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MANGO
2026 Connected Retail Experience Study
The New Omnichannel Reality: AI Is Required to Compete, Yet Hard to Implement
IN PARTNERSHIP WITH
verizon business
cisco

INTRODUCTION

Why did we do this research?

Verizon and Cisco have partnered on this multi-year research study to understand the store's digital transformation. Over the past five years, we have focused on understanding technology priorities, challenges, and baselining in-store technology adoption.

In the 2026 study, we have compared respondents across retail segments to understand:

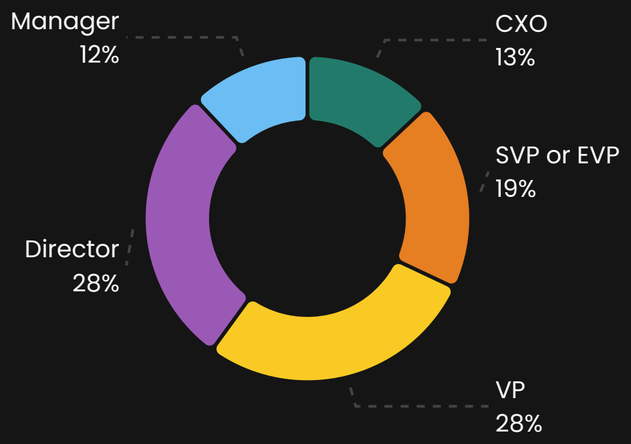
- What key challenges and priorities are driving technology investments?
- Are retailers making progress on personalization and AI adoption?
- How are mobile technologies transforming associate productivity?
- Are network infrastructures ready to support AI and IoT demands?

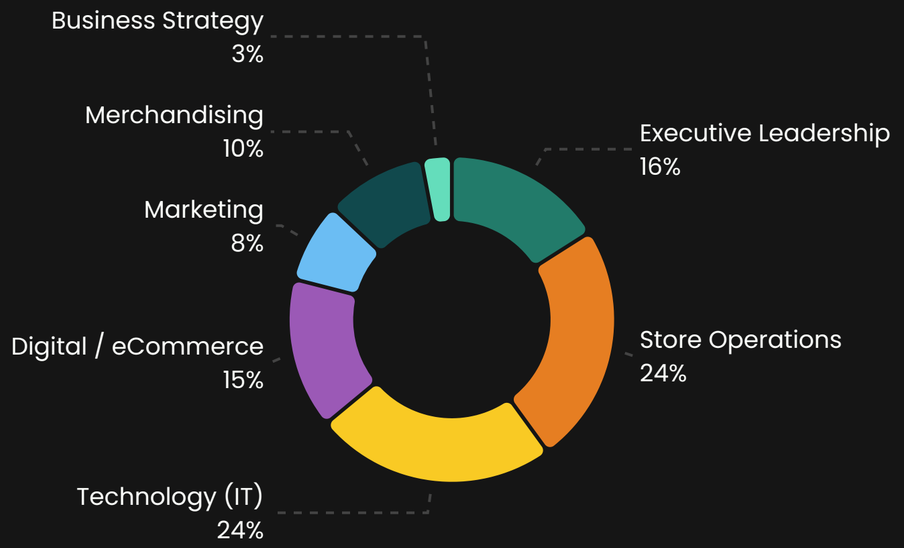
Research overview

124 retail executives surveyed

51% Specialty*

49% Grocery*





*** Footnote**:
'Grocery' refers to retailers belonging to the grocery, drug and general merchandise segments
'Specialty' refers to retailers belonging to the specialty and department store segments

KEY TAKEAWAYS

Retailers' focus on accelerating personalization, mobility and AI is driving the need for upgraded network infrastructures.

Personalization at scale remains a challenge

16%

are satisfied with their in-store personalization capabilities

44% of retailers say in-store personalization is important, but only 16% are satisfied with their capabilities.

For omnichannel personalization, satisfaction drops to 12%.

Siloed data and disconnected systems continue to block progress toward delivering relevant, individualized experiences at scale.

Mobile-first associates are the new standard

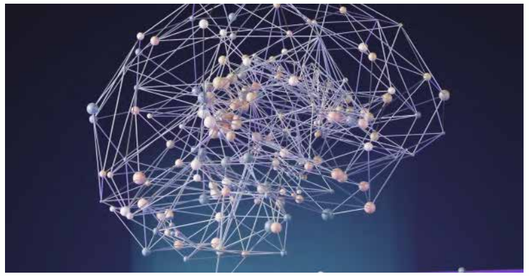
2x

increase in mobile tools deployed for associates vs. 2 years ago

Push-to-talk, inventory apps, and Wi-Fi connectivity are now table stakes.

With staffing challenges persisting, the focus has shifted from hiring more people to making each associate more effective.

Artificial Intelligence progress is slow but deliberate



68%

are exploring or planning their AI strategy

AI is everywhere in conversation but there is not wide-spread adoption.

While 83% of retailers indicate that AI is necessary to compete in the future, only 6% rate their current AI is mature.

AI deployments are complicated by poor or siloed data (55%), system integration challenges (48%) and lack of specialized talent (44%).

Network infrastructure lags AI and IoT adoption

67%

of network upgrades are driven by AI and ML applications

AI, IoT, and computer vision are driving network modernization, but readiness remains uneven.

While retailers are upgrading networks to support edge use cases, only 39% are satisfied with edge computing support and 49% with managing peak network traffic.

As AI workloads move closer to stores and distribution environments, network performance is emerging as a critical constraint on value realization.

Section 1

Retail Challenges and Priorities

Top Challenges in Executing Store Strategy

Grocery			Specialty	
67%	Store associate hiring and retention	#1	Theft and loss prevention	67%
52%	Inventory visibility and accuracy	#2	Store associate hiring and retention	56%
49%	Theft and loss prevention	#3	Inventory visibility and accuracy	44%
41%	Poor technology systems	#4	Poor technology systems	41%
32%	Associate training	#5	Associate training	34%

Staffing and loss prevention are the top challenges.

Finding and keeping store associates remains the most pressing challenge facing grocery retailers.

