



# The Case For AI-Enabled Merchandise Planning 2025

## Benchmark Report

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# Executive Summary

## Key Findings

RSR has been conducting merchandising reports on a near-annual basis since 2007, yet this is perhaps the timeliest benchmark we've conducted. Its goal – to find **how merchants balance art and experience with data and analytics to successfully deliver products that consumers want to buy** - coincides directly with the widespread investigation of AI (artificial intelligence) by retailers AND the widespread incorporation of AI by the technology providers who serve them. The results are like nothing we've seen to date:

Some of the high-level findings:

- **Retailers are increasingly sold on the value of AI-enabled solutions to help.** Every one of the 111 qualified retailers surveyed for this report indicated it was investigating AI-enabled solutions in the next 12 months. Retailers don't see any other way to improve their merchandise planning without using the insights that could be derived from new data and new analytics.
- However, solutions providers **need to be careful** about promoting AI as a holy grail that will fix every problem. For retailers, AI is part of a solution to address business challenges in new ways – but it still must prove itself. Retailers have been burned by far too many magic bullet promises from the vendor community in the not-too-distant-past – and have a healthy dose of skepticism. AI is everywhere and confusing.
- Only 32% of retailers confidently report being able to keep pace with customer behavior. **Retailers are clearly not satisfied with their current capabilities and** see new data and new analytics as critical to improving planning across the entire merchandise lifecycle. This creates tremendous opportunity for next-generation solutions.
- Retailers also express frustration that they can't plan at a granular enough level to work out local differences that impact *allocations* and struggle mightily with *assortment localization*. However, the biggest operational challenge to developing more effective strategies is a perceived inability to predict the **effect of future pricing, assortment, and promo decisions**.
- Most retailers are ready to act. In an area of the enterprise that has seen glacial change over the past 20 years of this research, **2025 looks to be a year of significant change**.

Based on our data, we also offer several in-depth and pragmatic suggestions on how retailers should proceed. These recommendations can be found in the **Bootstrap Recommendations** portion of the report.

We certainly hope you enjoy it,

*Briain Kilcourse and Steve Rowen*

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# Research Overview

## The Continuing Struggle

In nearly every year since RSR's inception in 2007, we have conducted a Merchandising benchmark study. The reason is straightforward: the subject eludes easy answers to the question, "how do merchants balance art and experience with data and analytics to successfully deliver products that consumers want to buy?"

In the 20<sup>th</sup> Century, the "merchant prince" was the arbiter of taste - especially in apparel. But today's arbiter of taste is the consumer, and merchants increasingly struggle to find the right formula between creativity and speed to market. As recently as 2017, industry icon Mickey Drexler (CEO at Gap and J.Crew) confessed in an [interview](#) with the Wall Street Journal that he hadn't realized just how much technology would change the retail landscape.

The most impactful technology of all has been what all consumers have in their pockets and purses: access to information 24x7 about any product available, anywhere, and at any time via their "smart mobile" devices. The effects of that one innovation could fill a book but netting it out it's that armed with a world of information, consumers are more discerning and demanding than they have ever been. As RSR has repeatedly said, "retail is no longer dictated by what retailers want to sell, but by what consumers want to buy".

To better deal with that dynamic, retailers increasingly are turning to insights derived from data & analytics not only to plan pre-season, but to adjust those plans in-season. In RSR's first study on the state of merchandise planning in 2008, we framed retailers' efforts along three dimensions:

*Retailers look to **science** to help improve local assortments through customer segmentation, sales forecasting, price and promotion optimization, and more tailored marketing programs. They look to **process improvements** to optimize internal and external planning, and they pragmatically work with their merchandise vendors to **improve understanding of demand signals** and learn the best match between the products they sell and the customers that buy them.*

Fast forward to our most recent (2022) study<sup>1</sup>, and the dimensions of the challenge haven't fundamentally changed. But the urgency surrounding them has.

**Science** in this case refers to the use of new data and advanced analytics to predict the dynamics of consumer demand. The 2022 study pointed out some of the issues associated with achieving that objective:

*<Over-performing retailers> have a tremendous advantage when they have the ability to run simulations based on model forecasts... The intention here is to discover what might happen because of decisions on price, promotions, and assortment. Predicting the impact of such decisions is a top priority....*

*"The path forward for retailers is incorporating insights into the planning process prior to assortment lock. This way, adjustments in sales forecasts will reflect true customer*

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<sup>1</sup> Merchandising In The Modern Era: More Important Than Ever, RSR Benchmark, December 2024

*demand. Also, there is clear opportunity for retailers to use technology to meet the need of improved demand forecasting...*

*It's nearly impossible to make informed decisions about what to sell if a retailer cannot trust its current inventory data, its current pricing data, or virtually any data coming from its current selling systems."*

The **process improvements** that retailers seek refer to more coordination between internal teams, particularly Merchandising, Marketing, Supply Chain, Finance and the selling channels. In 2022, we observed that:

*"Current merchandising processes are rigid - retailers cannot rapidly adjust and adapt to changes in consumer behavior. One of the implications of this is the amount of excess inventory that retailers are currently clearing out. What follows are reactionary measures to salvage as much profit and margin as possible..."*

*"Integrated merchandising teams have, for some time now, been a key objective for many retailers. The idea of having cross-functional consortiums of experts from marketing, merchandising, supply chain, finance, and the selling channels lend their expertise to the merchandise planning would help eliminate much of the possibility for error..."*

Developing an **improved understanding of demand signals** is focused on the ability to get the right products to the right customers touchpoint at the right time. Many retailers continue to be plagued by too much inventory in the wrong places and too little in the right places. That undermines assortment sell-through and triggers unnecessary markdowns and inventory transfers.

