



Market Research

2025 Connected Retail Experience Study: Mobility is Driving Associate Productivity

IN PARTNERSHIP WITH






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 few years, we have focused on understanding the technology priorities, challenges and baselining in-store technology adoption.

In the 2025 study, we have compared respondents in the retail segment to understand:

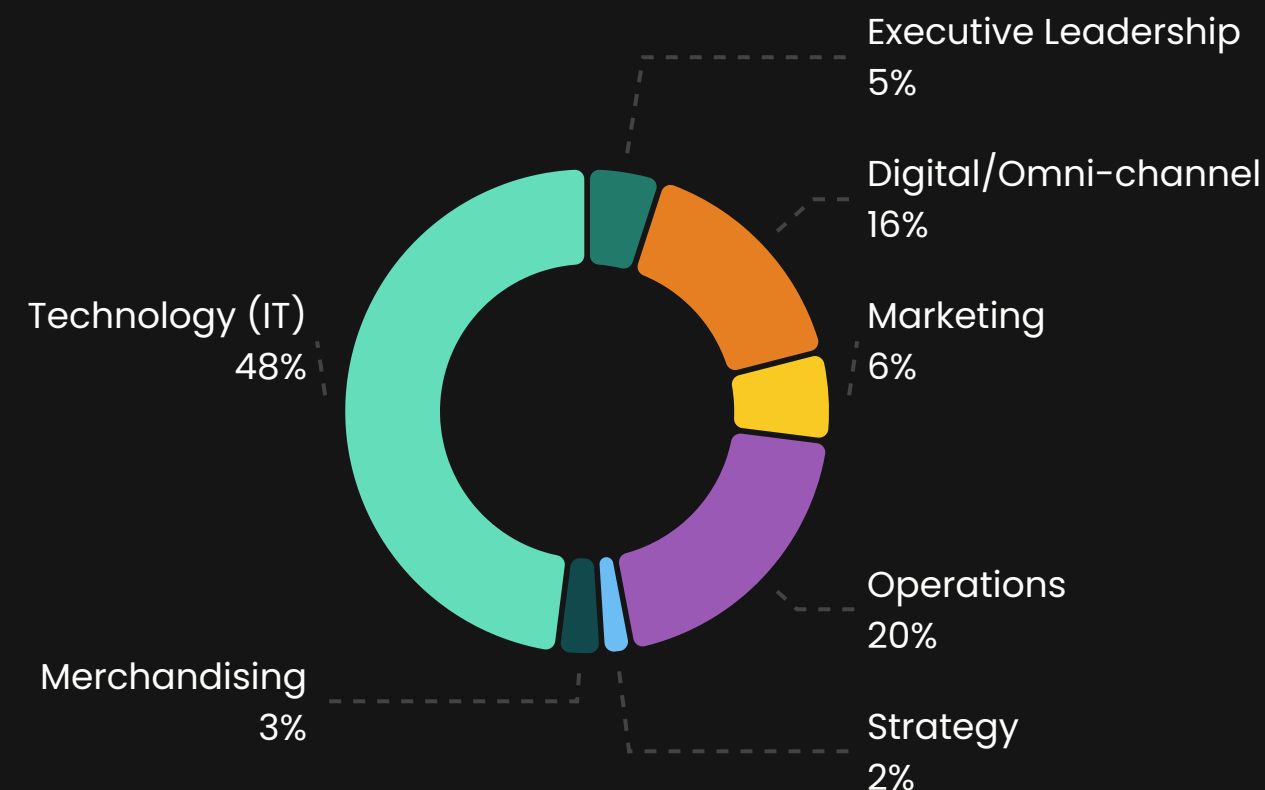
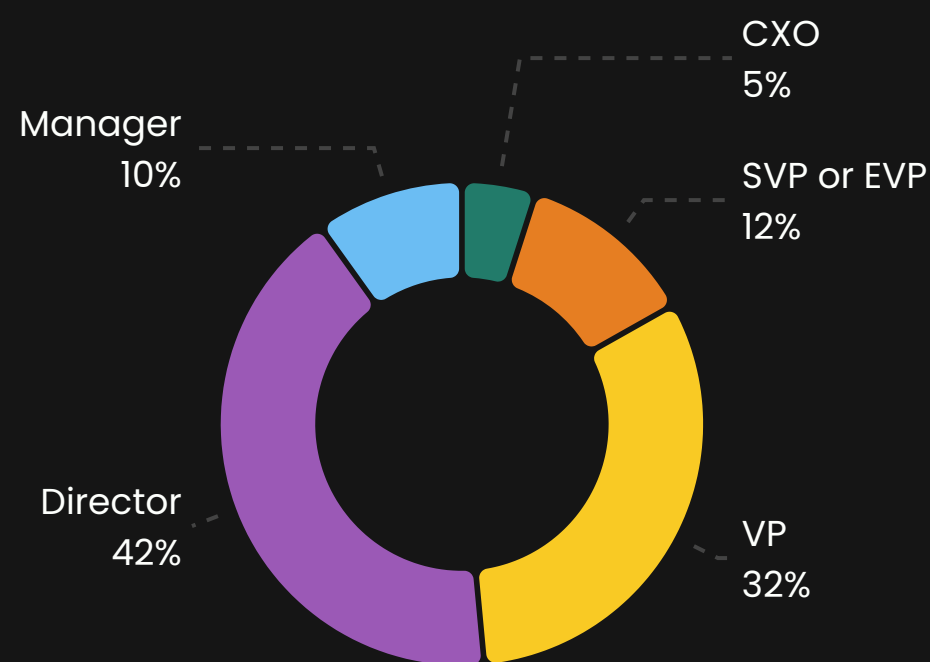
-  How have technology priorities changed over time? Where are retailers investing?
-  Are we meeting the technology expectations of our shoppers (personalization) and workforce?
-  Where are retailers focusing their AI efforts?

Research overview

133 retail executives surveyed

 **52%** Specialty*

 **48%** 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

Retailers continue to focus on improving efficiency. Mobile is the core foundation of new retail.

Personalization at scale remains a big opportunity



13%

are satisfied with their personalization maturity

Retailers acknowledge personalization's importance, but executing it effectively continues to be a challenge.

Most lack capabilities for 1:1 personalization, limiting efforts to basic segmentation.

Specialty retailers have slightly more sophisticated customer personalization than grocery and mass merchandise retailers, however, it is still an area of dissatisfaction for retailers.

Labor challenges drive investments in technology



81%

want their tech. investment in '25 to improve their associate productivity

Staffing remains the top operational challenge for both grocery (98%) and specialty retailers (88%).

Retailers struggle with hiring/retention and meeting younger workers' technology expectations.

There's a notable gap between associates' digital sophistication demands and IT's perception of their needs, particularly among Gen Z workers.

Mobile technologies are the foundations of efficiency



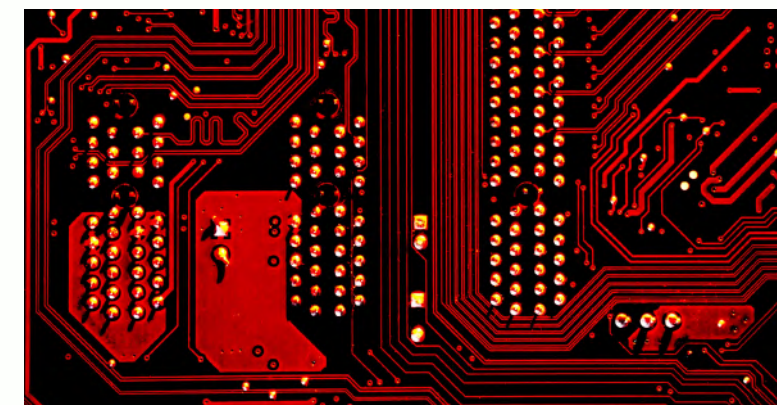
2x

increase in retailer mobile apps that have an in-store support mode

Retailers are deploying significantly more mobile technologies for both customers and associates to improve the customer experience and operational efficiency.

Mobile-based technologies, such as inventory tracking apps, push-to-talk systems, and associate Wi-Fi, play a crucial role in enhancing associate decision making and efficiency.

Artificial Intelligence is focused on high ROI use cases



49%

are actively testing/experimenting with AI use cases

After a period of exploration, retailers are now focusing on AI use cases with a clear ROI and strong organizational demand.

The top priorities include workforce optimization, which addresses labor shortages, and inventory availability, which reduces out-of-stocks and improves on-shelf availability.



Section 1: Trends and Technology Outcomes

Top challenges in executing store strategy



Retail's predominant struggle: staffing stores amidst modern challenges.

Retailers face a range of operational challenges that reflect the pressures of maintaining efficient, secure, and productive stores.