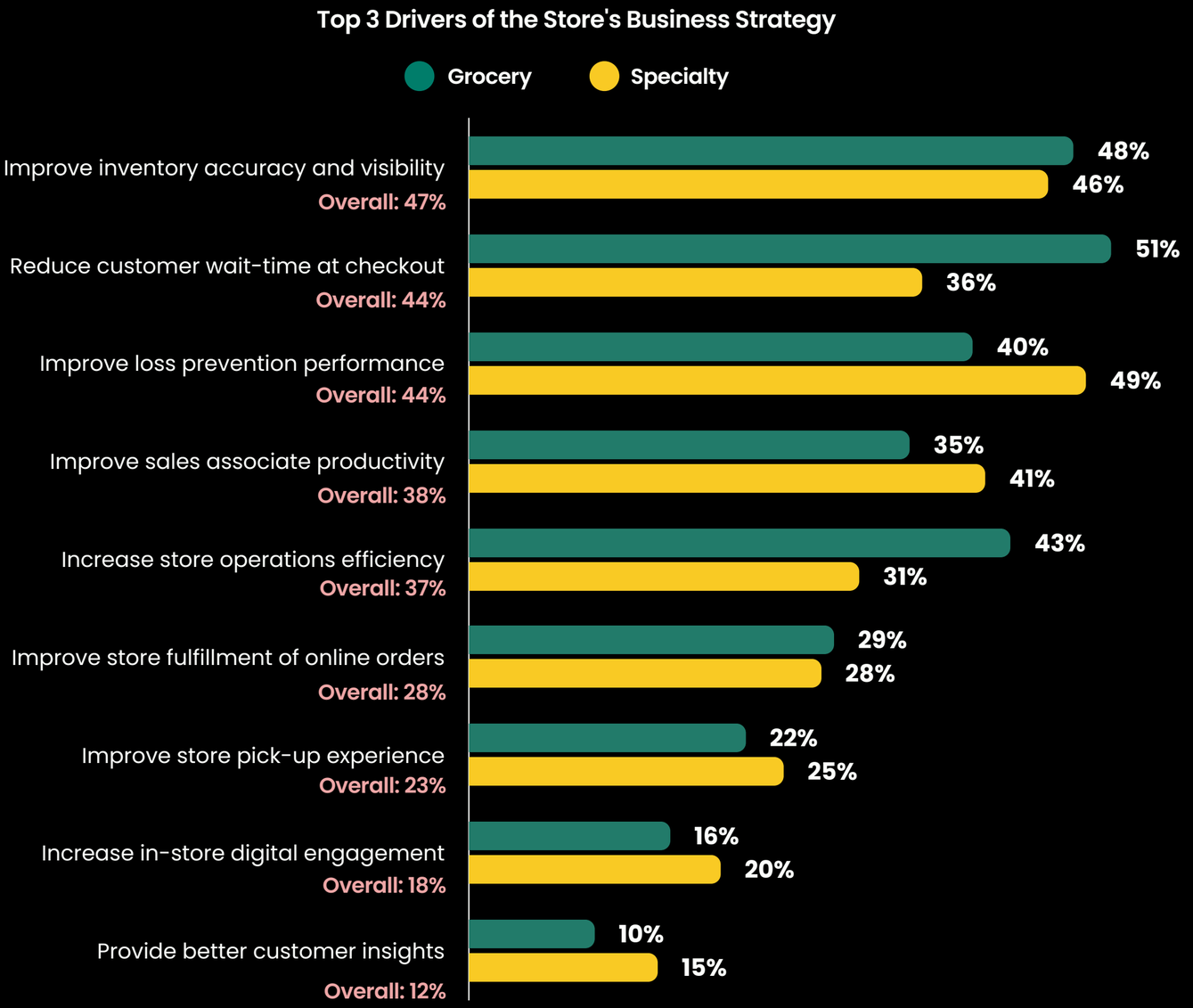
The labor market has shifted, expectations have changed, and the competition for talent continues to challenge grocers and mass merchants.

Theft and loss prevention is a top challenge for specialty retailers as they deal with organized retail crime and high-value merchandise. Inventory visibility and accuracy rounds out the three top retail challenges, reflecting the operational complexity of running stores that support both in-store shopping and omnichannel fulfillment.

KEY TAKEAWAY

What connects these challenges is the pressure to do more with fewer resources. Technology has become the primary lever for addressing all three top challenges. Mobile tools, AI-powered scheduling, and real-time inventory systems are no longer nice-to-haves. They are essential for keeping stores running when headcount is constrained.

Core operational efficiency continues to be a top focus as retailers recalibrate priorities amid margin pressure.



Retailers across both segments share a common focus: getting the fundamentals right. Inventory accuracy and visibility, and improving checkout speed lead grocery priorities, reflecting the operational complexity of managing perishables and high-velocity SKUs.

Specialty retailers, meanwhile, prioritize inventory accuracy and visibility, and loss prevention—a response to rising shrink rates and the need to protect margins.

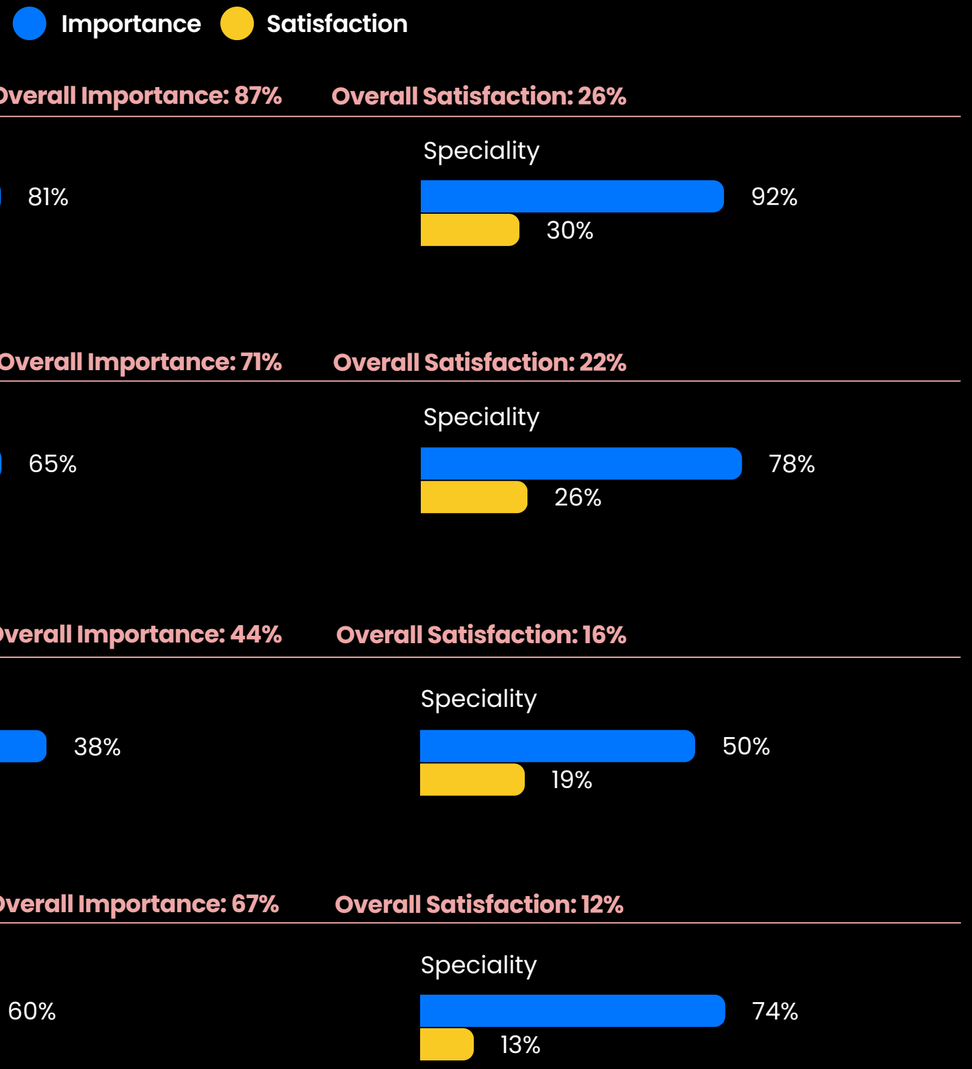
The emphasis on associate productivity and store efficiency signals a broader industry shift toward operational discipline. With labor costs rising and margins under pressure, retailers are extracting more value from existing resources rather than adding new capabilities. Omnichannel investments in fulfillment and pickup remain steady but are not a high priority because current processes are "good enough."

KEY TAKEAWAY

In a challenging economic environment, retailers are focused on improving their core operating processes before deploying innovative technology to enhance customer experiences and operational efficiency.

Closing the personalization gap between ambition and execution is a challenge across every touchpoint.

Levels of importance and satisfaction with customer personalization for specific shopping channels



Retailers realize that personalization drives loyalty, conversion, and basket size and the importance placed on personalization is clear.

But understanding the value and delivering on it are two different things. Satisfaction trails far behind importance in every channel. The gap is largest for omnichannel, where connecting customer data and preferences across touchpoints remains a fundamental challenge.

Specialty retailers place higher importance on personalization and report slightly better satisfaction. But the gap remains substantial for both segments.

