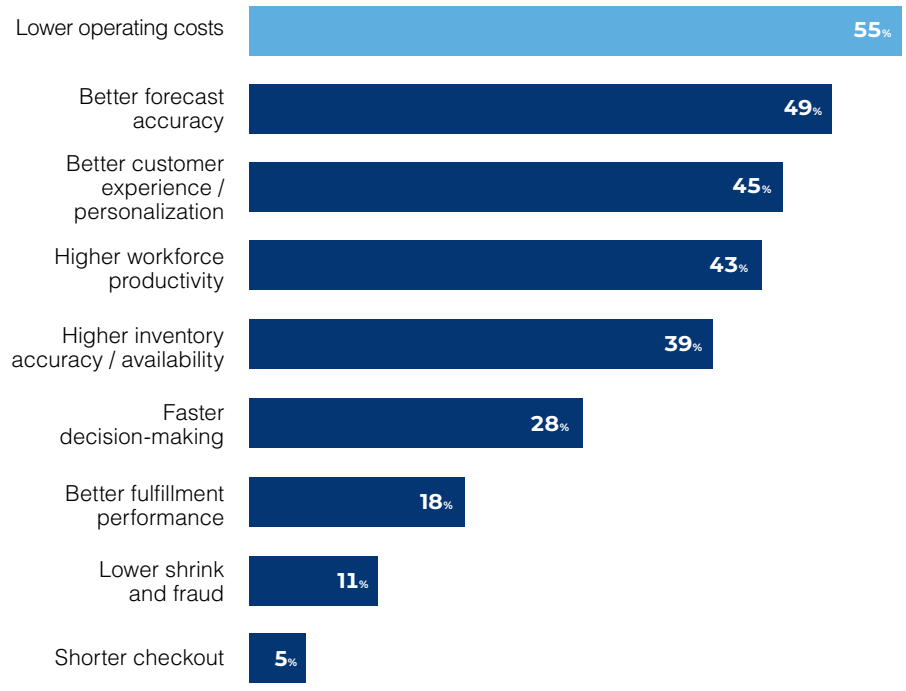


Figure 6: Retailers want AI to move operating metrics first
What outcomes do you most want from AI? (Select up to three)

FINDING 5: THE MONEY IS GOING INTO THE FOUNDATION

Asked which technologies matter most over the next 12 to 24 months, the US, UK and German retailers in this survey did not name a model. They named plumbing.

Master data management ranks first at 56%, ahead of customer data platforms and identity resolution at 43%, warehouse automation and scanning at 37% and POS capture improvements at 35%. Computer vision sits at 6% and store digital twins at 2%.

Respondent takeaways

Master data management ranked first for large and small retailers alike across all three markets. That is a striking consensus, and consistent with everything above. If inventory and product data are where confidence breaks down, and integration is the top barrier, the highest-return investment is the one that makes every subsequent use case cheaper.

It is also what agentic commerce is about to demand. GS1 is blunt on the point. Without standardized identifiers, shared vocabularies and dependable data carriers, AI produces misinformation rather than insight.[18]

There is one more finding worth carrying into the boardroom. Asked how often teams act on AI or analytics outputs in day-to-day operations, 44% said often and 35% said sometimes. Only 7% said they do not use AI or analytics outputs at all.

So the insight is arriving. It is landing inconsistently. The last mile of an AI program is not the model or the dashboard. It is the moment a manager or an associate does something different because of what the system told them.

That is a design problem, not a training problem. When a recommendation appears in the tool someone is already holding, at the point in the shift where the decision is made, adoption stops being something you campaign for.

FOR BOTH LARGE AND SMALL RETAILERS, MASTER DATA MANAGEMENT RANKED FIRST ACROSS THE US, UK AND GERMAN RETAIL MARKETS.