RSR benchmarks have repeatedly pointed out that some level of assortment, price, and promo *localization* is a top opportunity. The 2022 report highlighted that priority by observing that:

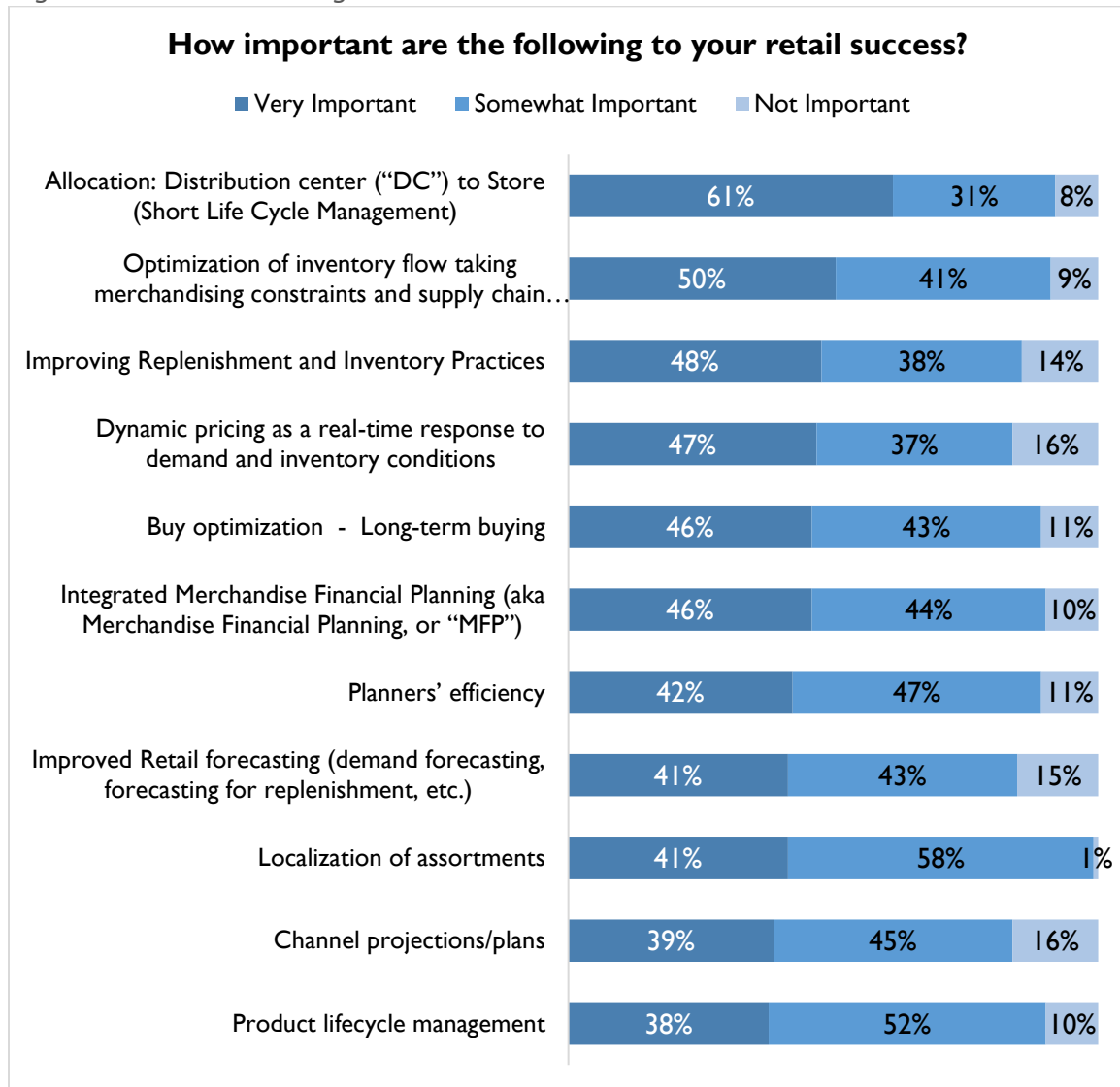
*"The integration of planning, allocation and replenishment is very important... the opportunity for technology here is the integration of automatic replenishment, demand planning and PLM. These should reflect customer insights and shifts in demand - adjusting reorders and planned assortments based on data, avoiding manual intervention."*

## **What Has Changed?**

Although the challenges merchants face are not new by any means, they are increasingly difficult to solve. Consumer demand is more mercurial than ever, product speed to market needs to be faster, supply networks are increasingly fragile, and competitors – especially huge market aggregators like Amazon - are more agile.

So, it is no surprise that now at the end of 2024, respondents to our latest survey confirm once again that the building blocks of the merchandize lifecycle - demand forecasting, buy optimization, allocation, replenishment) – are all focus areas for improvement (Figure 1).