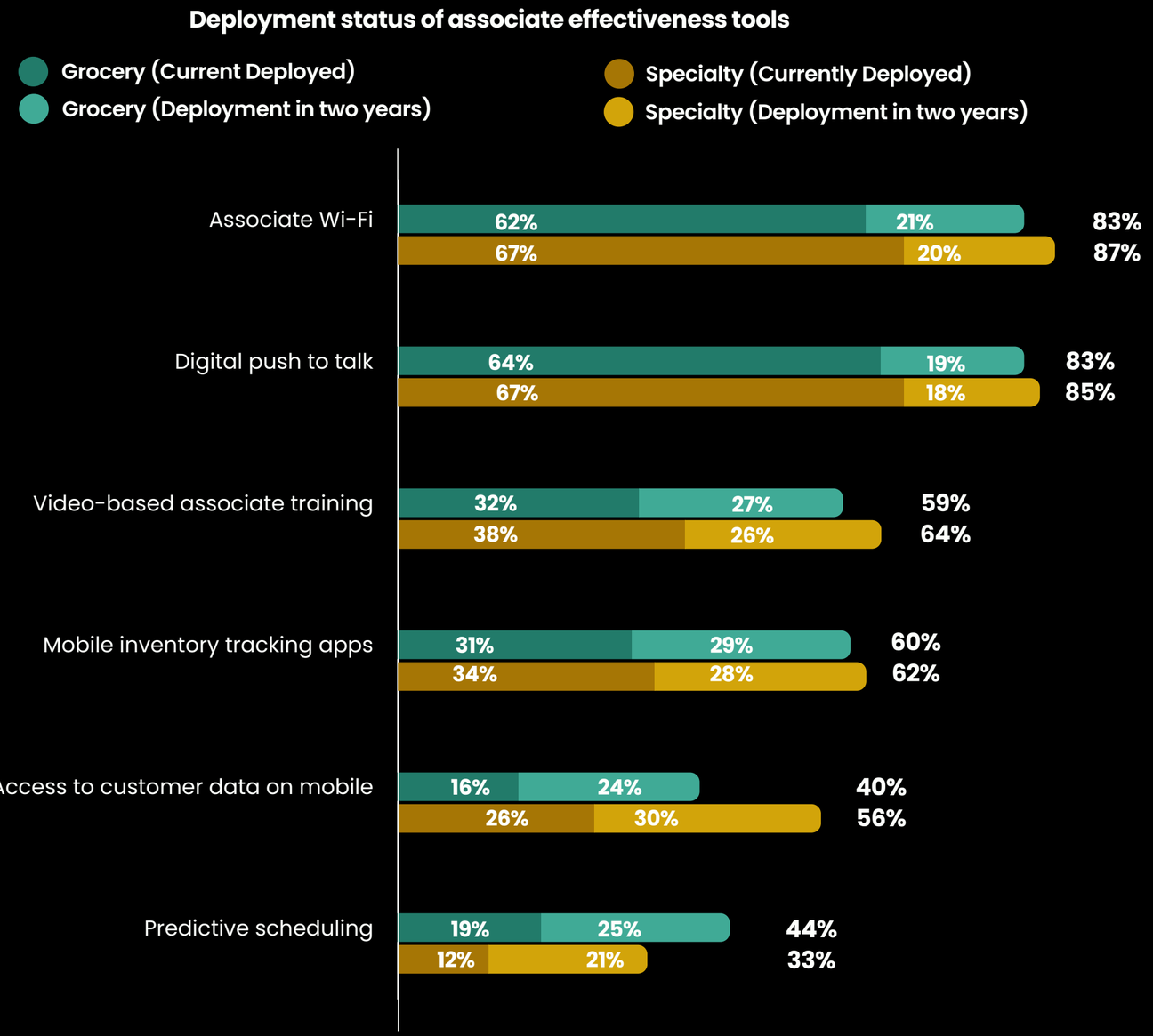
KEY TAKEAWAY

The building blocks for true 1:1 personalization, unified data, real-time decisioning, and consistent execution, are still elusive for most retailers.

Section 2

Technology Deployment Strategies

Retailers are betting big on associate connectivity and enablement.



The future of store operations hinges on equipping associates with the right tools at the right time. Communication and connectivity lead the investment agenda, with push-to-talk and dedicated Wi-Fi access forming the foundation for associate effectiveness.

Mobile capabilities follow closely, with inventory tracking apps and video-based training reflecting a shift toward on-the-floor learning and real-time task execution.

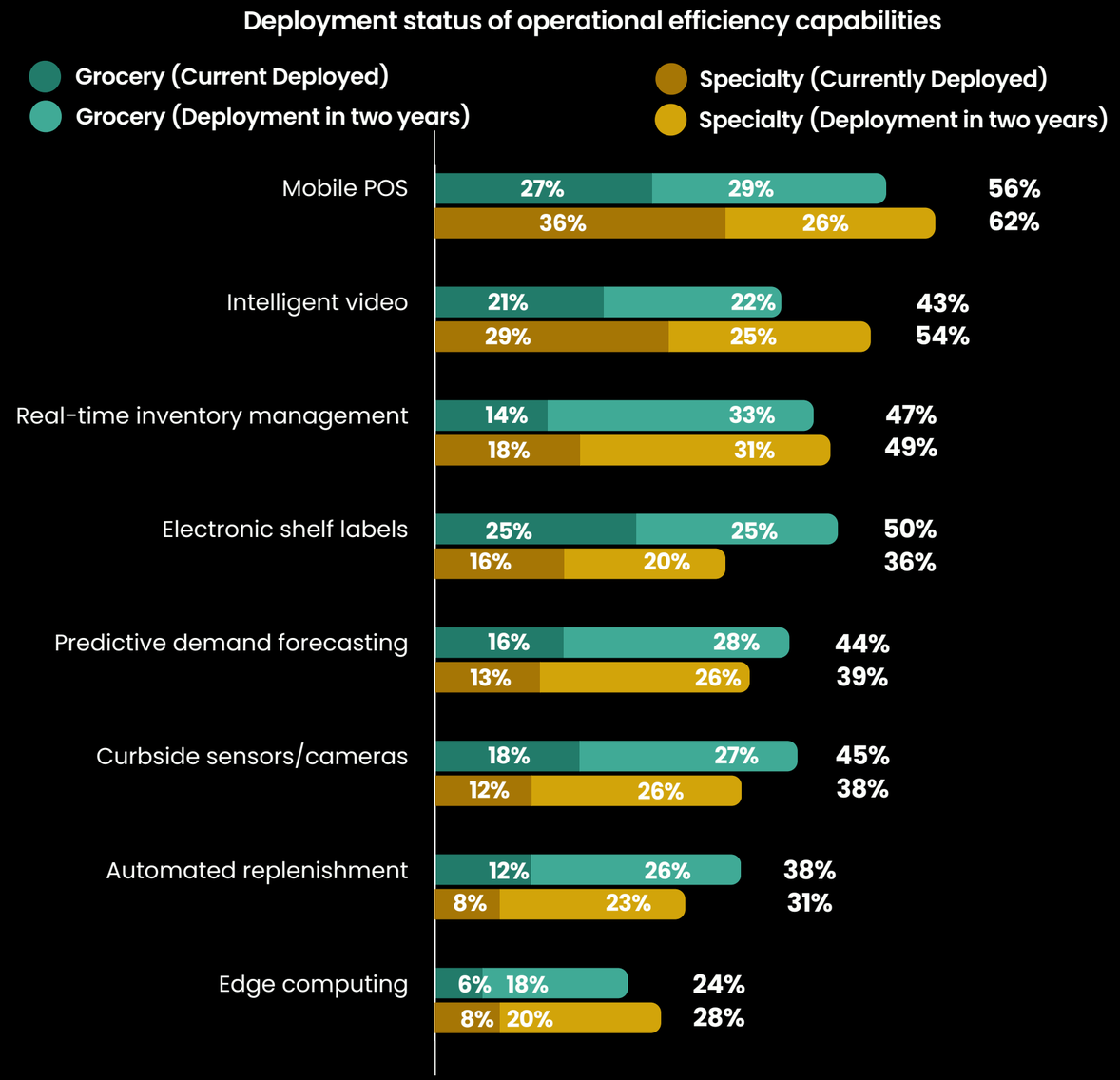
Associates don’t have time to leave the sales floor for back-office sessions or manual counts.

The adoption of most of the key mobile capabilities are expected to double in the next two years.