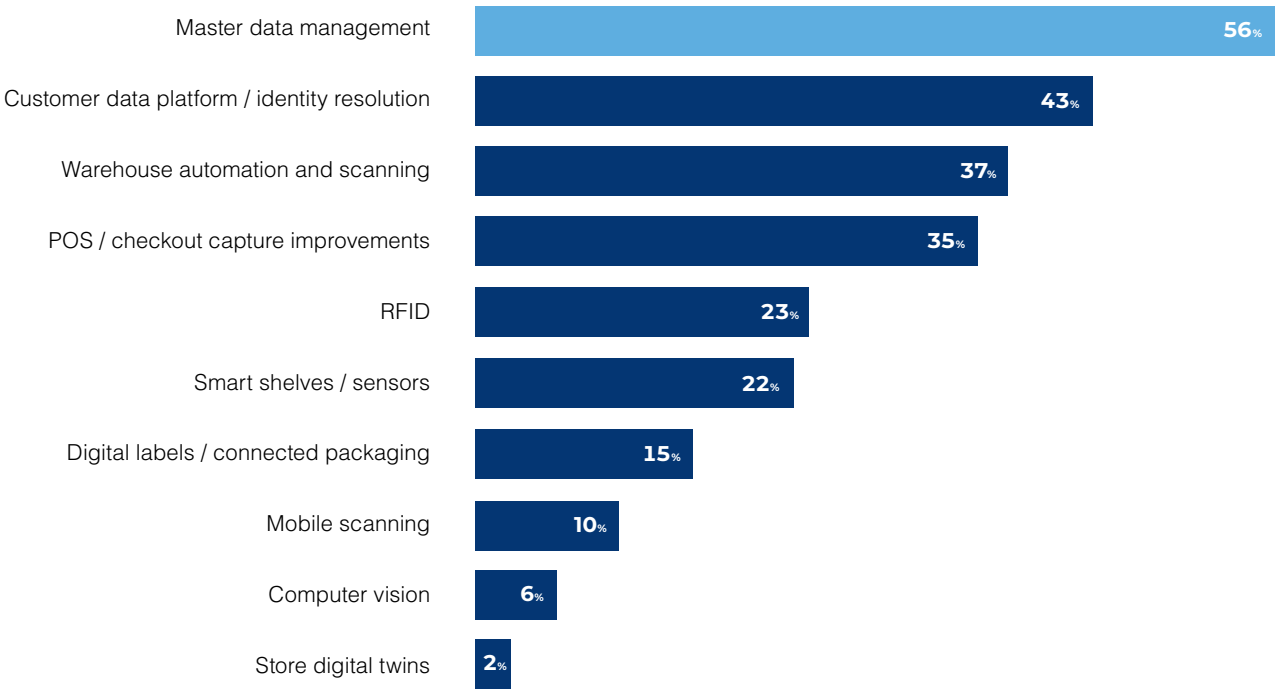


Figure 7: Investment is going into the data foundation, not more AI tools
Which technologies are most important for your organization over the next 12-24 months? (Select up to three)

WHERE DOES YOUR ORGANIZATION STAND?

> Five questions, drawn from the findings that place a retail organization against the field.

Questions worth answering honestly before a budget cycle rather than during one.
Anywhere the answer is uncomfortable, the fix is upstream of the AI. That is the useful part.

QUESTIONS		RESPONSES
1	Can you name the decisions AI is supposed to improve?	Leaders list five to seven, tied to availability, service, productivity, shrink and margin. Organizations stuck in pilot mode list technologies instead.
2	Would you bet a promise on your inventory record?	If a customer buys online and a store has to deliver, the accuracy of that record is the whole transaction. 52% of the retailers in this research name inventory data as their top data-quality concern.
3	Does the pilot connect to the systems that run the business, or to a copy of them?	Integration is a major or critical barrier for 55%. Pilots that avoid integration are cheap to run and impossible to scale.
4	Can you show a number a CFO already accepts?	51% say clearer ROI evidence would most increase their confidence to scale. That evidence usually exists inside the pilot, but is rarely instrumented from the start.
5	Would an AI agent be able to read your catalog?	Product, inventory, pricing and policy data that is not machine-readable is data an agent routes around. Only 27% of commerce organizations report fully unified customer data.[7]



FIVE MOVES THAT MAKE BETTER DECISIONS REPEATABLE

> The retailers pulling ahead are not running more experiments. They are running an operating model. Five moves define it.

1. DEFINE THE DECISIONS, NOT THE USE CASES

Start from the handful of decisions that most affect availability, service, productivity, shrink and margin. Then ask which of them would change if the underlying data were an hour old instead of a day old. That question sequences a road map faster than a technology inventory does.

2. EARN TRUST IN OPERATIONAL DATA

Prioritize the high-frequency signals that shape daily execution, which the research identifies as inventory, product, transaction and workflow data. Smart data capture at the edge is where this begins. Brady SwiftDecoder™ software, RFID and Vision AI each exist to produce a clean, item-level signal at the moment a physical thing is handled, and AgenticAI turns that signal into an answer a manager can act on, so the recommendation downstream is grounded in what is actually there.

3. DESIGN FOR THE ASSOCIATE, NOT THE ANALYST

An insight that reaches a dashboard has not reached the shelf. Brady Voice Guided Work puts the next action into the flow of the shift, hands free and eyes up. A Spanish grocery retailer with more than 1,400 associates cut time spent on checklists and audits by 75% across the business after deploying it.[13] A leading grocery retailer in North America using Brady's click-and-collect offering fulfills orders up to 30% faster with guided workflows and real-time inventory data.[15]

4. PROVE VALUE IN REAL CONDITIONS

Use pilots to test four things at once. Workflow fit. Integration effort. Associate adoption. A measurable outcome. A retailer with more than 2,000 locations in North America replaced consumer-grade devices with Brady CT Series mobile computers managed through Brady Operational Intelligence, which predicts device failures and surfaces workflow bottlenecks. Speed of service improved by up to 93%.[14]

5. SCALE THROUGH A SHARED FOUNDATION

Every use case should leave the data and workflow layer stronger than it found it. That is what turns a portfolio of pilots into an operating model, and it is why platform longevity matters. Brady Mobility Edge™ exists so that a device and software estate can absorb a decade of change without becoming next year's technical debt. It is the difference between building a foundation and buying another island.