Figure 1: Work-in-Progress



Source: RSR Research, February 2025

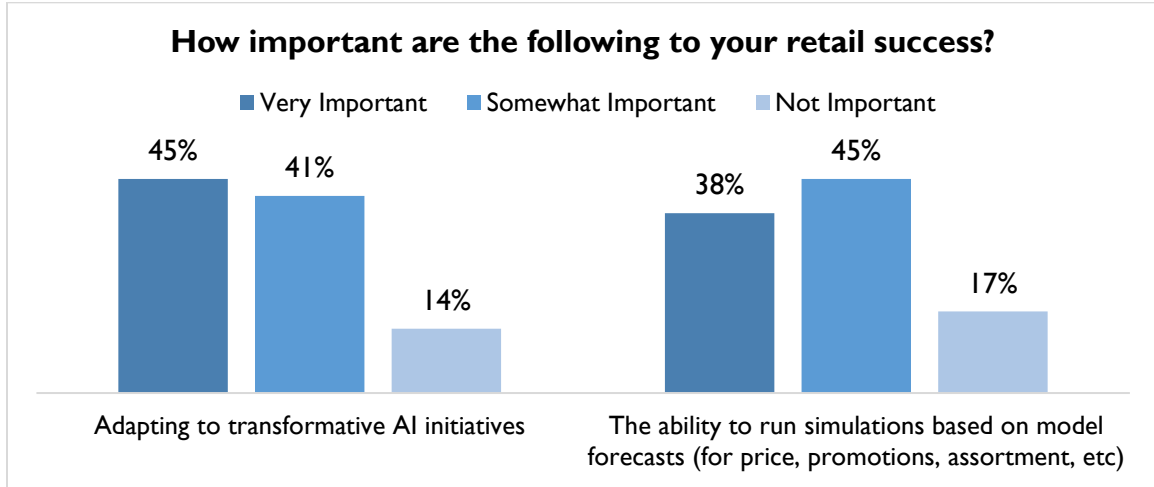
One positive change in the last two years is the rapid maturation of a new generation of data analysis tools and techniques that should enable retailers to incorporate insights derived in near real-time and respond to changes in either supply or demand *while events are happening*, not after-the-fact.

The most significant of the new tools available is “AI”, or artificial intelligence. In the context of merchandise planning, this report focuses on AI as “*a powerful machine learning system designed to analyze vast amounts of data ... to identify patterns and predict the most likely response to a given question... essentially acting like a ‘statistical brain’ that can draw conclusions based on the information it has consumed.*”<sup>2</sup>

<sup>2</sup> Quote attributed to Noam Chomsky

But when we asked retailers about the importance of AI to improve the capabilities noted in Figure 1, it is clear that there is still some uncertainty about the technology (Figure 2).

Figure 2: Can AI Help Retailers Address Merchandise Challenges?



Source: RSR Research, February 2025

Although the tech industry is forging ahead with the next generation of AI enablement (natural language processing, co-pilots, agents and automated decisioning, personalized algorithms, etc.), retailers are still working out how best to apply the technology’s foundational ability to examine huge datasets of non-transactional data to arrive at meaningful insights. This is particularly important when it comes to integration of customer insights into demand forecasting and more localized assortments, prices, and promos based on those insights.

We get slightly different pictures of the importance of *adapting to AI transformative initiatives* when we look at responses by retail vertical. **Apparel** and **specialty** retailers, those that typically feature short lifecycle and seasonal assortments, place more ‘high value’ on *adapting to AI transformative initiatives* than do general merchandisers (**GM**) and **hardgoods retailers**, whose assortments typically include many long lifecycle replenishable products (51% compared to 37%). Specialty retailers only get one shot at the season, and therefore more of them see the predictive analytic capabilities of AI as must-have rather than nice-to-have capabilities.

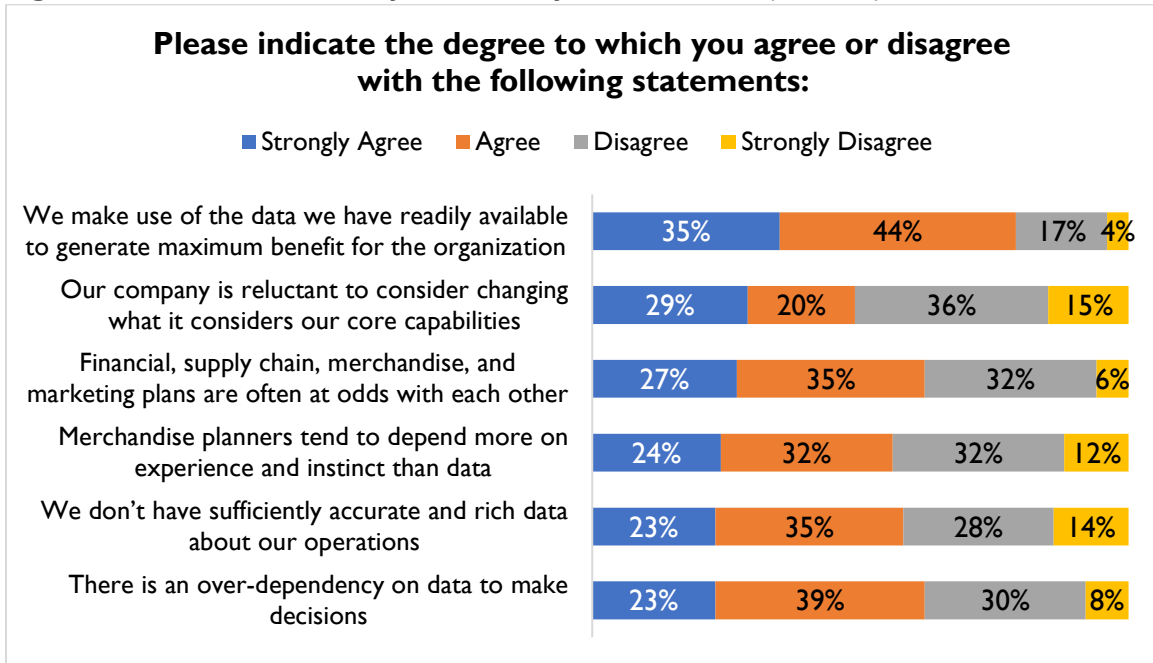
If nothing else, these insights tell us that solutions providers need to be careful about promoting AI as a holy grail that will fix every problem. For retailers, AI is a tool to address business challenges in new ways – but it still must prove itself.

### The State Of Play

Retailers provide a sober self-assessment of their planning capabilities and the data that they use to develop those plans (Figure 3).