KEY TAKEAWAY

The immediate priority is clear: give associates the device connectivity, information, and training they need to succeed in a leaner operating environment.

Operational Technology Deployments Are Set to Nearly Double Across Most Retail Use Cases.



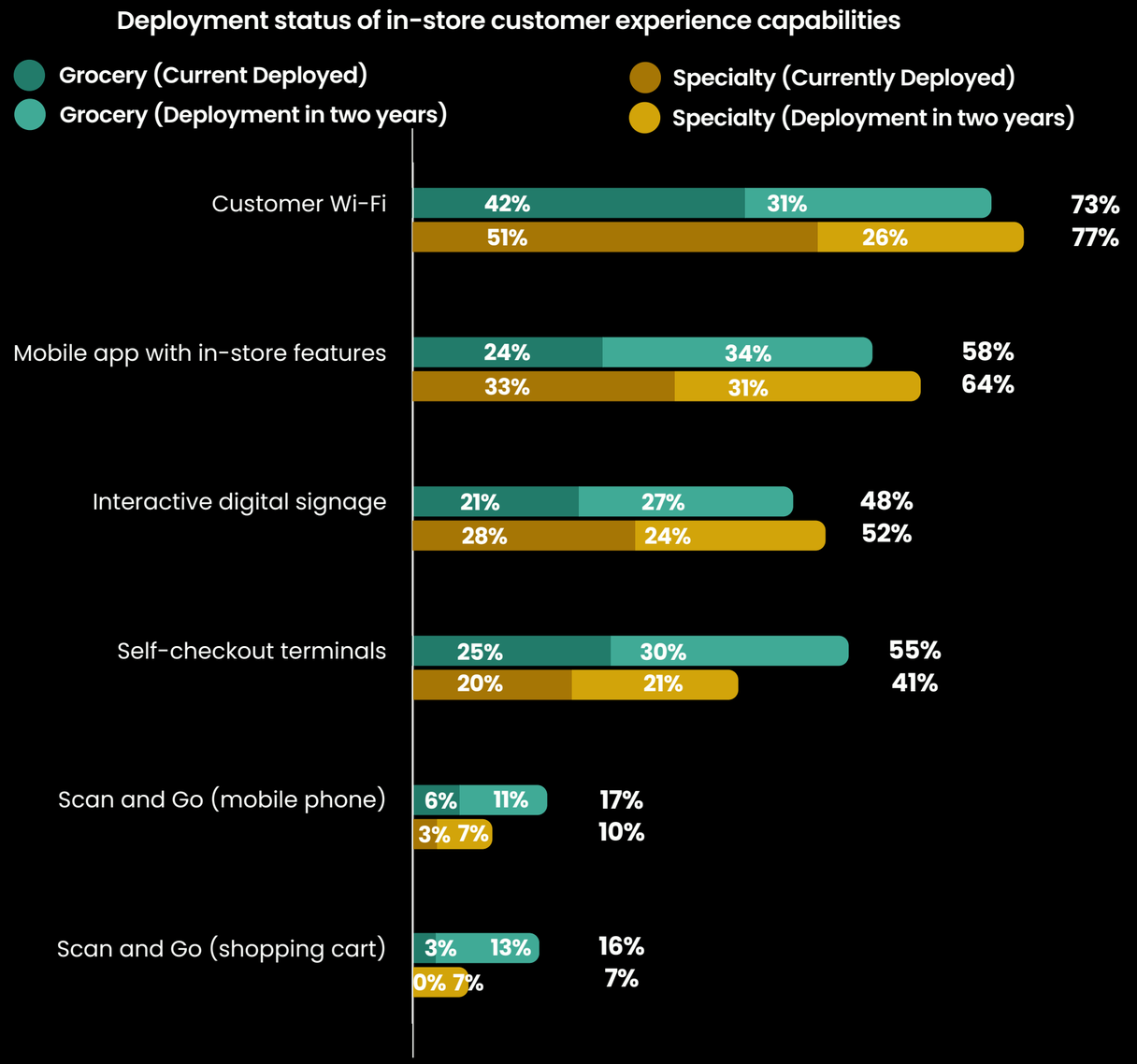
The store has become the most complicated node in the retail network. It is a showroom, a fulfillment center, a returns hub, and a pickup point all at once. The technologies gaining traction reflect this shift. They are not about automating what stores already do. They are about making stores capable of doing more things well.

Mobile POS and intelligent video address two sides of the same problem: how to keep things moving when traffic is unpredictable and labor is tight. With online order fulfillment from stores, real-time inventory visibility matters more now because the cost of being wrong has gone up. A miscount doesn't just mean a lost sale. It means a failed pickup, a cancelled order, and a customer who doesn't come back.

KEY TAKEAWAY

While retailers are prioritizing differently based on their operating realities, there is a hyper focus on using technology to improve their operations. What they share is the recognition that store technology is no longer a back-office concern. It is central to how they compete.

Customer-Facing tech: Connectivity and convenience lead the roadmap.



Customer-facing technology in the store has settled into two tiers.

The first tier is foundational: Wi-Fi, mobile apps, and digital signage. These are no longer differentiators. They are expected. Customers assume they can connect, browse, and get information without hunting down an associate. Stores that don't offer this are at a disadvantage.

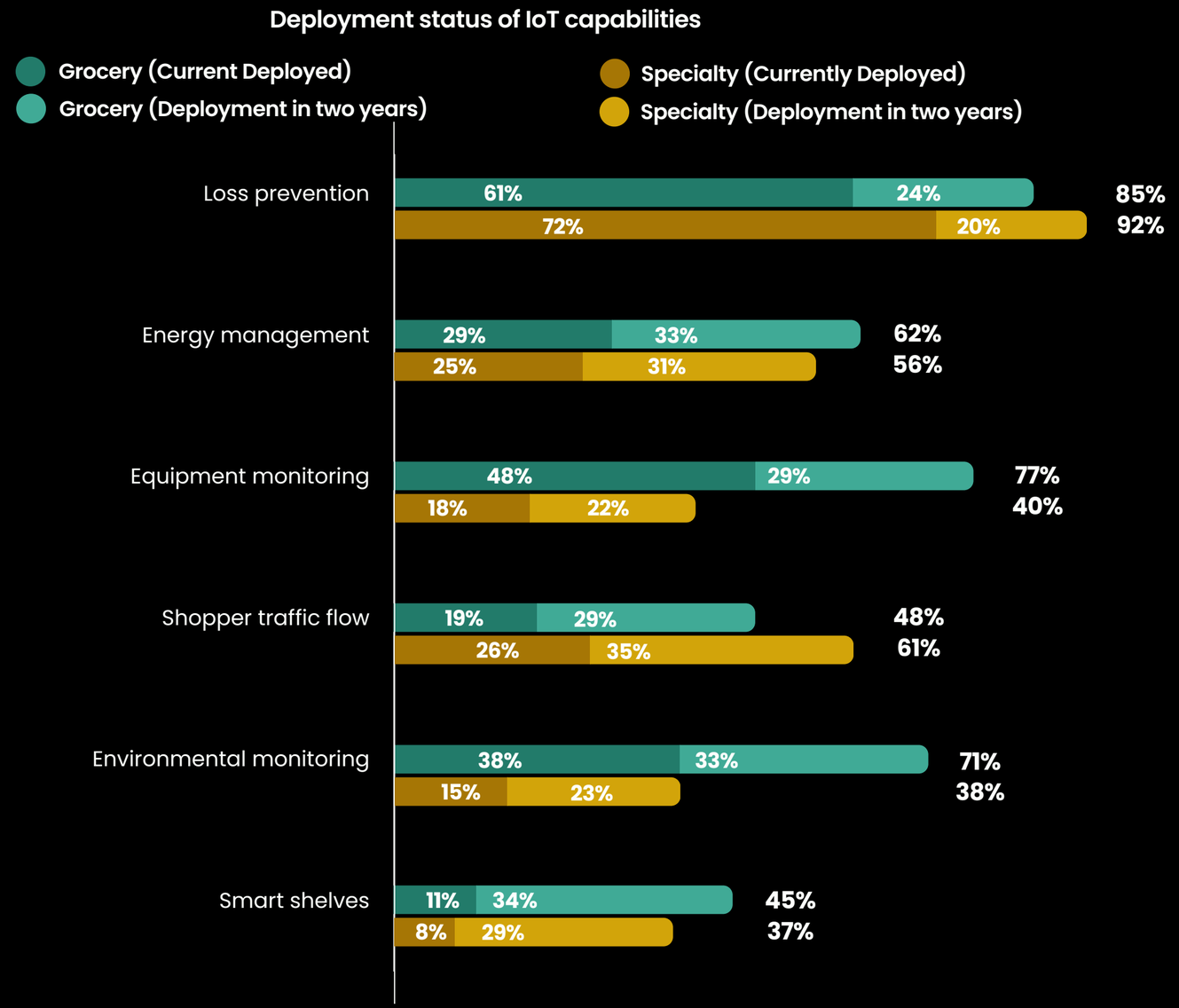
The second tier is where it gets interesting. Self-checkout has become essential for grocery operators managing high transaction volumes with fewer cashiers. Specialty retailers are less convinced, likely because their customers expect more service, not less.