WHY DO THESE FIVE MOVES HOLD UP?

These five hold up because they have been run at scale, across markets that behave nothing like each other. More than 1,5 million of devices installed into main Retail and Transportation and logistics companies worldwide have been standardized with Brady solutions. No tolerance there for a workflow that works in the lab and fails on a Tuesday in December.



CONCLUSION

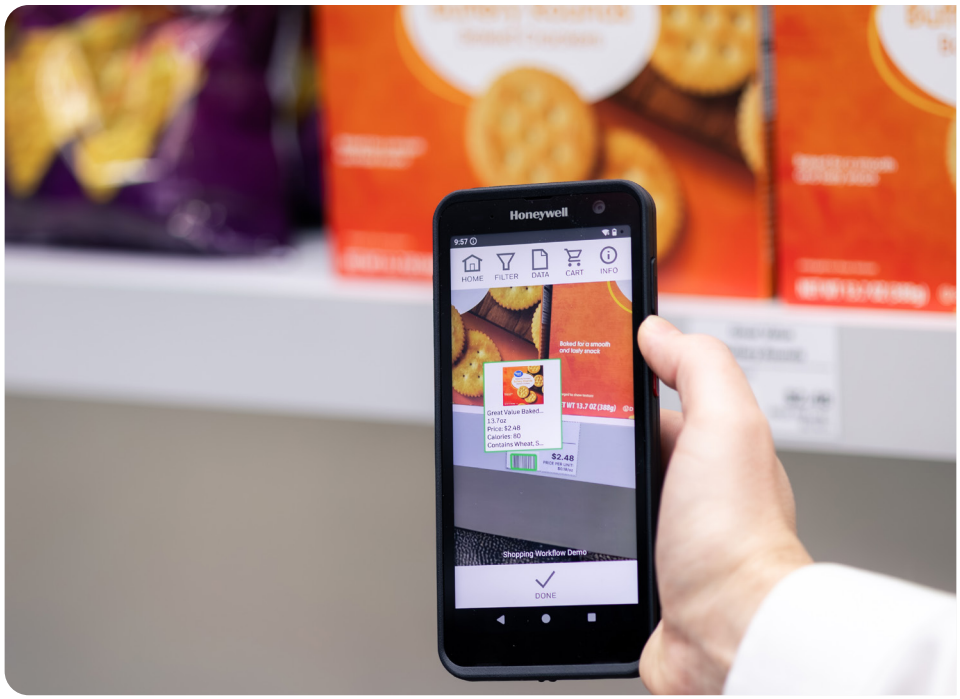
> Retail leaders told us something consistent at NRF 2026, and this research confirms it. What matters now is time to value, measurable ROI and proven scalability.

WHERE THIS GOES NEXT

Dynamic commerce is the shape that takes in practice. Connected data, adaptive decisions and human-centered execution across stores, supply chains and digital channels, so operations keep adjusting while the experience keeps improving.

One architecture has to survive a German hypermarket, a Brazilian franchise network and an Indian dark store. The same guided click-and-collect workflow has to hold in an APAC pharmacy and a Middle East grocery format as well as a North American supercenter. That is a data and workflow standard, not a technology preference, and it is the part that travels.

We work with retailers on exactly this problem, from the capture point on the shelf to the decision on the screen to the action in the aisle, across scanning, mobility, printing, wearables, voice and the software that connects them.



TOP TAKE-AWAY

If you take one thing from this research, ask which decisions in your business would change if you trusted your inventory data completely. Then build toward those.

That is where the eleven percent are already working.

LOOK TO BRADY

See the full findings and where your organization sits against the field. Explore how Brady helps retailers unleash dynamic commerce.

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THE NUMBERS WORTH CARRYING INTO THE ROOM

- "**11%**: retail professionals in the US, UK and Germany who have scaled AI across the business." [1]
- "**88%** use AI, about a third are scaling, 6% can attribute 5% or more of EBIT to it." [2]
- "**52%**: retailers naming inventory data as their top data-quality concern." [1]
- "**55%**: retailers rating integration complexity a major or critical barrier to scaling AI." [1]
- "**59%**: retailers who say stronger integration would most increase their confidence to scale." [1]
- "**56%**: master data management, the number one technology priority for the next 12 to 24 months." [1]
- "**$1.7 trillion**: annual global inventory distortion, 6.2% of global retail sales." [10]
- "**7%**: retailers reaching unified commerce leadership, at roughly twice the growth of basic peers." [11]

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