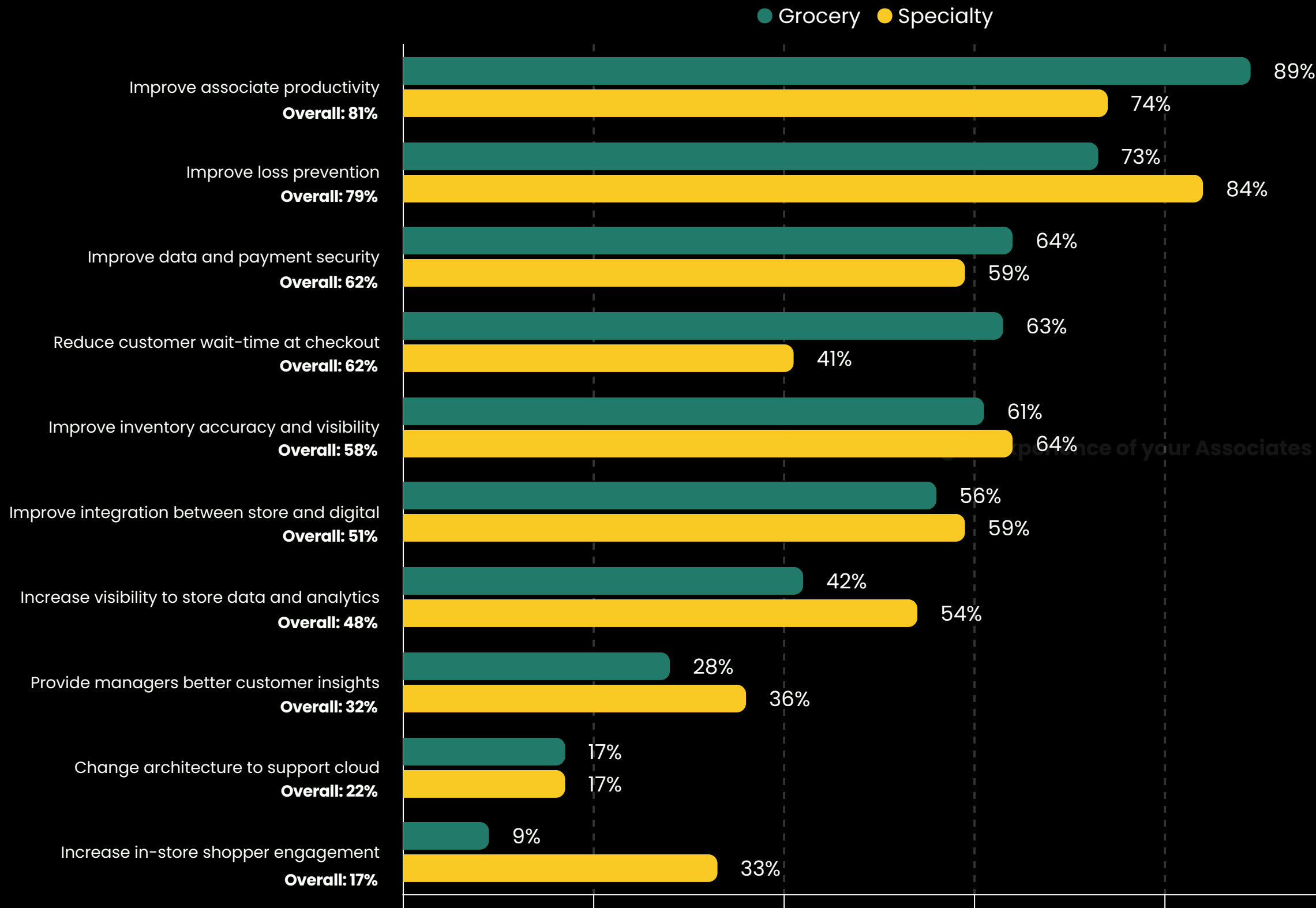
For the second year, hiring and retaining store associates tops the list for both grocery and specialty retailers due to ongoing labor shortages and the critical role associates play in store operations.

Theft and loss prevention is a pressing issue, especially for specialty retailers, who face heightened risks from organized retail crime targeting high-value products.

Across the board, outdated technology exacerbates these issues, hindering progress and adaptation. These shared struggles underscore the pressing need for robust, forward-thinking strategies in workforce management and technological innovation to navigate the evolving retail landscape.

Technology investments focused on operational efficiency continue to be a top priority.

What outcomes do retailers want from technology investments in 2025



Grocery retailers prioritize associate productivity and reducing checkout wait times, focusing on operational efficiency to manage high-volume environments.

The greatest differences in technology investment priorities between grocery and specialty retailers lie in their focus on in-store shopper engagement and customer insights.

Specialty retailers place significantly more emphasis on enhancing shopper engagement and providing managers with better customer insights, reflecting their commitment to creating personalized, immersive shopping experiences.



Section 2: Evolution of Customer Experience

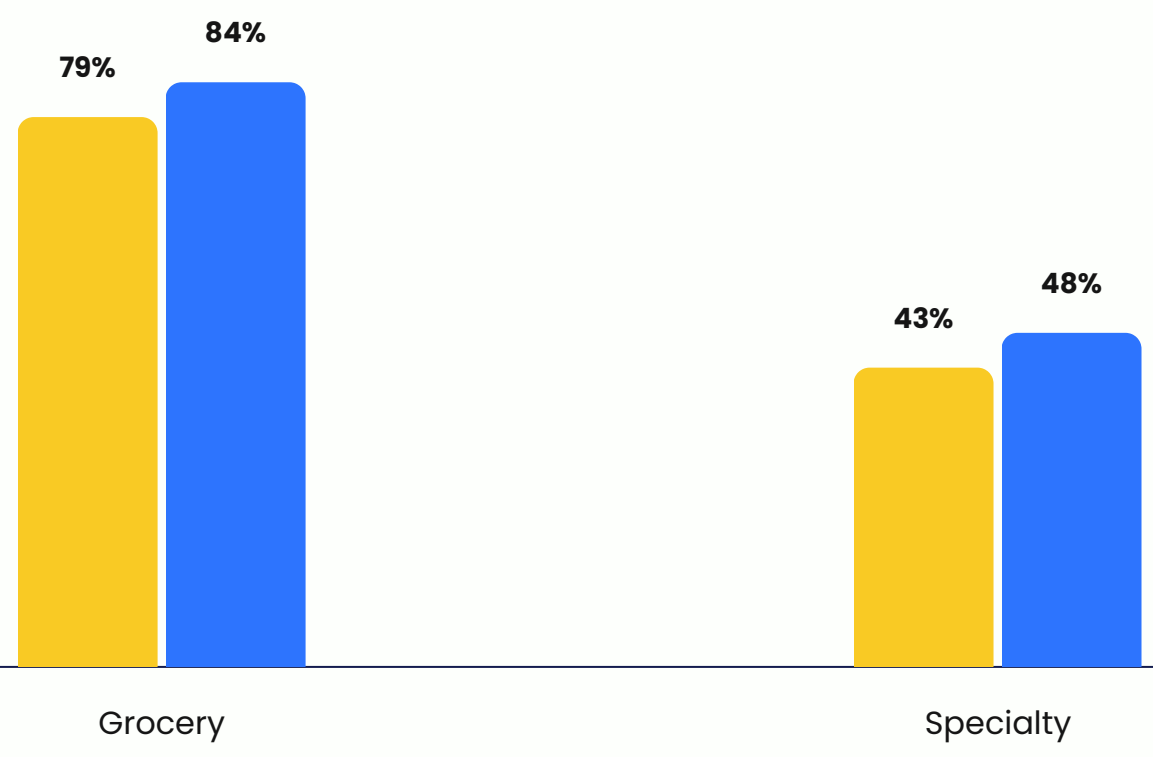
Convenience is the core of the new retail experience.

Convenience is increasingly becoming the central focus of retailers' customer experience strategies, driven by the growing demand for seamless and efficient shopping.

Grocery retailers have long prioritized simplicity, but the emphasis on convenience continues to intensify. Notably, even high-touch formats like specialty, which have traditionally focused on immersive experiences, are placing greater importance on convenience. This shift highlights how evolving customer expectations for streamlined and frictionless interactions are pushing all formats to balance ease with their distinctive brand experiences.

Convenient:
We want to make our experience quick and easy for our guests

● 2022 ● 2024



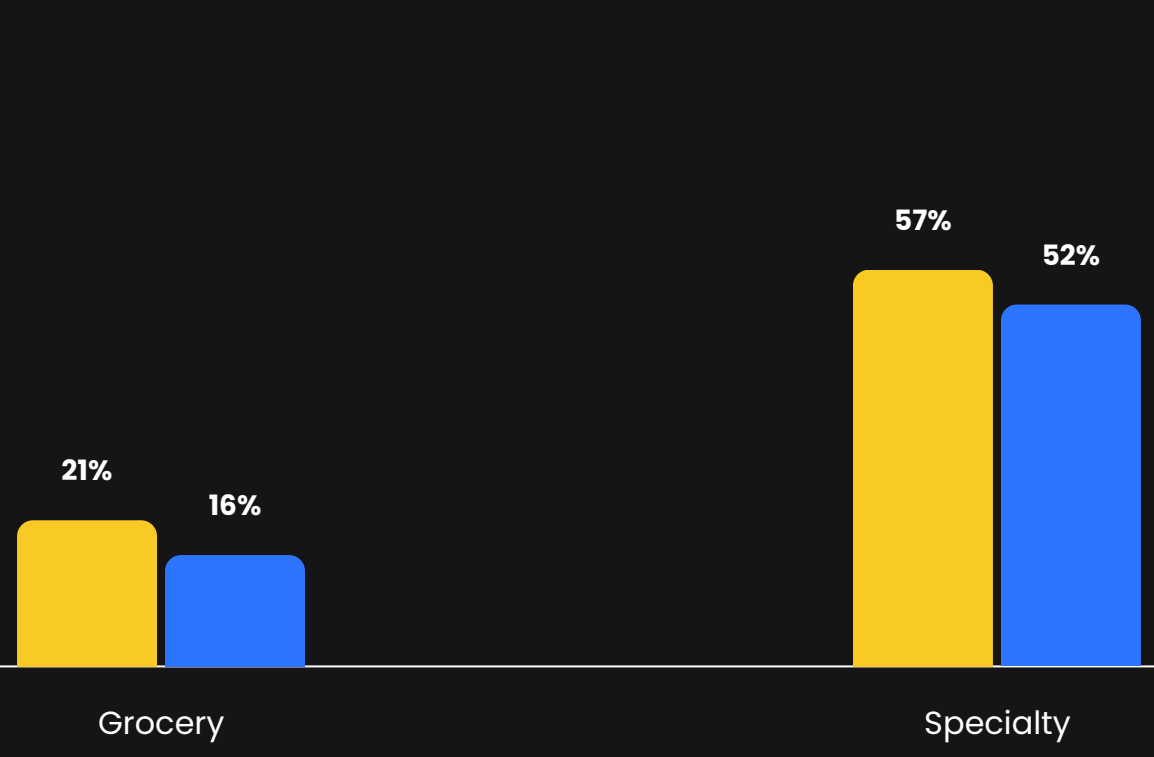
Memorable experiences are differentiators but few are prioritizing them.

Creating memorable experiences remains a crucial differentiator for retailers, helping them stand out in a competitive landscape.

Personal touches, unique in-store interactions, and engaging environments enrich the shopping journey, fostering stronger emotional connections with shoppers and building lasting loyalty. This is especially true for specialty stores, where immersive and tailored experiences are core to their brand identity. However, this focus is increasingly taking a back seat to convenience as shoppers prioritize speed and efficiency. Even with a focus on convenience, retailers must preserve select experiential elements to ensure their offerings remain emotionally resonant.

Experiential:
We want to make our experience memorable for our guests

● 2022 ● 2024



Retailers must bridge customer experience gaps by focusing on mobile and omnichannel.

Overall satisfaction with the customer experience is low, particularly among grocery retailers, who lag behind specialty retailers across multiple dimensions. Specialty retailers tend to report higher satisfaction, likely reflecting their emphasis on personalized and immersive experiences.