Figure 3: A Somewhat Defensive Self-assessment (Part 1)

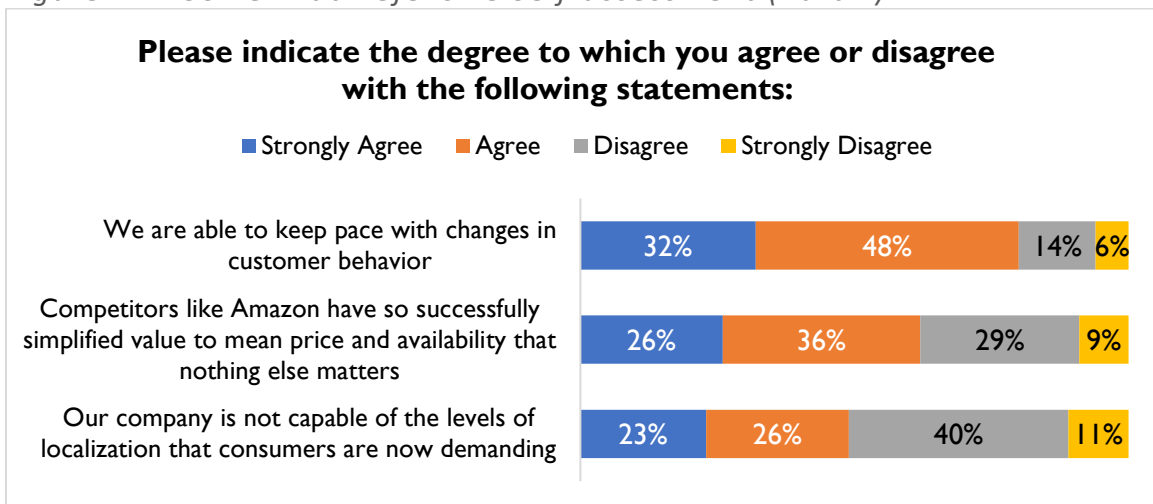


Source: RSR Research, February 2025

Although most retailers are cautiously optimistic about their ability to use the data that is available to them, a majority also indicate that different plans (financial, merchandise, supply chain, selling channel) are at odds with each other, that they don't have sufficiently accurate information about their internal operational processes, and that merchandise planners continue to fall back on experience rather than to lean on data-derived insights. And as a final coup de grâce on the "art vs. science" debate, a clear majority think that there is an over-dependence on data to make decisions!

We see something similar when it comes to retailers' ability to respond to the dynamics of consumer demand (Figure 4).

Figure 4: A Somewhat Defensive Self-assessment (Part 2)



Source: RSR Research, February 2025

While retailers aren't exactly bullish on their ability to keep pace with changes in consumer behavior, they believe they do a reasonably good job. But a majority also feel that they are being forced to compete on *price* and *availability* with mega retailers like Amazon. And only 11% of the retailers in this survey strongly agree that they are capable of the levels of *localization* that consumers now demand. This is strikingly at odds with the importance retailers place on *localization of assortment* in Figure 1, where 99% of responding retailers indicate that assortment localization is either 'very' or 'somewhat' important. The RSR team rarely sees that kind of unanimity in our benchmarks.

## Retail Winners Have An Edge

In our benchmark reports, RSR frequently cites differences between retailer over-performers in year-over-year comparable sales and their competitors. We find that consistent sales performance is an outcome of a differentiating set of thought processes, strategies, and tactics. We call over-performers "Retail Winners."

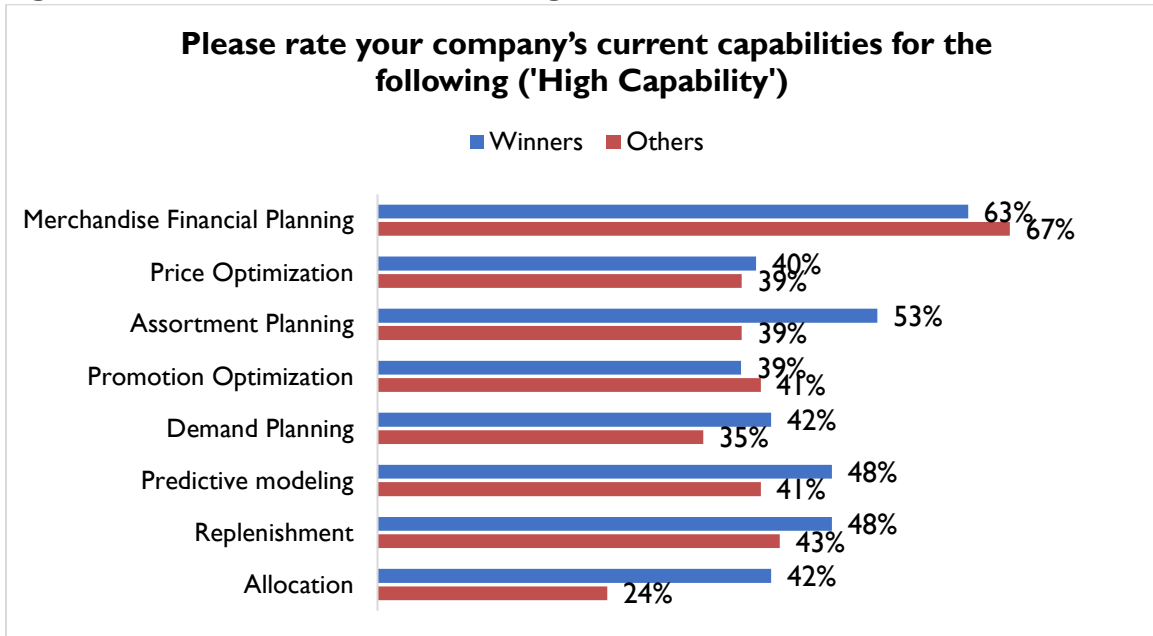
RSR's definition of Winners is straightforward. Assuming industry average comparable store/channel sales growth of **7 percent**, we define those with sales above this hurdle as "*Winners*," those at this sales growth rate as "average," and those below this sales growth rate as "*laggards*" or "also-rans."