Scan and go remains a niche bet. The technology works, but the behavior change required from customers hasn't followed.

KEY TAKEAWAY

The gap between what customers experience online and what they expect in stores continues to narrow as retailers continue to add more in-store digital experience capabilities.

IoT roadmaps reflect the operational DNA of each segment.



Loss prevention dominates the IoT agenda because shrink has become a boardroom issue. The conversation has shifted from operational nuisance to material threat to margins. When theft and organized retail crime show up in earnings calls, technology investment follows quickly.

The divergence between grocery and specialty on equipment and environmental monitoring reflects fundamentally different risk profiles.

Grocery operates on thin margins with perishable inventory. A refrigeration failure overnight can significantly impact a week's margin. Specialty retailers don't carry that same exposure with equipment and temperature monitoring, so the investment urgency isn't there.

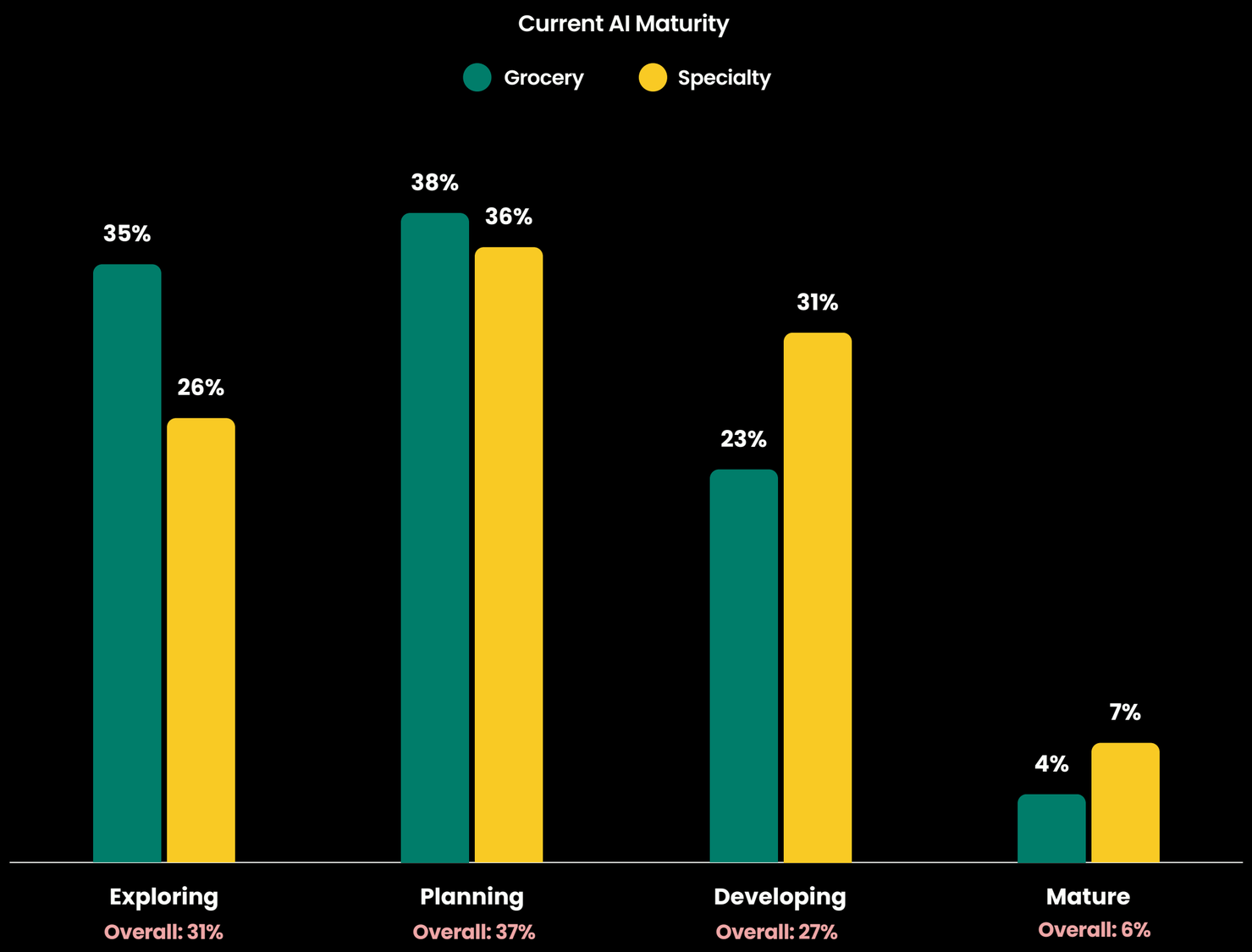
KEY TAKEAWAY

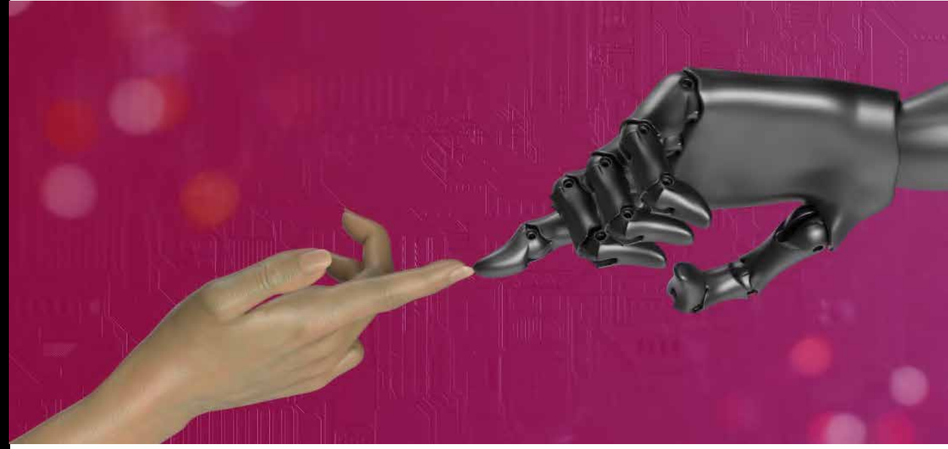
What unites these investments is a defensive posture. Retailers are using IoT to stop losses and prevent failures, not to reimagine the store.

Section 3

From AI Ambition to Execution

The AI maturity curve: Progress but not scale.





While AI is a top priority for retailers, maturity and large-scale adoption remain constrained by several challenges.

The jump from planning to developing is where momentum stalls. Building a business case is one thing, but getting a pilot into production with measurable results is another. AI deployments are complicated by poor or siloed data (55%), challenges integrating AI with existing systems (48%), and a lack of specialized expertise (44%).