Mobile experiences are emerging as a critical area requiring greater attention. While online experiences often receive focus, mobile has become the primary interface for many customers and plays a crucial role in delivering convenience. Mobile satisfaction while low has nearly doubled ('22 vs '24) for grocery retailers, highlighting the impact of investments made in mobile platforms. The in-store digital experience shows significant room for improvement, underscoring the need to better integrate technology into physical spaces.

Perhaps most importantly, satisfaction with seamless physical and digital integration is notably low. A strong omnichannel experience is essential for meeting customer expectations of convenience, ensuring smooth transitions across online, mobile, and in-store interactions. It's fast becoming table stakes.



Retailer Satisfaction (%) With Their Customer Experience

● Grocery ● Specialty

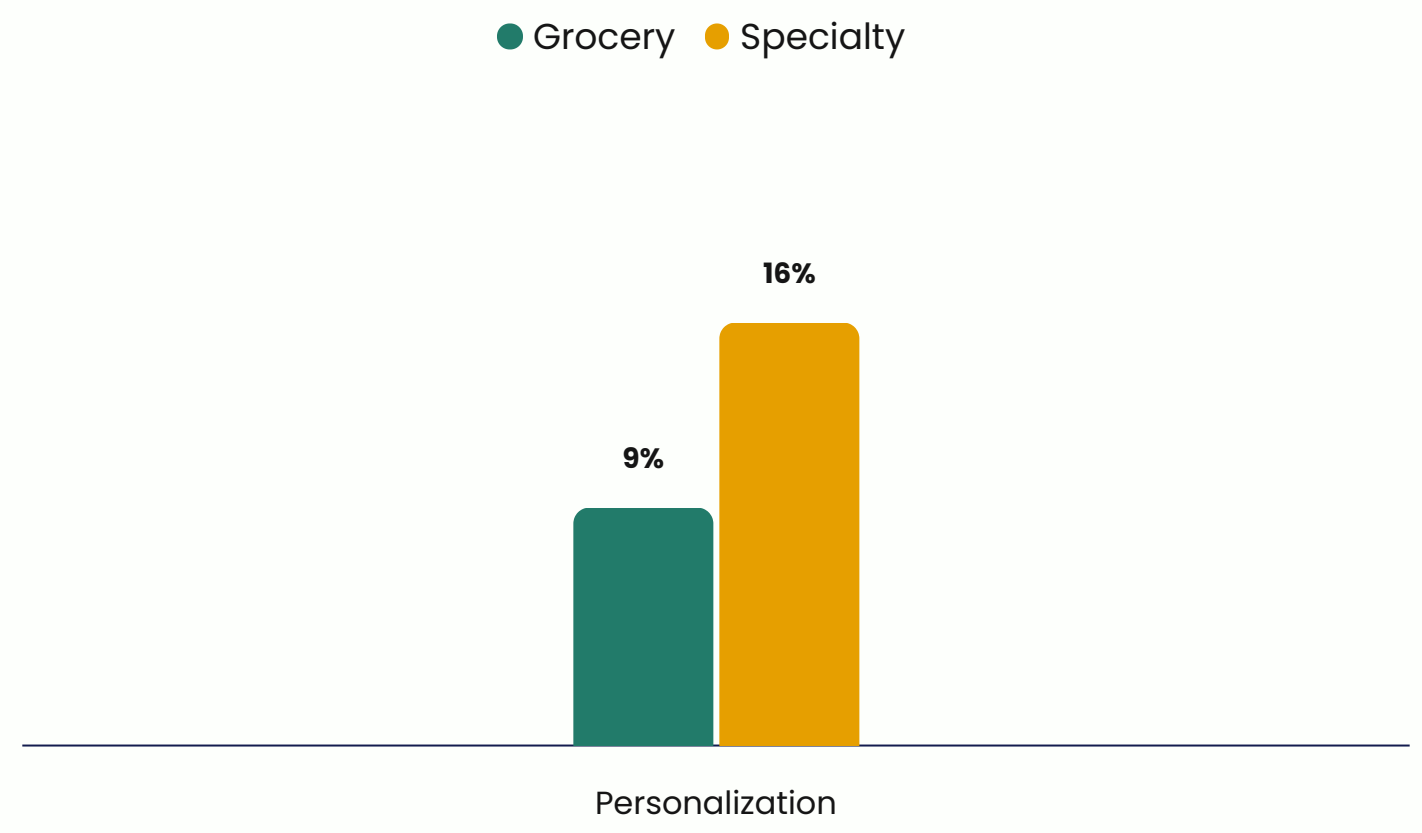


Personalization is an opportunity to differentiate.

While many retailers acknowledge the importance of personalization, few have made significant progress. Personalization is challenging due to the complexity of gathering, analyzing, and acting on vast amounts of customer data, as well as the need for advanced technology and seamless execution.

Specialty retailers are ahead in this area, leveraging earlier investments and a stronger focus on customer engagement. Grocers historically have not been as focused on offering customers Wi-Fi in stores and identifying customers as they enter the store. However, there is a big opportunity for grocers with a strong loyalty program to encourage customers to opt-in when entering the store to receive on-demand personalized promotions as they shop.

Satisfaction (%) With Shopper Personalization

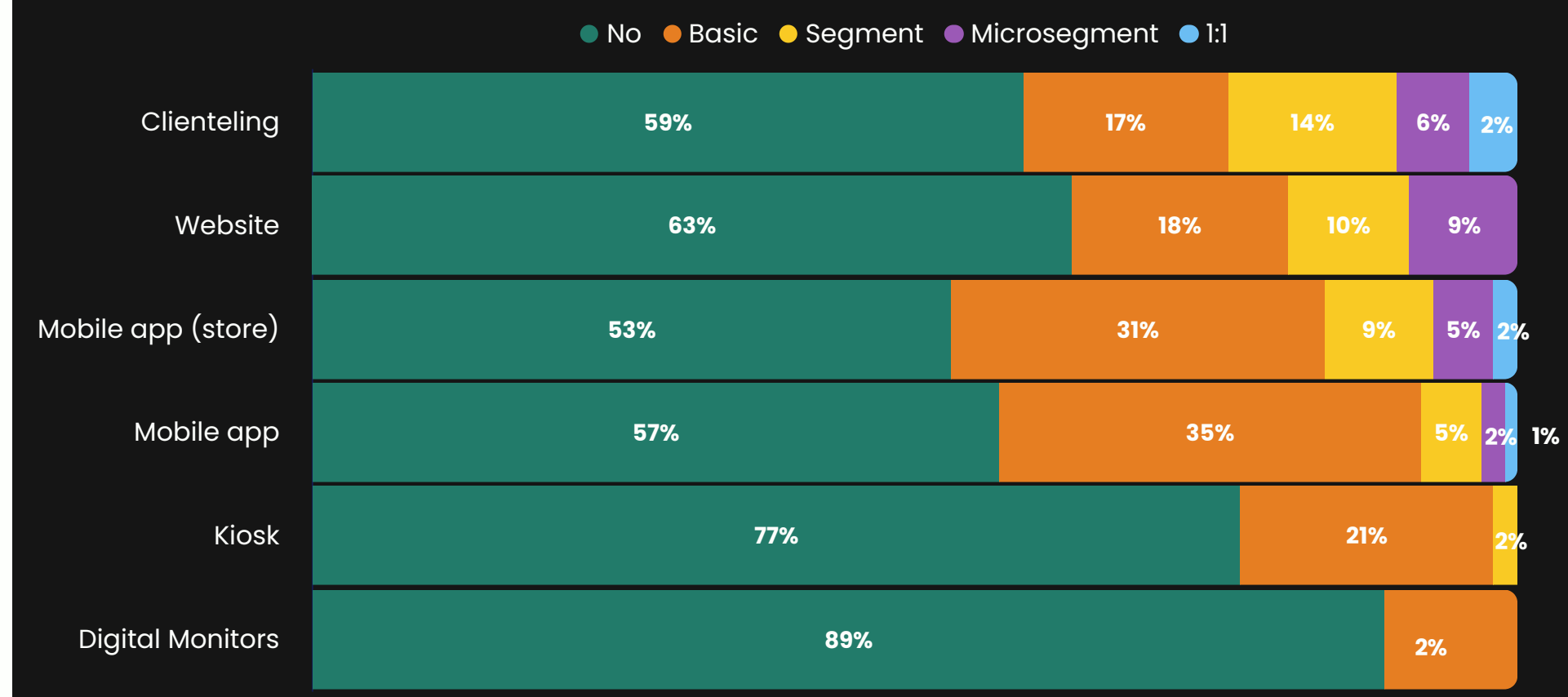


Personalization at scale remains a challenge for most retailers.

Retailer personalization across channels remains in its infancy, with 1:1 personalization still an aspirational goal that few, if any, have achieved.

Most retailers lack the capability and content required to deliver personalization at scale, limiting their efforts to basic or segment-based approaches. While some progress has been made in mobile and website personalization, many channels, such as kiosks and large screens, see little to no personalization. These gaps highlight the challenges retailers face in integrating data, technology, and content to create seamless, personalized experiences across all touchpoints.

Personalization Maturity Across Channels



Retailers must adapt to meet growing digital expectations of younger shopper cohorts.

There is a clear generational gap in how well retailers meet digital expectations, with younger cohorts being underserved compared to older generations. Grocery and General Merchandise retailers consistently trail Specialty and Department Store retailers in satisfying digital expectations across all age groups.