For the retailers in this report, 56% of our respondents achieved revenue growth above the industry average, while 45% reported growth equal or less than the industry average. What is just as interesting is that 82% of those Winners report that margins have improved in the last year, compared to 43% of all others.

Throughout nearly all RSR's benchmarks, we have observed that Retail Winners don't just do the same things that all retailers do more effectively. They also tend to do entirely different things. They tend to look at problems with much more of a "big picture" viewpoint than those struggling to keep the lights on. One consistent difference between Winners and other retailers is that they view the information asset as *strategic* – to tool to create differentiation.

When it comes to merchandising planning and execution, results show that Winners out-perform others especially when it comes to *assortment planning* and *allocation* (Figure 5). But it's important to acknowledge that even for over-performers, there is a lot of upside potential. Retailers are clearly not satisfied with their capabilities, and that creates the opportunity for next-generation solutions (as we'll see later in this report).

Figure 5: Even Winners Are Challenged



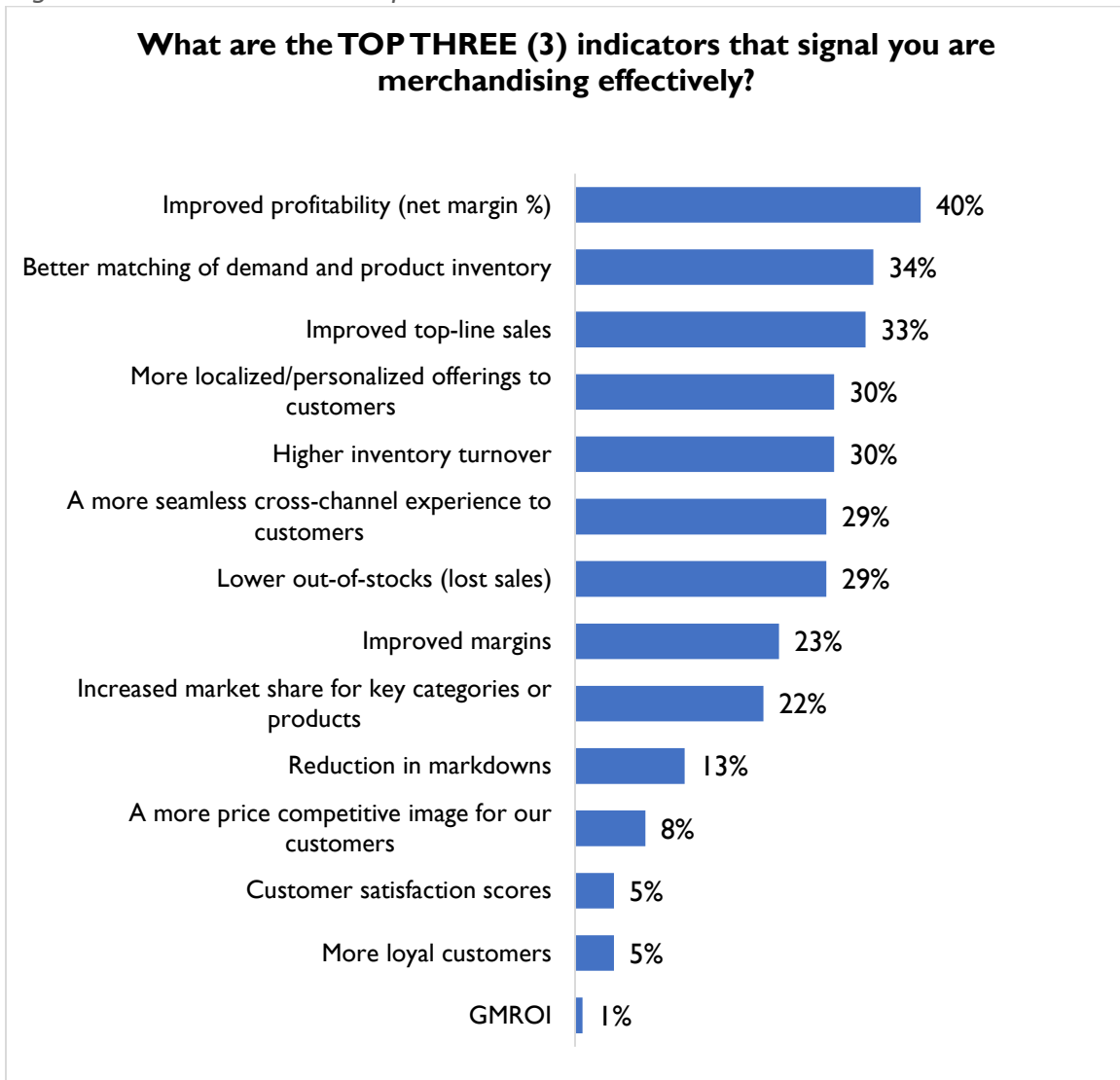
Source: RSR Research, February 2025

### How Do Retailers Measure The Effectiveness Of Their Planning?

Before we dive into the business challenges and opportunities that make the case for AI-enabled merchandise planning, we should look at how retailers know whether they are successful or not? For apparel and specialty retailers, who typically sell “one and done” seasonally oriented assortments, the answer to that question might seem self-evident – they get to live on to fight another day. Their best hope is to sell out as much of the entire collection at full price. For general merchants and hardgoods retailers, the answer is more complicated, since they often carry both short and long lifecycle products in the assortment.