The real question is what separates the small group of mature organizations from everyone else?

It's rarely the technology. It's usually the data foundation, the organizational buy-in, and the willingness to iterate through failures. AI maturity is less about algorithms and more about readiness to change how decisions get made.

KEY TAKEAWAY

The enthusiasm for AI is real, but the execution is lagging. Most retailers remain in the planning or exploring stages, still figuring out where AI fits and how to make it work.

Retailers agree that AI is necessary to compete, but challenging to execute.

AI Experimentation is happening, but shared understanding across the organization remains weak. When leadership, IT, and store operations aren't aligned on what AI is and what it can do, pilots stall and scaling becomes difficult. Everyone has their own definition, their own expectations, and their own concerns.

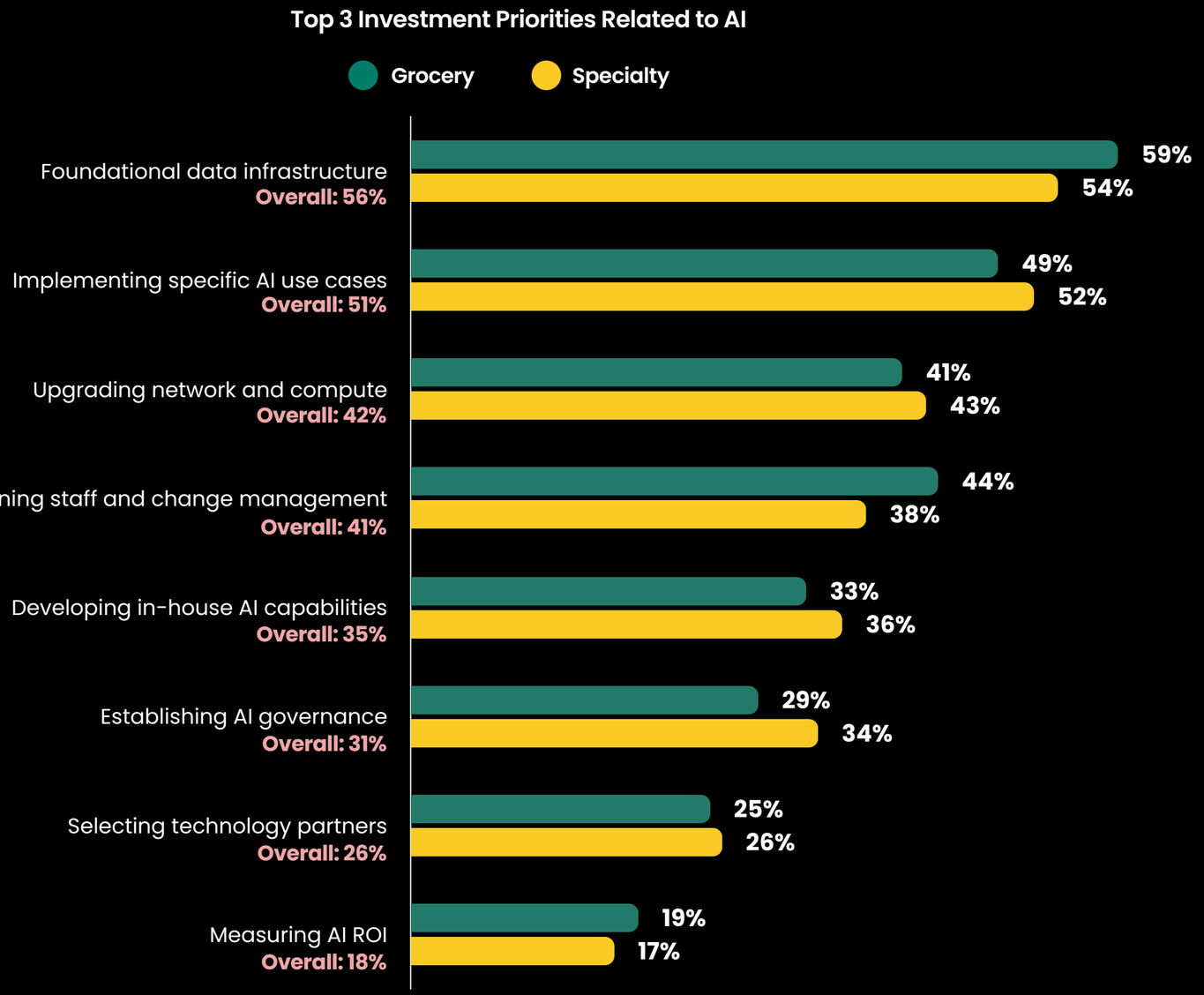
The availability of AI talent is low, and that's a real challenge. Retail has never been a hot destination for data scientists and machine learning engineers. Building that capability takes time, investment, and a value proposition that competes with tech companies paying AI talent extremely well.

Governance and ethics trail furthest behind. This is a risk. Moving fast on AI without guardrails invites problems that are easier to prevent than fix. The retailers who get this right early will avoid costly missteps later.

KEY TAKEAWAY

There's near-universal agreement that AI will be necessary to compete. That belief isn't the problem. The problem is everything that comes after it.

Retailers are investing in the foundation before chasing the flashy use cases.



The priorities here tell a story of pragmatism. They're starting with the groundwork that makes any of it possible. Data infrastructure comes first because without it, nothing else scales.

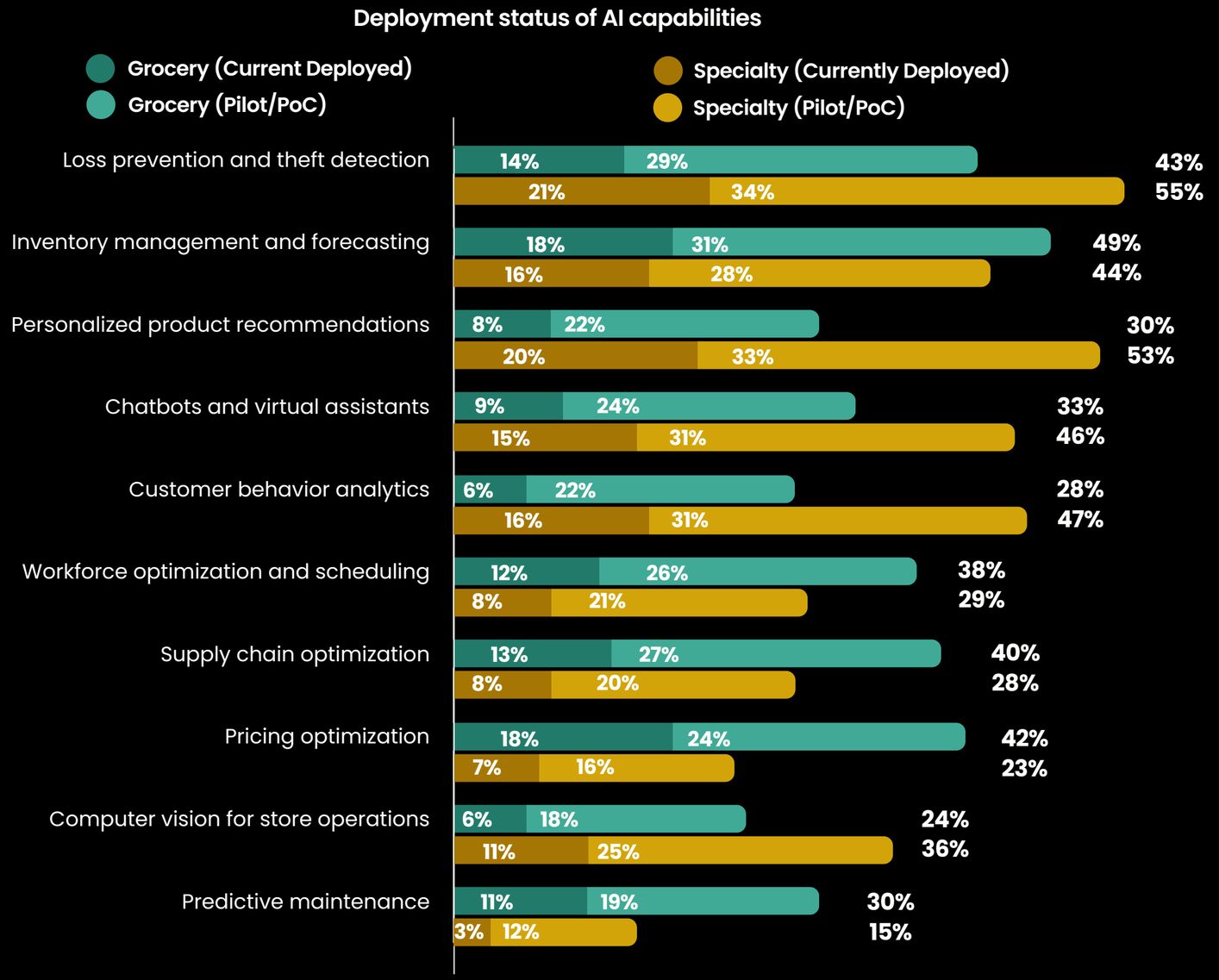
Specific use cases follow closely, which signals a shift away from experimentation for its own sake. The focus now is on solving defined problems with measurable outcomes, not running pilots to check a box. Training and change management ranking this high is a good sign. It shows retailers understand that technology adoption fails when the people expected to use it aren't properly trained.