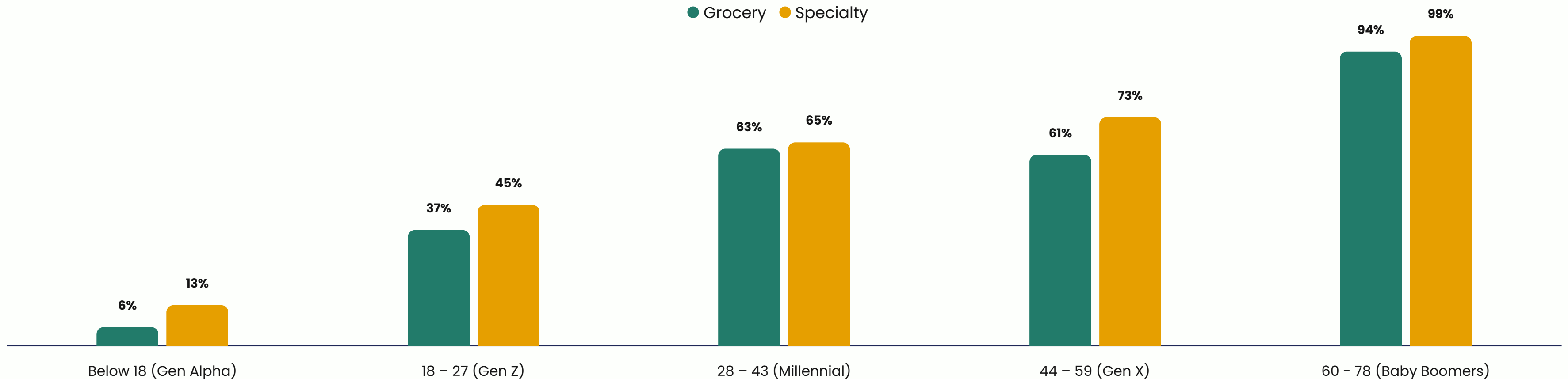
Both formats struggle the most with Gen Alpha and Gen Z, who are digital natives with high expectations for seamless, tech-driven experiences. This reflects a broader challenge in adapting to the evolving needs of younger shoppers who prioritize convenience, personalization, and innovation.

Millennials and Gen X see moderately higher satisfaction, but these groups also demand robust digital interactions, highlighting room for improvement. Notably, Baby Boomers report the highest satisfaction levels, likely due to their lower reliance on advanced digital features and higher tolerance for simpler solutions. Retailers must prioritize digital innovations that align with younger generations' expectations to build future loyalty and maintain relevance in a competitive market.

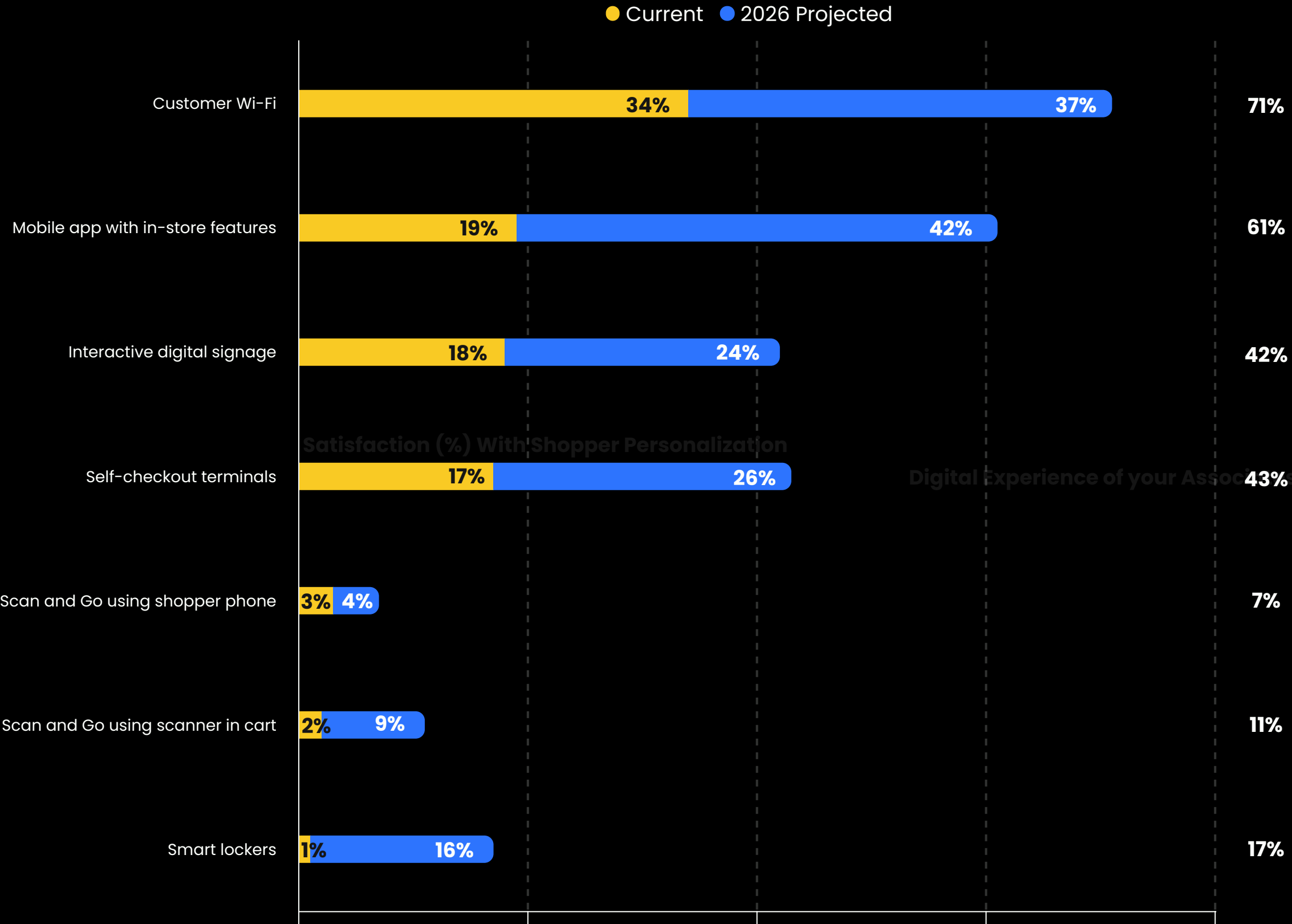


% Retailers That Meet Their Shoppers' Digital Expectations

● Grocery ● Specialty



Customer facing technology investments are focused on mobile technologies that offer greater customer convenience.



Retailers are prioritizing technologies that enhance mobile experiences, as Wi-Fi and mobile-enabled features are set to become ubiquitous for shoppers.

Mobile apps with in-store capabilities will be critical for delivering personalized and seamless shopping experiences. While advanced technologies like scanners in carts are expected to gain traction, particularly in Grocery by 2026, adoption remains slow.

Autonomous checkout systems and fully autonomous stores, once seen as transformative, have lost momentum, with minimal deployment plans in the near future. This reflects a shift in focus toward more practical, scalable technologies to enhance the customer journey.

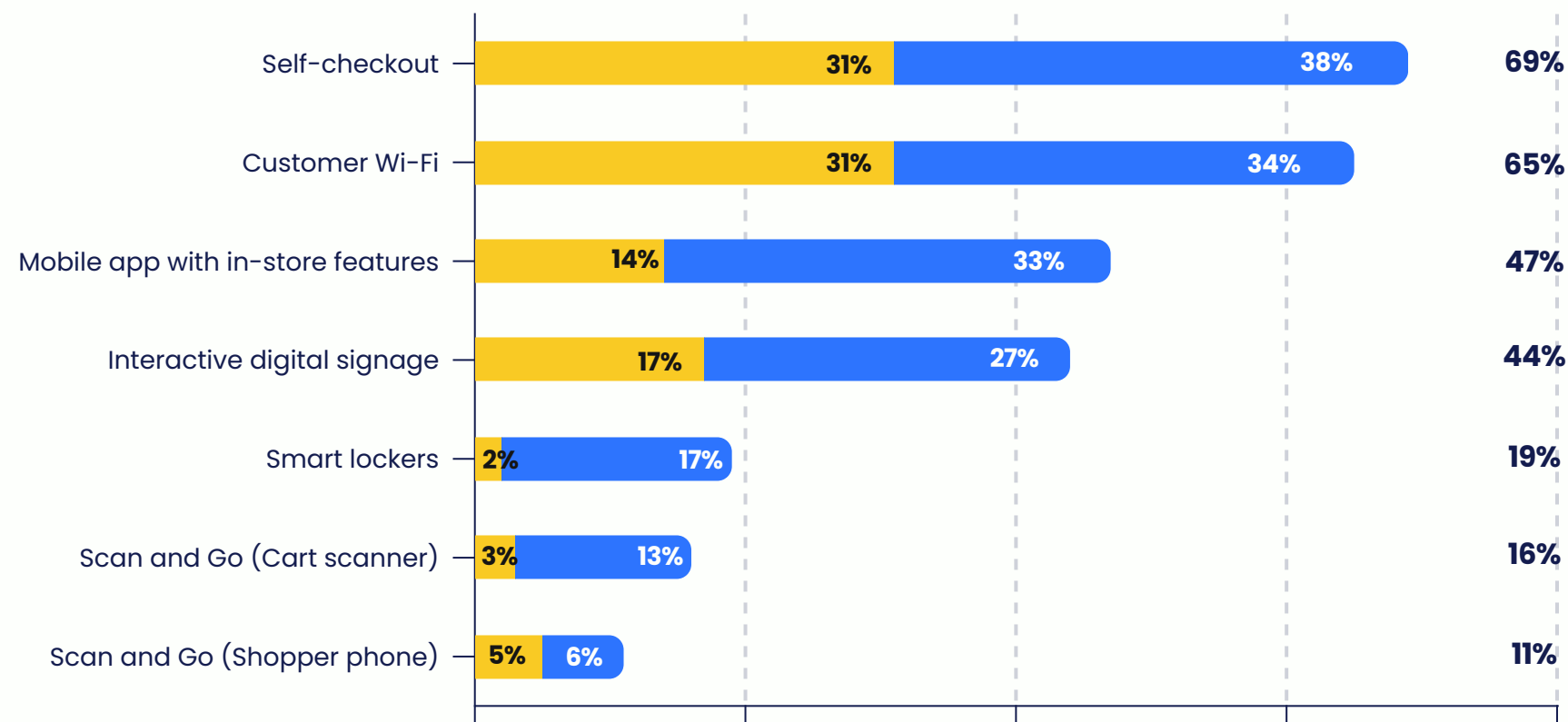
Grocers shift tech investments to convenience and connectivity.

The grocery industry is rapidly adopting technologies that enhance convenience and streamline customer experiences. Wi-Fi and self-checkout are on their way to becoming ubiquitous, even though we've seen grocers slow down their planned rollout of self-checkout.

Mobile experiences, particularly apps with in-store features, are emerging as critical tools for personalization and seamless interactions. Among advanced technologies, scanners in carts are gaining more traction compared to shopper mobile scanning. Interactive digital signage such as retail media networks (RMNs) offer a compelling way to drive incremental purchases and garner revenue from consumer packaged goods companies. RMS have been incredibly successful online, but now is the time to deploy it in stores.