Figure 6 shows that there is one clear leader in retailers' performance measurements: *Improved profitability* (as we have already discussed, Winners are better at this than average and under-performers are).

Figure 6: How Do You Keep Score?



Source: RSR Research, February 2025

“Profitability” encompasses many of the other measures: top line sales, inventory turnover, improved margins, reduction in markdowns. Some other measures are more subjective: more localized/personalized offerings to customers, a more seamless shopping experience, customer satisfaction scores. All have some utility, but one way or another, they all contribute to profitability.

When looking at success metrics, there is a nuance worth point out. Apparel and specialty (“A&S”) retailers are much more focused on top line sales, whereas general merchants and hardgoods retailers (“GM & HG”) are much more focused on lowering out of stocks:

Performance Indicators	A&S	GM & HG
Improved top-line sales	40%	26%
Lower out-of-stocks (lost sales)	19%	43%

These differences make sense in the context of the nature of retailers' assortments. Apparel and specialty retailers often feature products that are exclusive to the brand (thus avoiding downward price pressure from the giant mass merchants like Amazon, Walmart, and Target). After the initial allocation, selling locations might receive one or two replenishments. For GM retailers, it's often a volume-driven commodity business, and out-of-stocks are deadly.

## Methodology

RSR uses its own model, called The BOOT Methodology<sup>®</sup> to analyze Retail Industry issues. We build this model with our survey instruments. See [Appendix A](#) for a full explanation.

In our surveys, we continue to find the kinds of differences in thought processes, actions, and decisions cited above. The BOOT helps us better understand the behavioral and technological differences that drive sustainable sales improvements and successful execution of brand vision.

## Survey Respondent Characteristics

RSR conducted an online survey in December 2024 and received answers from 111 qualified retail respondents. Respondent demographics are as follows:

- **2024 Estimated Revenue (US\$ Equivalent)**

Less than \$250 million	2%
\$250 million - \$499 million	24%
\$500 million - \$999 million	46%
\$1Billion to \$5 Billion	23%
Over \$5 Billion	5%
  
- **Products sold:**

Apparel (Footwear & Accessories: Luxury, Men's & Women's, Kids, Personal Care)	51%
Hard Goods (Consumer Electronics, Hard Goods, Home Décor, Improvement, Automotive)	23%
General Merchandise (Discount, Mass Merchant)	19%
Specialty (specialized product categories)	5%
None of the above	2%
  
- **Retail Presence:**

	<u>Retail Presence</u>
USA	100%
Canada	19%
Central America	5%
South America	8%
UK	11%
Europe	4%
  
- **Year-Over-Year Sales Growth Rates** (assume average growth of 7%):