What sits lower is just as telling. Governance, partner selection, and ROI measurement are important, but they're secondary concerns until the core infrastructure and capabilities are in place.

KEY TAKEAWAY

Retailers are sequencing their AI investments correctly: build the foundation, prove value, then formalize the operating model.

Where AI gets deployed depends on what keeps you up at night.



The use cases retailers prioritize reveal their operating realities. Loss prevention leads because shrink is an existential problem across formats. It's the one place where grocery and specialty retailers find common ground.

Beyond that, priorities diverge sharply. Grocery leans into operational use cases: inventory forecasting, workforce scheduling, supply chain, pricing. These are high-volume, low-margin businesses where small efficiencies compound quickly. Getting labor allocation right or reducing waste by a fraction of a percent has real impact on the bottom line.

Specialty retailers focus on the customer relationship. Personalized recommendations, chatbots, and behavior analytics matter more when the sale depends on relevance and service rather than price. These are considered purchases, not basket fills.

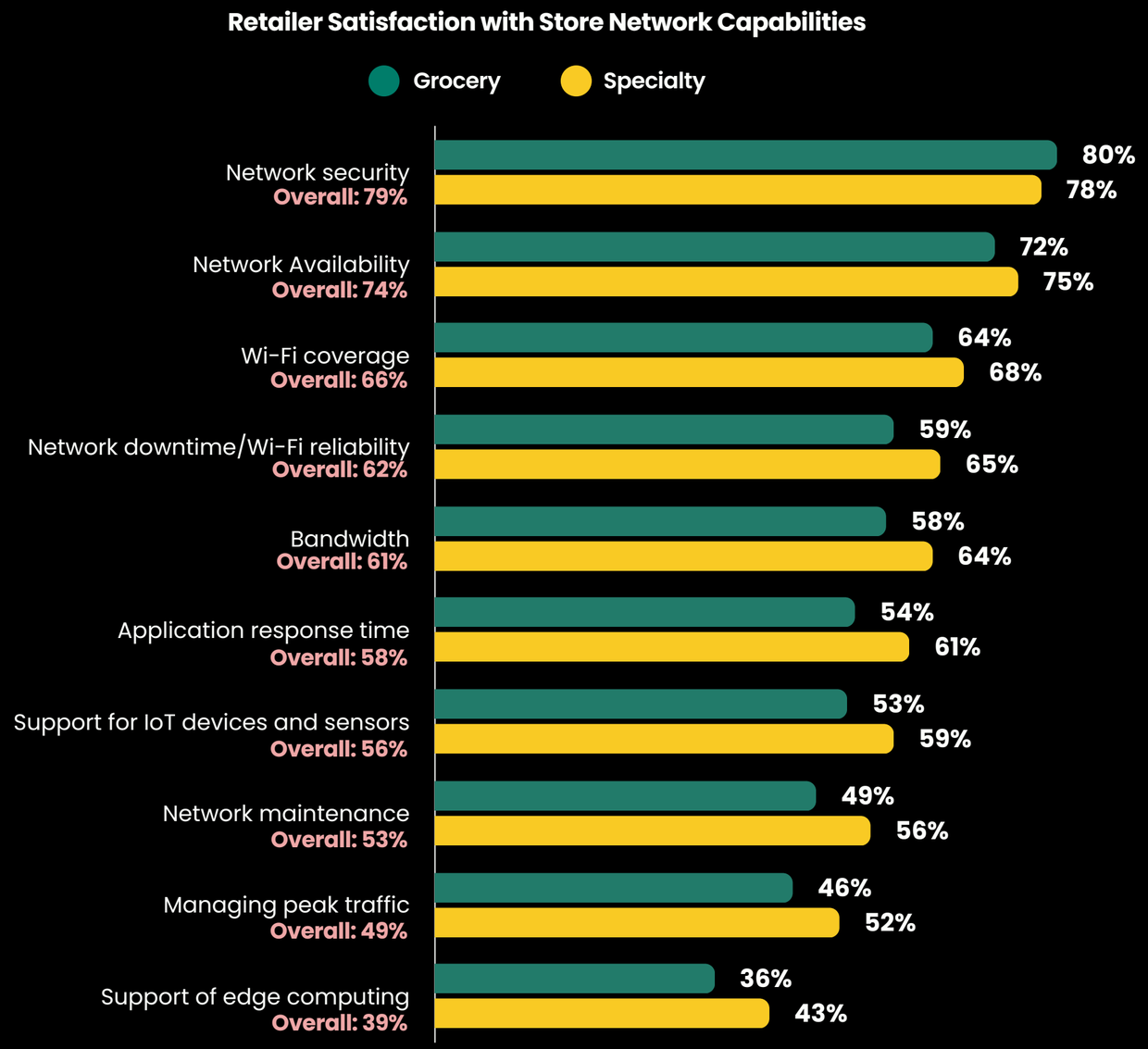
KEY TAKEAWAY

AI investment focus follows the business model of store segments: grocers are focused on optimizing operations and specialty stores re focused on improving customer engagement.

Section 4

Network Infrastructure

Retailers are satisfied with core networks, but time-sensitive and edge capabilities are lacking.



Retailers report moderate satisfaction with core network fundamentals such as security and basic connectivity, but satisfaction drops steadily as performance requirements increase. Capabilities tied to real-time responsiveness application speed, peak traffic management, and support for connected devices remain inconsistent across formats.