Grocery
Planned Technology Deployment (2024 - 2026)

● Current ● 2026 Projected



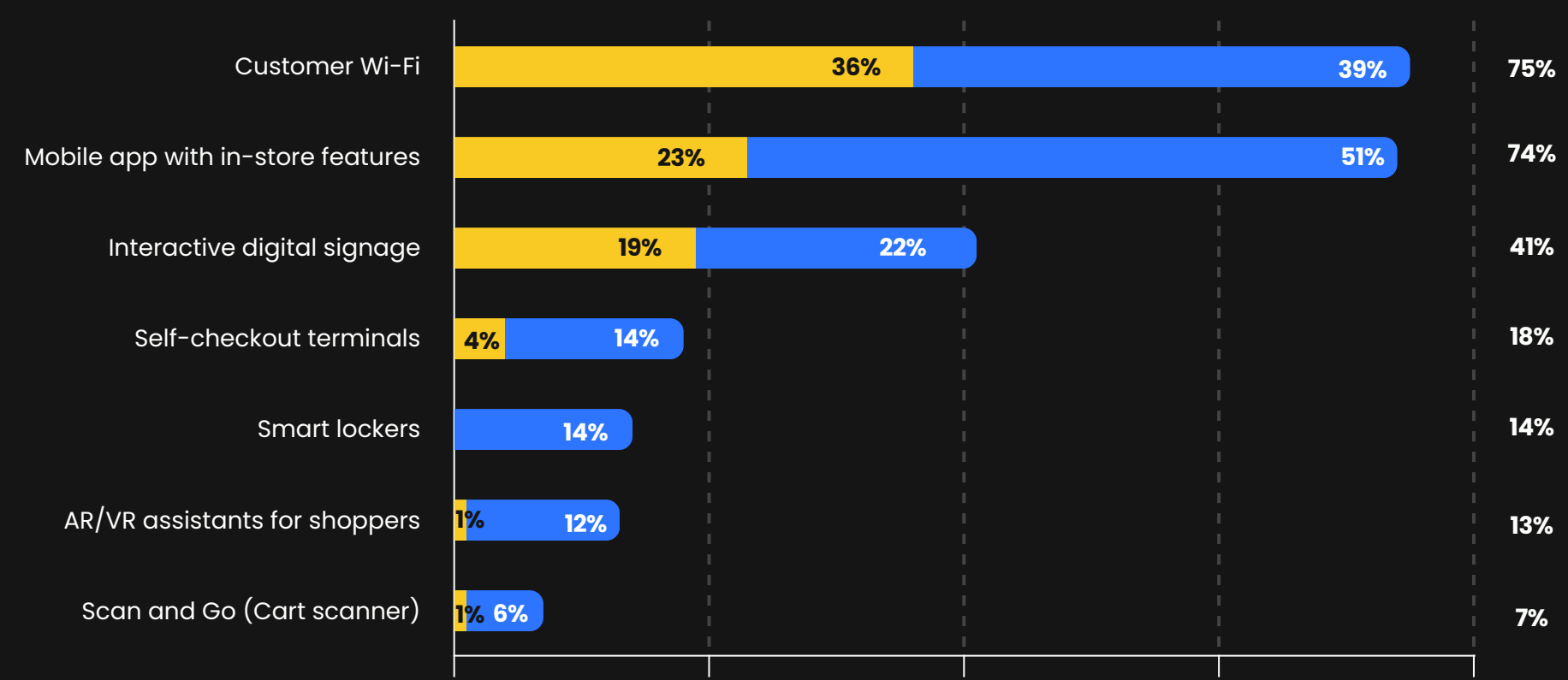
Specialty retail investments are focused on connectivity and mobile.

Specialty and department stores are adopting technologies that balance convenience with enhancing the shopping experience. Wi-Fi and mobile apps with in-store features are becoming foundational, enabling seamless connectivity and personalized interactions.

While self-checkout and lockers are slowly gaining traction, their adoption reflects a measured approach to improving convenience without compromising the curated in-store experience. Interactive digital signage and AR/VR assistants are also being explored, signaling a focus on engaging and immersive experiences that align with their brand identity.

Specialty
Planned Technology Deployment (2024 - 2026)

● Current ● 2026 Projected





Section 3: Sharpening Operational Efficiency

The business model and legacy technology drive differences in operational satisfaction.

Operational satisfaction varies significantly between grocery retailers and specialty retailers. Grocery retailers report higher satisfaction with the efficiency of their store operations and associate productivity, reflecting their focus on streamlined processes and high-volume operations. However, they face notable challenges in staffing and technology.

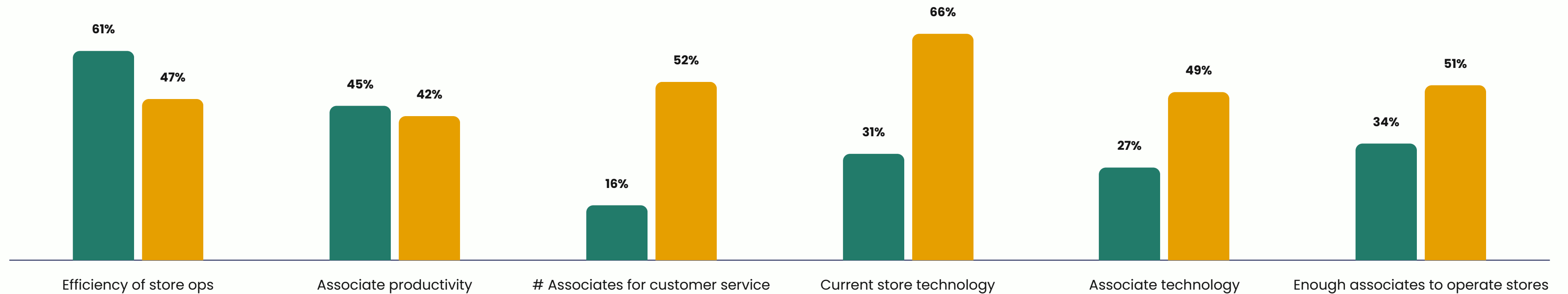
Specialty retailers excel in areas like staffing availability for quality customer service and the technology provided to both stores and associates. This highlights their emphasis on customer-centric operations and investment in tools that enhance the in-store experience.

For grocery retailers, dissatisfaction with staffing levels and technology may stem from the challenges of managing large-scale, low-margin operations, where investments in these areas are often constrained. Specialty retailers, by contrast, prioritize personalized service and advanced technology to differentiate themselves in a competitive landscape. These disparities underline the distinct operational priorities and challenges faced by each retail format in meeting customer and operational demands.



Retailer Satisfaction (%) With Elements of Their Operations

● Grocery ● Specialty



Retailers grapple with aligning technology to multigenerational staff needs.

Retailers are struggling to meet the digital expectations of their associate cohorts, particularly younger generations.

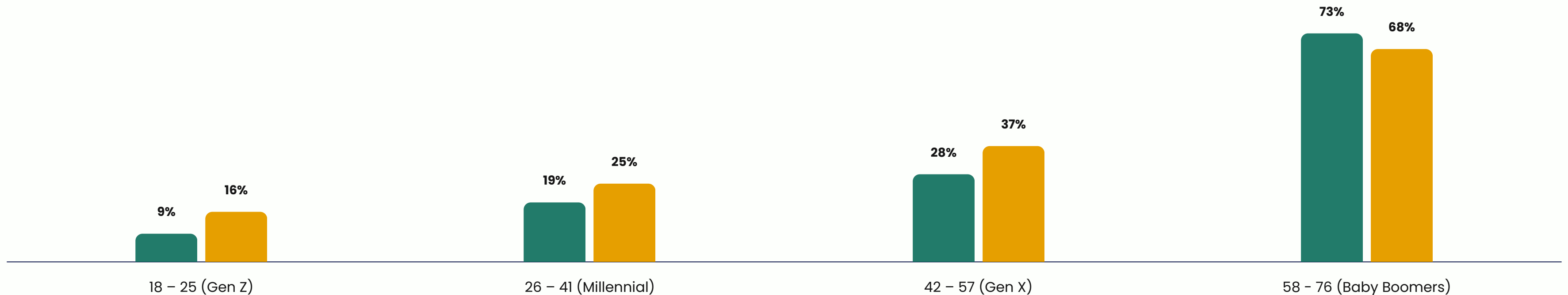
Grocery retailers fall behind specialty retailers in addressing the needs of Gen Z and Millennial associates, who expect modern, intuitive tools. Many retailers still rely on outdated legacy systems with clunky interfaces that fail to meet the usability standards younger, tech-savvy associates demand. This poor user experience not only frustrates associates but also impacts their productivity and engagement.

Specialty retailers perform slightly better, likely due to greater investment in modernizing associate-facing technology. However, both formats still fall short of fully meeting the expectations of younger generations. Interestingly, grocery and general merchandise retailers perform better with baby boomer associates, who are more accustomed to traditional systems and less reliant on advanced features. Understanding the technology gap for younger generations, many retailers are planning to significantly increase their deployment of mobile tools in the next two years.