Better Than Average ("Retail Winners")	56%
Average	41%
Less Than Average	4%

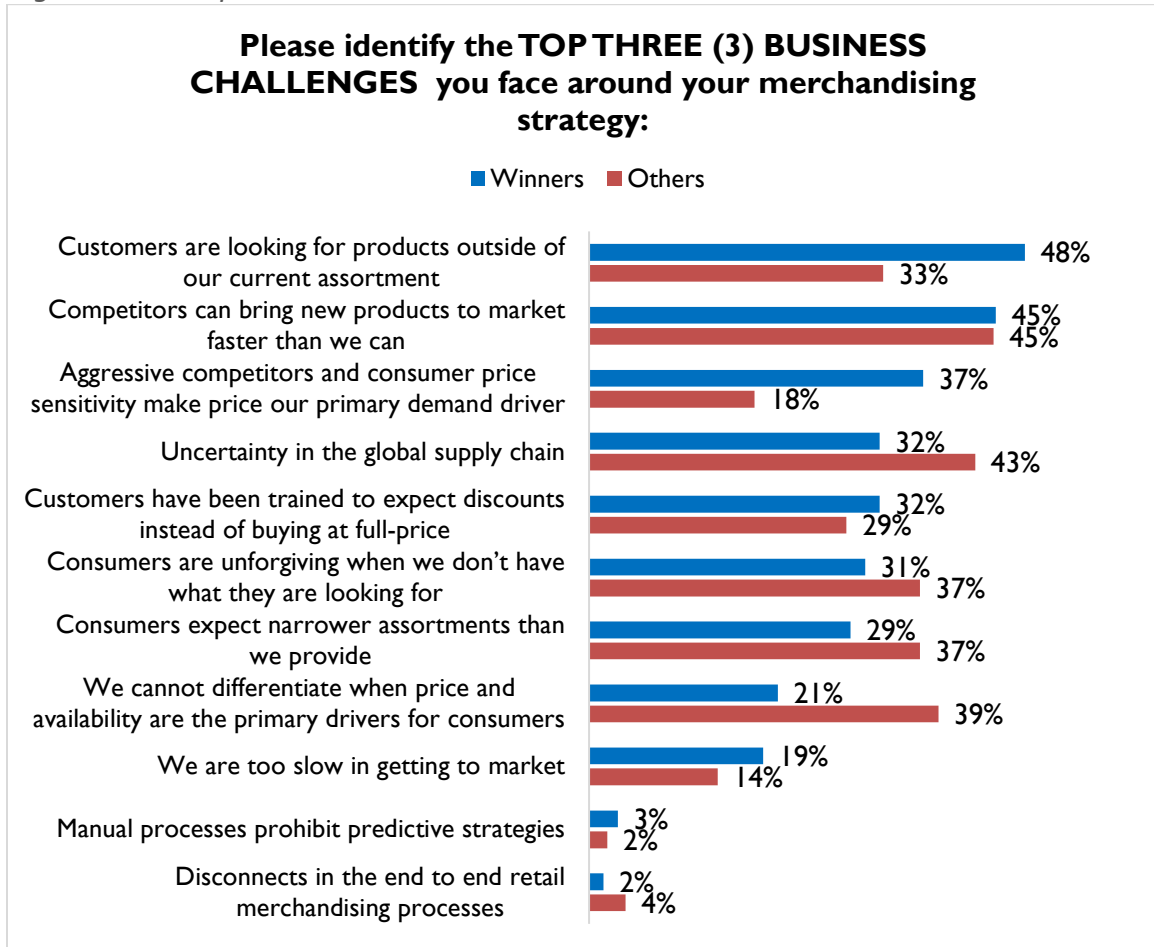
# Business Challenges

## Two Challenges Predominate

Retailers know that they will never see a return to the kind of predictability that might have existed before the Great Recession of 2008. While it may seem like a long time ago, that economic event coincided with the first – and arguably the most important – consumer electronic device of the 21<sup>st</sup> Century, the “smart mobile” phone. Smart mobile devices are now in the hands of a huge percentage of the population (in the U.S., 91%), and consumers use the resulting instant access to information to inform virtually all their purchases. As a result, there has been a dramatic increase in consumer demands for *what* they want *when* they want it. *Who* they get it from is clearly a secondary consideration.

Retailers know that their best course forward is to design their processes for a quick response to ever-changing consumer demands, but they fear that the competition is already doing it better (Figure 7).

Figure 7: Competitors & Consumers



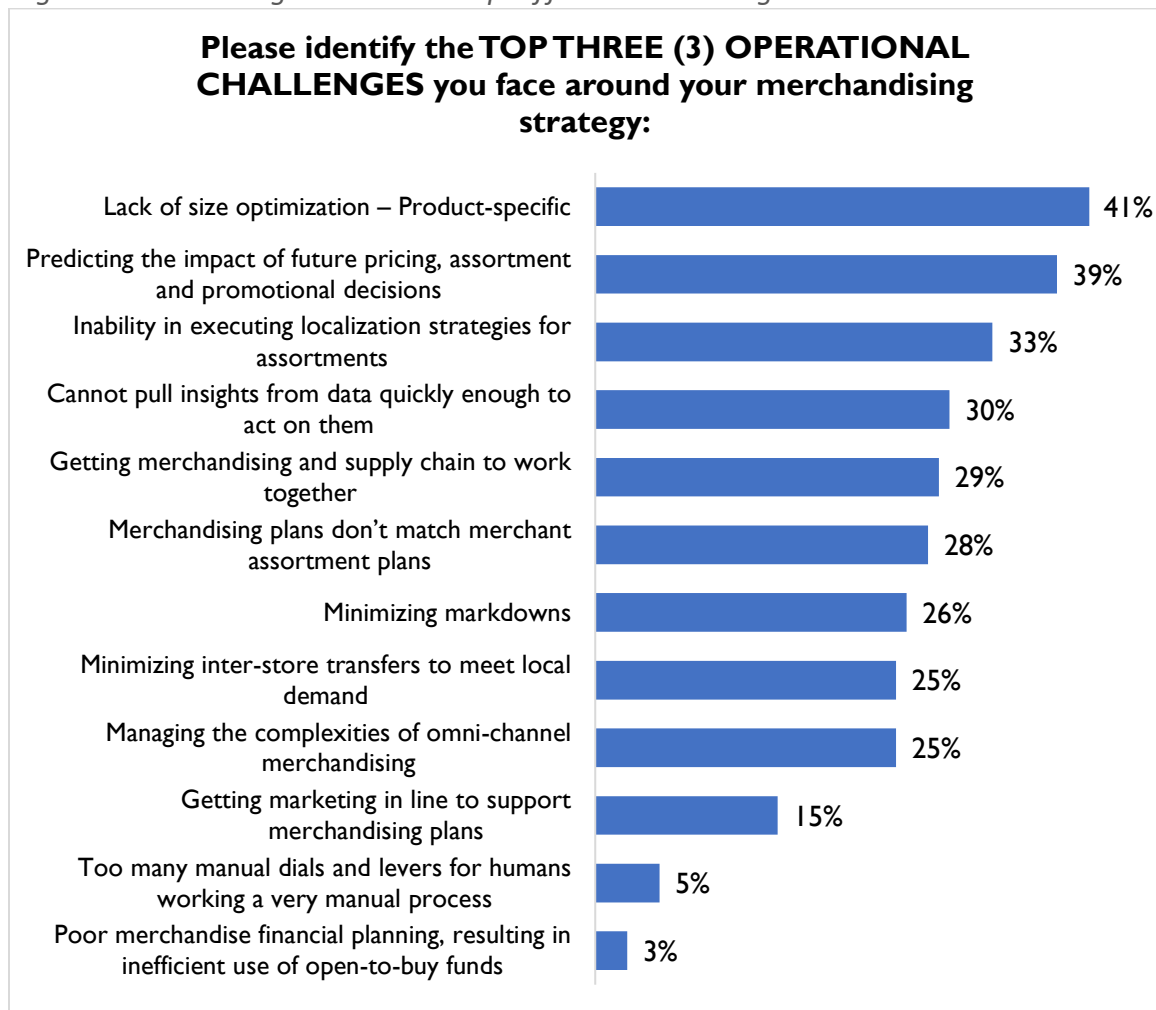
Source: RSR Research, February 2025

Looking at the challenges that hyper-informed and impatient **consumers** create, retailers (particularly Winners) worry that their assortments are wrong, or (in the case of non-Winners) that consumer price sensitivity puts them at a great disadvantage against more aggressive competition.

And when it comes to that **competition**, retailers are also concerned in addition to being more aggressive on price, they can bring new products to market more quickly.