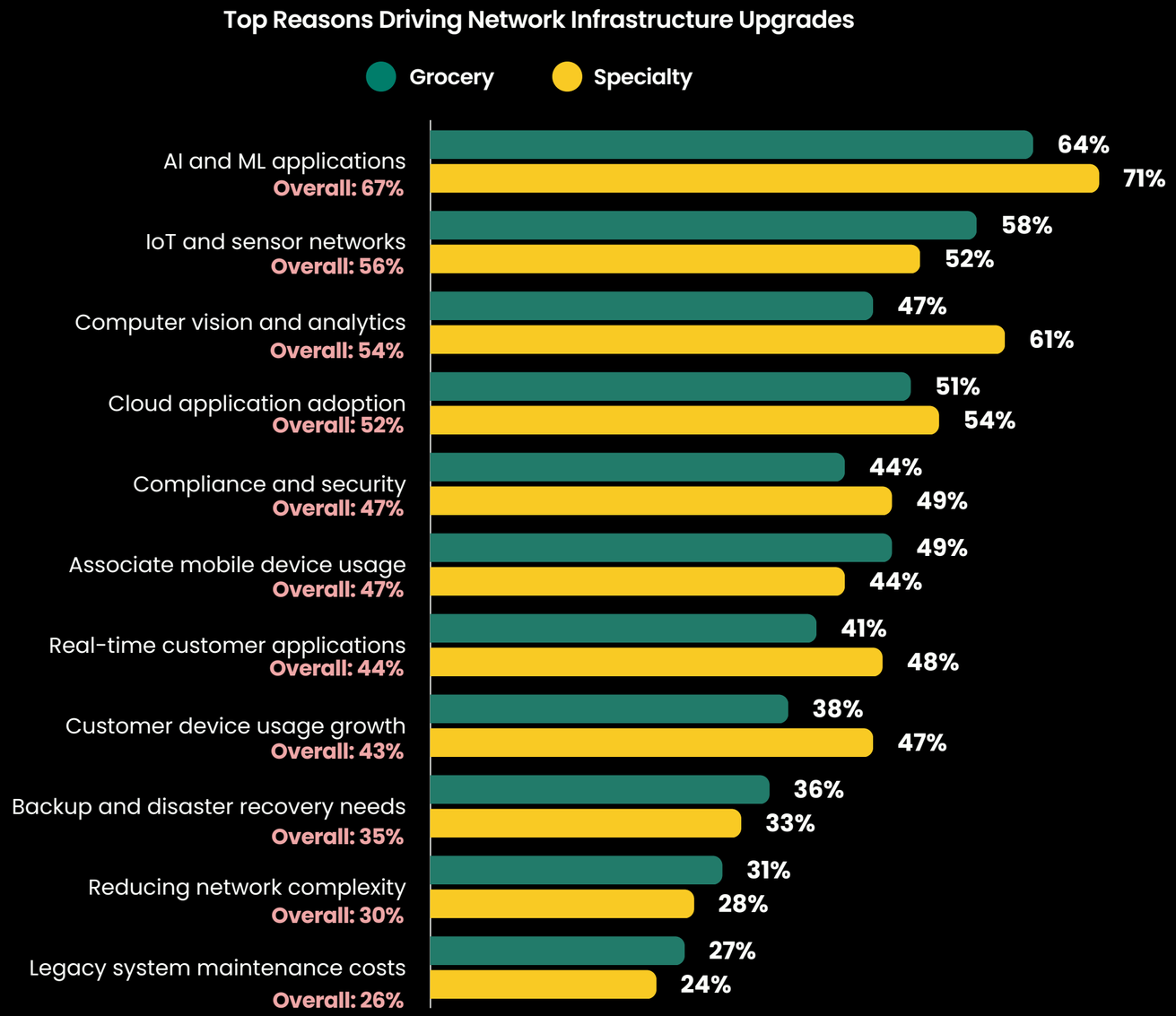
The weakest point is edge readiness. Only a minority of retailers believe their network can support edge computing capabilities, signaling a growing mismatch between current infrastructure and emerging AI- and IoT-driven use cases.

These gaps are already translating into business impact. 61% of retailers report revenue loss from slow or unreliable digital experiences, 55% from in-store mobile app crashes, and 45% from poor Wi-Fi affecting application performance.

KEY TAKEAWAY

As stores take on more data-intensive, latency-sensitive workloads, network performance is no longer a background concern—it is directly shaping customer experience and commercial outcomes.

The high network demands of AI, IoT and computer vision are key drivers of network upgrades.



For years, network upgrades were driven by incremental needs: more bandwidth, better coverage and fewer outages. With the latest technology advancements, network priorities have changed.

AI and machine learning have moved to the top of the list because they demand a different kind of infrastructure altogether. The models are only as good as the data feeding them, and that data has to move fast, reliably, and securely. This is a pull-driven investment, not a push.

Retailers aren't upgrading networks because IT told them to. They're upgrading because the use cases they care about most, like computer vision, real-time analytics, and IoT, simply won't work on an aging infrastructure.

KEY TAKEAWAY

The network has become the bottleneck. Retailers aren't modernizing only for efficiency's sake. They're modernizing because new capabilities require it. The network is no longer a utility, it's the foundation for everything they want to do today and in the future.

Section 5

Executive Perspectives

Executive Perspective

David Naumann

Retail Marketing Strategy Lead

verizon business

Retailers continue to face headwinds in today's economic environment and one of the greatest challenges is hiring and retaining enough skilled store associates. Thus, improving associate productivity with mobile tools is the driving force in store technology investments, a topline conclusion from this year's study.

Mobile-first Associates

For example, digital "push to talk" mobile devices, mobile inventory apps, mobile POS and video-based training are the top areas of investment for store associate tools. In addition to mobile tools for associates, retailers are focused on technology to improve the efficiency of operations with intelligent video, real-time inventory tracking and electronic shelf labels. These technologies empower associates with real-time data and tools to make them more efficient and improve .

Personalization Remains a Challenge

Another key takeaway from this year's study is the current status of customer personalization across all retail segments. While 44 percent feel in-store customer personalization is important, only 16 percent of retailers are satisfied with their level of in-store customer personalization. Data integrity and siloed customer data makes personalization, especially in stores, an ongoing challenge.

AI is Progressing Slowly

While 83% of retailers indicate that Artificial intelligence (AI) is necessary to compete, the adoption of AI solutions is progressing slowly based on poor data, system integration challenges and lack of talent. The key focus of AI capabilities is on areas of greatest challenges that can provide the most benefit: loss prevention, inventory management and forecasting, and personalized product recommendations.

The Network Foundation is Imperative

As retailers deploy speed- and bandwidth-demanding solutions like AI-enabled inventory tracking, video and mobile apps, their networks will be stressed beyond their current limits. To address these accelerated store connectivity needs, retailers are deploying 5G business internet, private networks and mobile connectivity, which can offer retailers upgraded speed, greater bandwidth and near real-time connectivity across the business.

Executive Perspective

Scott Lantis

Senior Marketing Manager

CISCO

The 2026 Omnichannel Imperative

The 2026 Connected Retail Experience Study makes one thing clear: the store is no longer just a place to buy things. It is a showroom, a fulfillment center, a returns hub, and a pickup point, all at once. For retailers to succeed in this new omnichannel reality, they need to move past piecemeal technology upgrades and invest in a connected digital platform that ties the entire operation together.

Making Associates More Effective with Better Tools

One of the strongest signals in this year's research is the role technology now plays in addressing labor challenges. With 67% of grocery retailers still struggling with hiring and retention, retailers have doubled down on mobile tools. Push-to-talk devices, inventory tracking apps, and video-based training have become standard. The goal is straightforward: give associates the tools and information they need on the sales floor so they can do more with fewer resources and serve customers better.

Closing the Gap Between AI Plans and AI Results

Eighty-three percent of retailers agree that AI will be necessary to compete. But only 6% have reached what they consider mature AI capabilities. The gap comes down to basics: 55% cite poor or siloed data, 48% point to integration challenges with existing systems, and 44% lack specialized talent. The retailers making real progress are not chasing every new AI application. They are focused on specific use cases with clear payoffs, like loss prevention, inventory forecasting, and workforce scheduling.

The Network Has Become the Bottleneck

One of the most important findings in this study is the shift in how retailers think about their network. It is no longer just a utility that runs in the background. With 67% of network upgrades now driven by AI and machine learning applications, and 61% of retailers reporting revenue loss from slow or unreliable digital experiences, the network has become a direct factor in commercial outcomes. Only 39% of retailers are satisfied with their edge computing support, which is a problem as more AI workloads need to run at the store level.

What Comes Next

Retail's next chapter will be written by companies that can connect their digital investments to the human side of the business. Better tools for associates, smarter use of data for personalization, and networks that can actually support the workloads retailers are asking of them. Cisco and Verizon are committed to helping retailers build that connected platform, one that is secure, flexible, and ready for what the business demands today and in the years ahead.

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Incisiv offers curated executive learning, digital maturity benchmarks, and prescriptive transformation insights to clients across the consumer and technology industry spectrum.

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