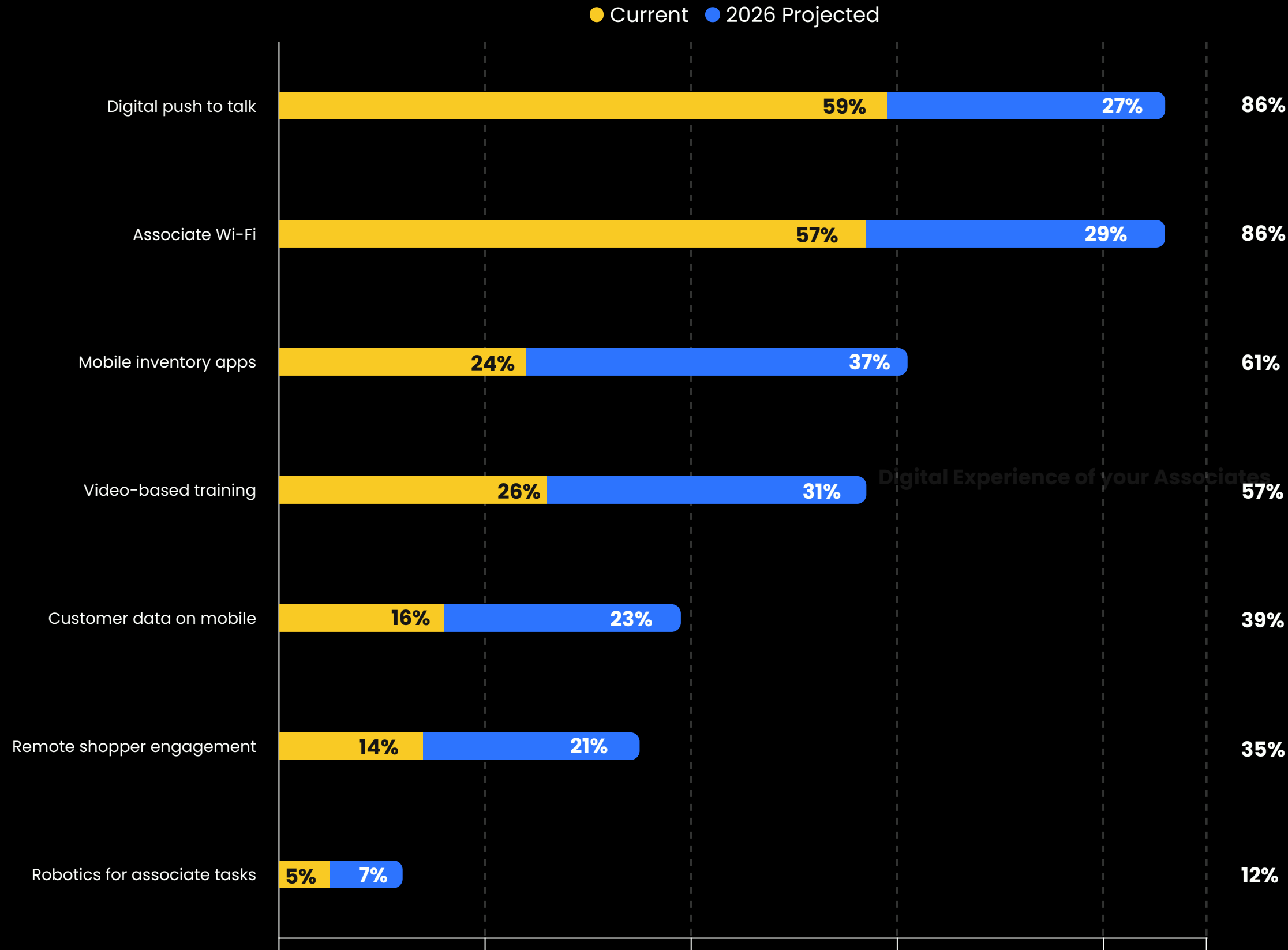


Satisfaction (%) with Digital Experience of Associates

● Grocery ● Specialty



Mobile technologies will be the foundation for improving associate productivity.



Mobile-based technologies are emerging as the key driver of associate efficiency in retail, enabling streamlined communication, inventory tracking, and shopper engagement.

Tools like mobile inventory apps, push-to-talk communication, and associate Wi-Fi are becoming essential for enhancing productivity and responsiveness. These technologies empower associates with real-time data and tools, making it easier to manage tasks and serve customers effectively.

As retailers continue to prioritize mobile solutions, these platforms are poised to become the key to unlocking operational efficiency, bridging the gap between store processes and customer expectations while enabling a more agile workforce.

Grocery retailers use mobile tools to drive efficiency of their associates.

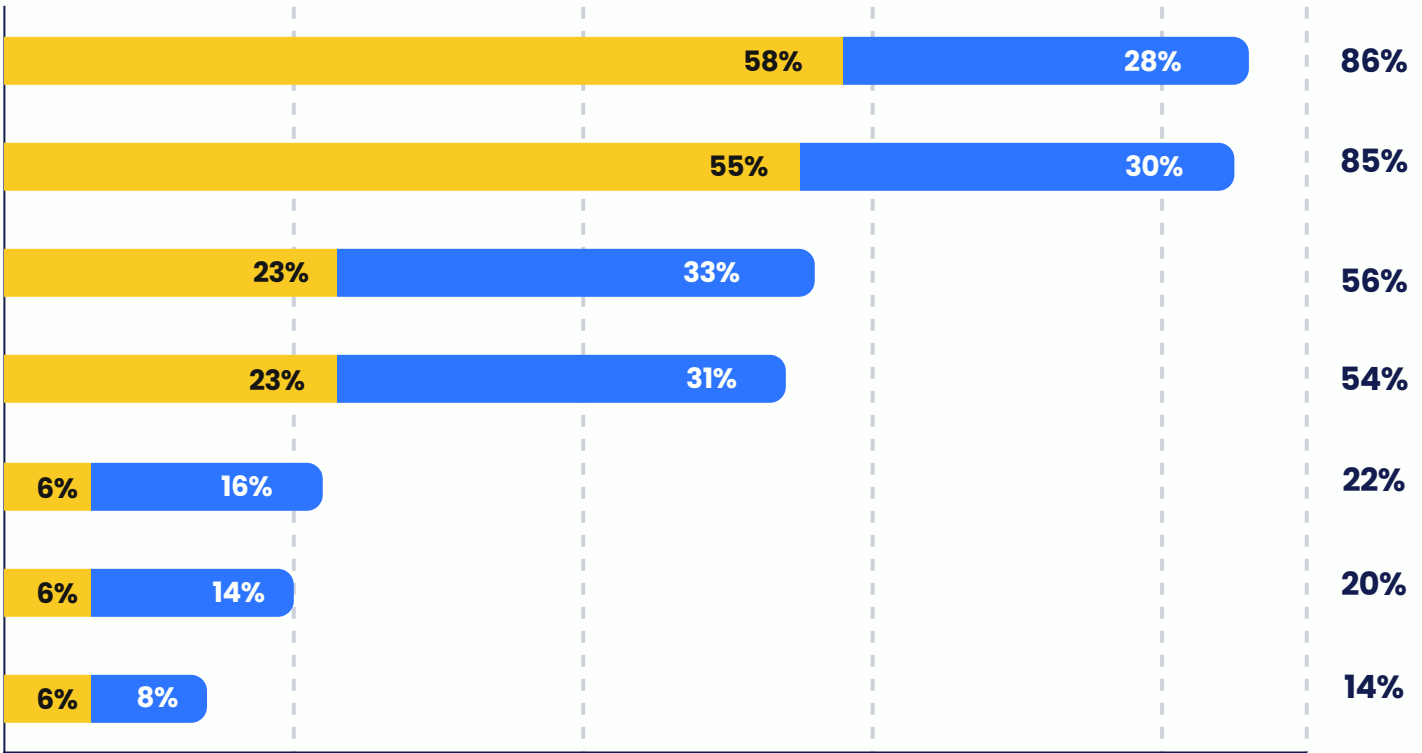
In the grocery industry, mobile-based technologies are emerging as key drivers of process efficiency, streamlining operations and empowering associates.

Tools like digital push-to-talk systems, associate Wi-Fi, and mobile inventory tracking apps enhance communication, provide real-time data, and simplify inventory management. These technologies improve task execution and decision-making, enabling associates to work more efficiently in fast-paced environments.

While robotics remains in its early stages, it presents significant opportunities to automate processes, bridge operational gaps, and optimize workflows.

Grocery
Planned Technology Deployment (2024 - 2026)

● Current ● 2026 Projected



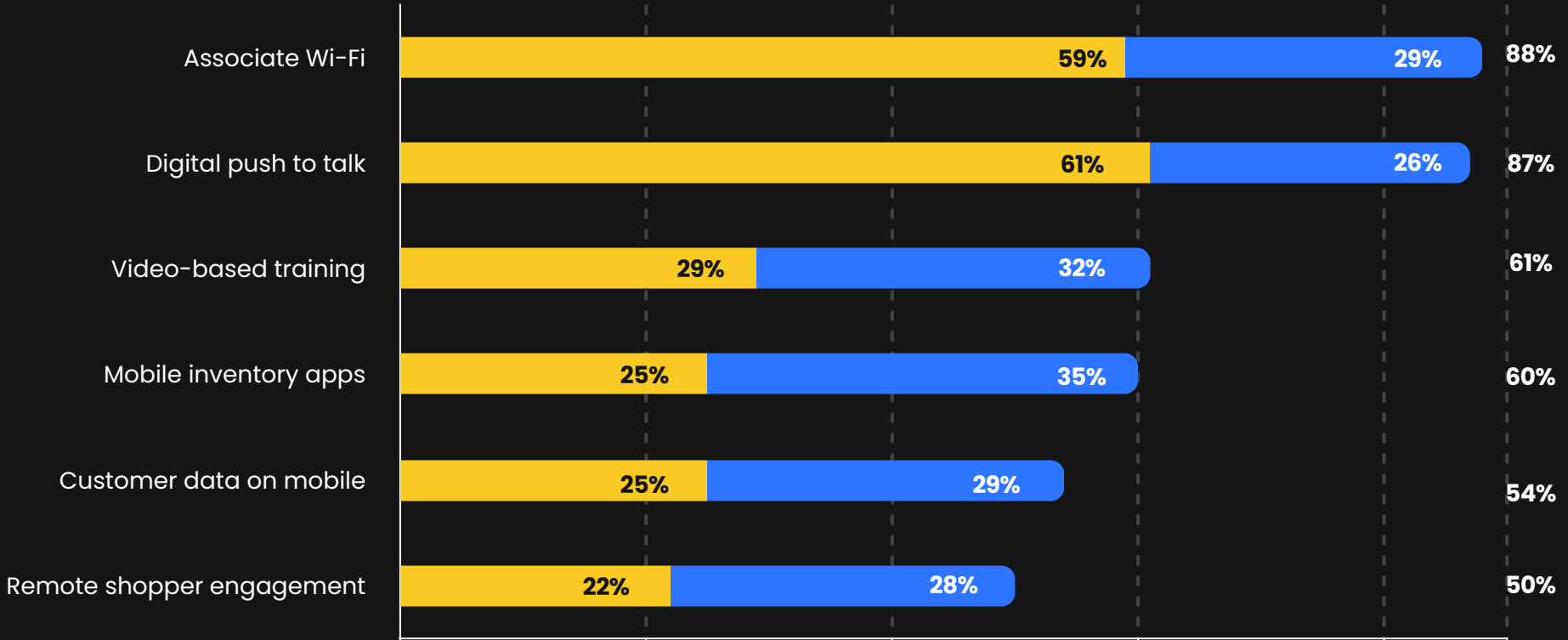
Specialty retailers use associate mobile tools to enhance the shopper experience.

In specialty retail, mobile technologies are being leveraged not just to improve operational efficiencies but to enhance the overall shopping experience.

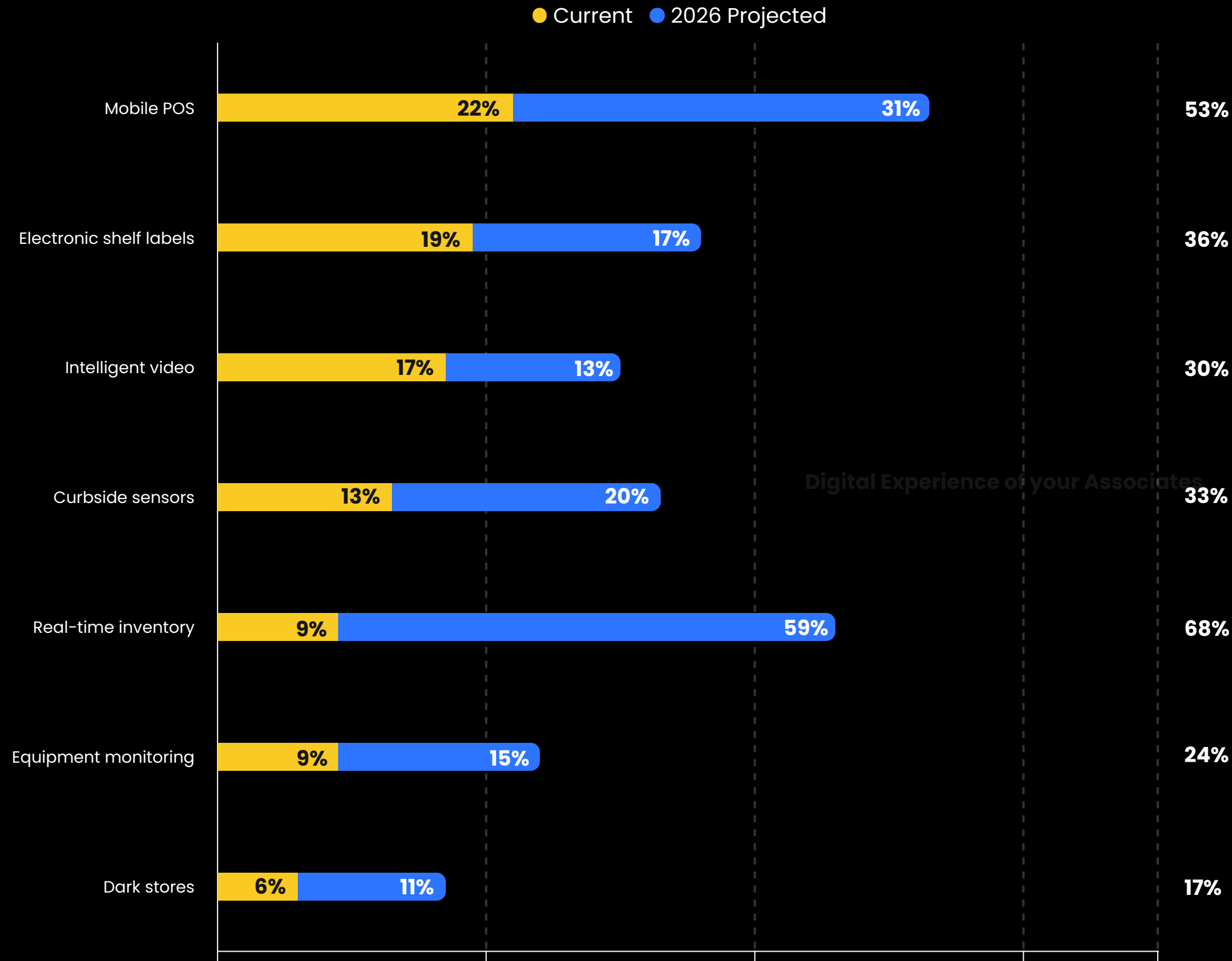
These retailers are focusing on tools that equip associates with customer-facing capabilities, such as mobile devices that provide access to relevant customer data and enable remote or virtual shopper engagement. By empowering associates with these tools, specialty retailers aim to create more personalized and informed interactions with shoppers. The emphasis on mobile solutions highlights a strategic focus on delivering elevated experiences through better-equipped, knowledgeable associates.

Specialty
Planned Technology Deployment (2024 - 2026)

● Current ● 2026 Projected



Retailers focus on tech investments with immediate operational impact.



Retailers are prioritizing technologies with clear, measurable value and shorter time-to-value to enhance operational efficiency.

Solutions like mobile POS and real-time inventory systems are seeing increased adoption due to their ability to streamline operations and improve the customer experience quickly.

Electronic shelf labels, though not new, have gained momentum in recent years, as labor shortages continue to plague the retail industry, offering better pricing accuracy and operational flexibility. While some emerging technologies like curbside sensors are gaining traction, others, such as dark stores, remain niche, reflecting a cautious approach toward investments with less immediate returns.

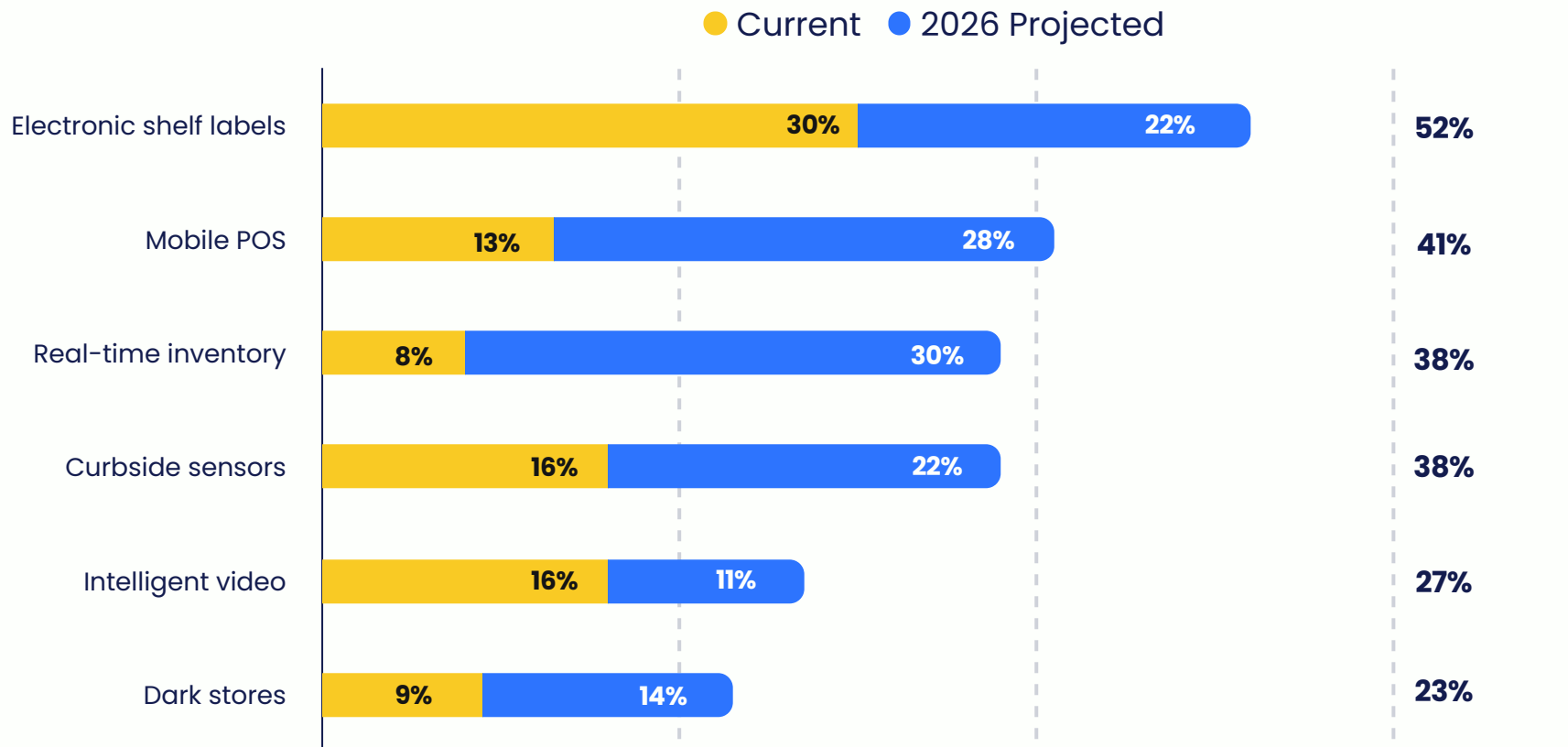
Grocery retailers prioritize technologies with clear operational benefits.

Grocery retailers are scaling proven technologies that enhance efficiency and align with evolving shopper needs.

Electronic shelf labels, while not new, have seen greater adoption recently as labor shortages continue to plague the retail industry, offering better pricing accuracy and operational flexibility. Investments in curbside sensors have increased alongside the growth in digital ordering, reflecting a focus on improving fulfillment speed and convenience.

Dark stores, long considered a future investment, continue to hold interest, though deployment has stabilized as retailers are prioritize technologies with clear operational benefits and shorter time to value.

Grocery
Planned Technology Deployment (2024 - 2026)



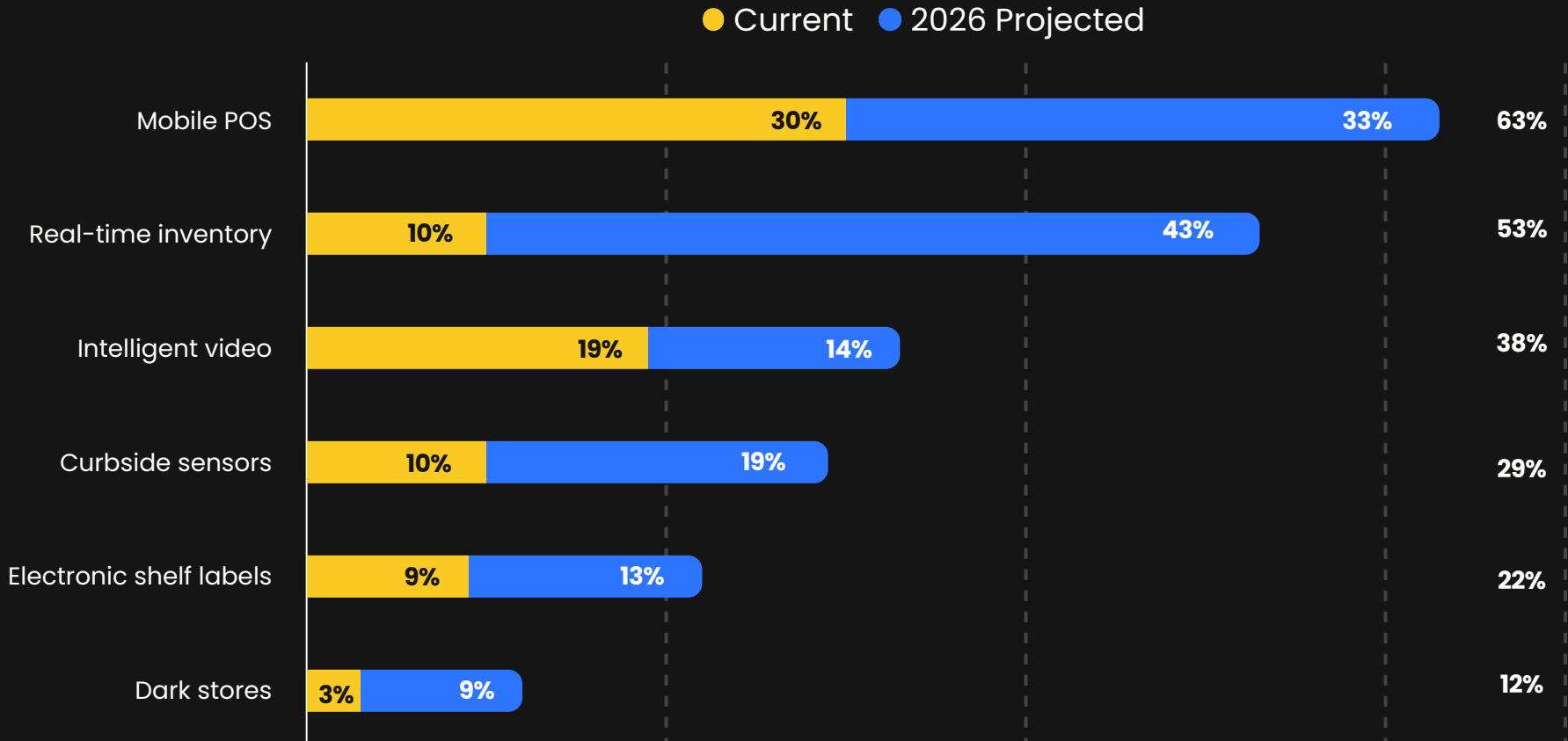
Specialty retailers prioritize technologies that can deliver a seamless experience.

Specialty retailers are adopting technology to enhance operational efficiency and elevate the customer experience.

Mobile POS systems streamline checkout, reduce wait times, and enable associates to assist shoppers anywhere in the store, creating a seamless and convenient shopping journey. Real-time inventory systems provide associates with up-to-date stock information, ensuring customers can quickly locate desired products or receive timely alternatives, enhancing satisfaction and trust.

Additionally, intelligent video systems demonstrate a strong commitment to convenience and security, particularly in addressing the rise in retail theft.

Specialty
Planned Technology Deployment (2024 - 2026)



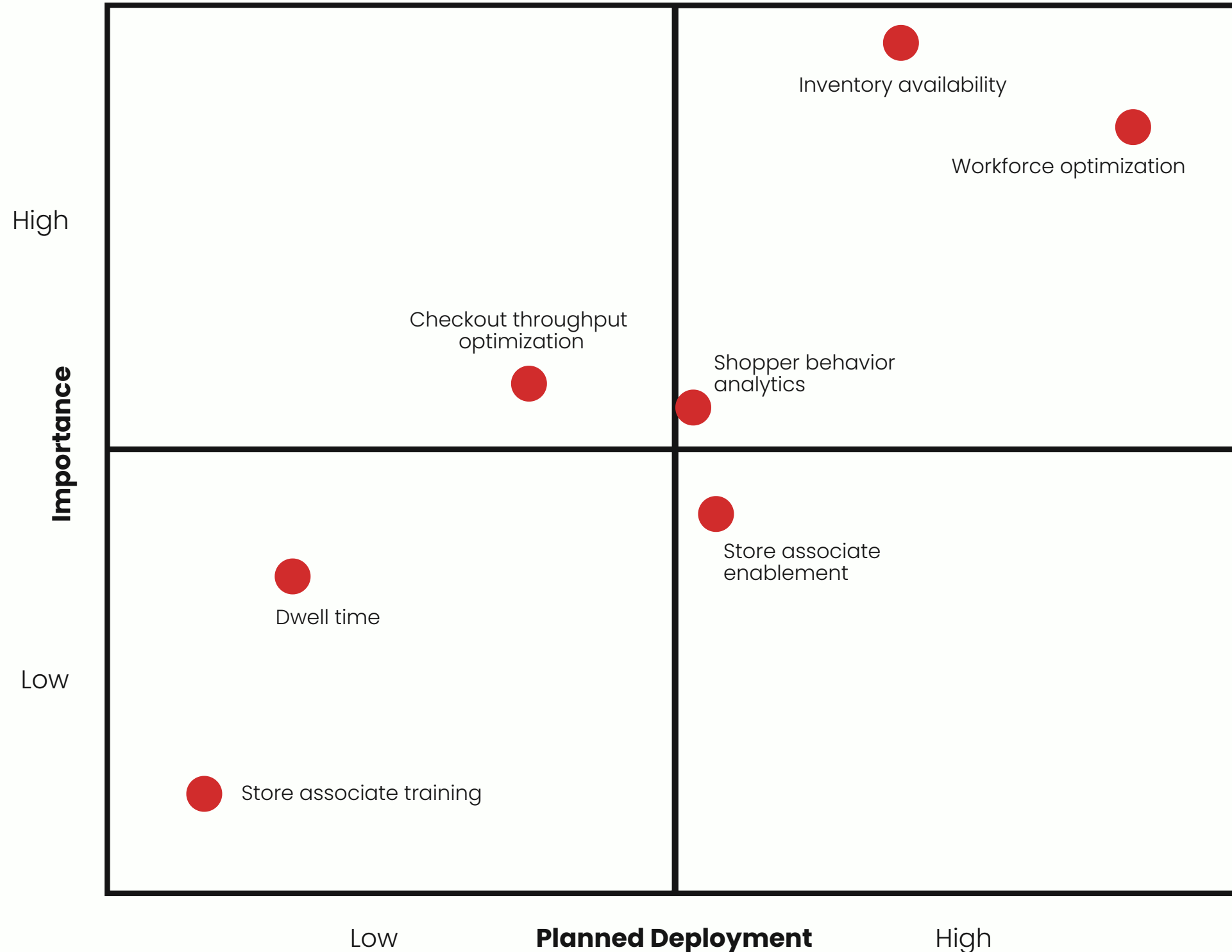
90%

of retailers say that adopting AI will be necessity to compete in the future

49%

of retailers are experimenting/testing AI use cases

AI Use Case Execution Matrix



Retailers prioritize high-impact AI use cases for operational success.

Retailers are prioritizing AI use cases like workforce optimization and inventory availability because they address critical operational challenges and deliver measurable results.

Workforce optimization helps tackle labor shortages and improve staff productivity, while inventory availability ensures accurate stock levels, reducing out-of-stocks and enhancing the customer experience. These use cases are being prioritized due to their clear ROI and alignment with immediate business needs.

However, for broader adoption of use cases like checkout throughput optimization, which falls into moderate importance, retailers need proven outcomes and practical implementation strategies. Lower-priority areas like store associate training and dwell time will require stronger alignment with strategic goals and demonstrated value before gaining traction.

To drive adoption across all use cases, retailers need clear business cases, and a focus on balancing short-term impact with long-term value.



Section 4: Executive Perspectives



Executive Perspective



David Naumann

Retail Marketing Strategy Lead
Verizon Business

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

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 electronic shelf labels and real-time inventory tracking. These technologies empower associates with real-time data and tools to make them more efficient and improve customer service.

Another key takeaway from this year's study is the current status of customer personalization across all retail segments. Only 13 percent of retailers are satisfied with their level of personalization for customers, and personalization at a one-to-one level is rarely achieved. While technology integration, especially across channels, may add to the complexity, we project that artificial intelligence and branded mobile apps will help truly personalized experiences become a reality in the near future.

It is great to see continued investment in retail technology to improve the customer experience and associate productivity. 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



Sabrina Gonzalez
Global Retail Marketing
Cisco

We are witnessing an important transformation in the retail industry— a mix of digital innovation and operational excellence. The industry is focusing on enhancing omnichannel efficiency in both shopping and engagement to improve the customer experience, optimize inventory systems, and empower sales associates to boost performance and satisfaction.

A big problem in the retail world is theft and fraud. The intention is to use technology to mitigate risks associated with it. This proactive approach is crucial for maintaining profitability and ensuring a safe shopping environment. However, the focus needs to shift from merely recording losses to actively detecting and preventing them, making better use of available loss prevention staff. A key aspect of this shift is the digital empowerment of the retail workforce. There is a significant gap between the level of digital sophistication that retail associates expect and what IT perceives they need. Bridging this gap is vital for retaining talent and improving operational flexibility.

Considering the ongoing labor challenges, the potential for automation and artificial intelligence is immense, yet the application remains a subject of exploration and debate. The opinions reflected in the survey indicate an expectation that significant portions of store tasks could be automated within the next few years, hence a focus should be on integrating these automation technologies seamlessly and securely into the retail workflow.

Additionally, there seems to be an opportunity to align the perspectives of IT and business leaders on the pace of digital innovation and the effectiveness of network systems. Closing this gap is important for synchronizing technology investments with business goals.

At this pivotal moment, the retail sector has the exciting opportunity to blend the rapid pace of digital trends with strategic foresight. The challenge is to develop and execute strong strategies that strengthen retail agility and adapt to the evolving industry landscape. This approach ensures a future that not only embraces digital innovation but also enhances the human aspect of retail. By focusing on these elements, Cisco's retail customers can foster consumer loyalty, retain talented associates, and boost efficiency by providing exceptional, differentiated experiences on a secure, agile platform.



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