When it comes to developing their merchandise strategies, retailers express frustration that they can't plan at a granular enough level to work out local differences that impact *allocations* (size optimization). More broadly, they struggle with *assortment localization* (Figure 8). But the biggest operational challenge to developing more effective strategies is a perceived inability to predict the *impact of future pricing, assortment, and promo decisions*. This affects retailers both pre-season and in-season; as we've seen in other RSR benchmarks, retailers want to be able to run simulations to test their decisions before effectuating them in the real world.

Figure 8: Challenged To Develop Effective Strategies

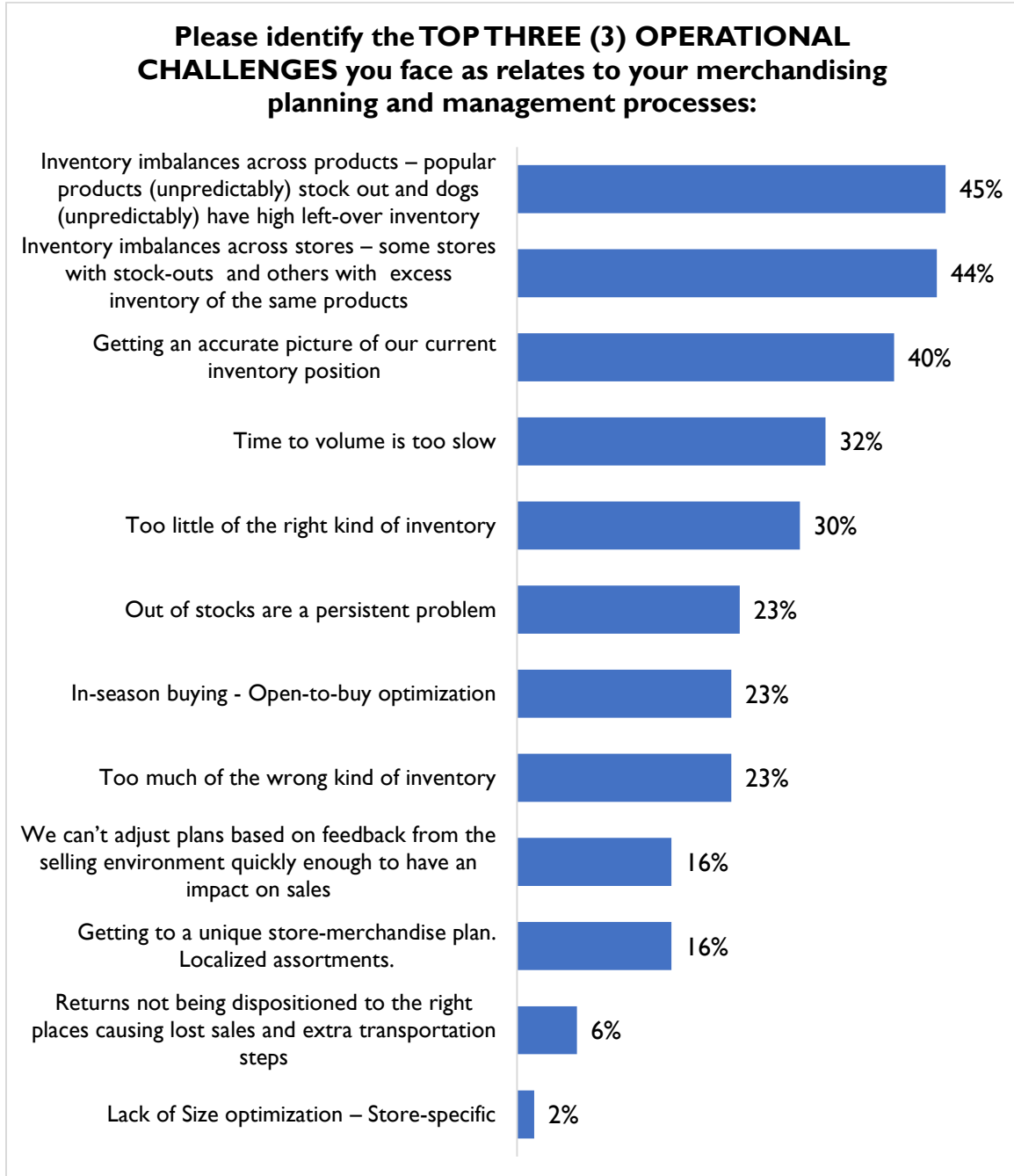


Source: RSR Research, February 2025

There is a remarkable level in agreement about these operational challenges – and they point to the need for better data analysis and modeling tools.

Retailers' struggles with developing localization strategies come into sharper focus when we look at the operational challenges that result. "Localization" can mean tailoring allocation for color, size, fit, or tailoring the assortment for localized preferences, or both. But failing to plan effectively for those considerations can result the wrong products in the wrong quantities at the wrong places – and that is the greatest set of operational challenges for almost half of the retailers in this study (Figure 9).

Figure 9: Where's The Inventory?



Source: RSR Research, February 2025



But underlying the top two challenges is a lack of current and accurate *inventory visibility*. This is the single most important use-case that is causing retailers – particularly apparel and footwear – to implement item level RFID tagging throughout their operations. In RSR's 2022 benchmark on the state of merchandise management, we found that:

*“The top challenge for retailers is getting an accurate picture of their current inventory position, with a 52% response rate. Looking inside this result by category, we find that Apparel leads the way at 64% followed by General Merchandise at 52%.”<sup>3</sup>*

While that finding has improved somewhat in this year's benchmark, it is still unacceptably high. Accurate inventory visibility enables several operational benefits, but as it relates to merchandise planning, poor inventory visibility results in both lost sales & customer satisfaction, and lost margin due to avoidable markdowns and transfers.

### Summing Up The Challenges

Retailers are challenged from outside the four walls of the enterprise by customer *disloyalty* and impatience, and by a fear that competition is outperforming them. But retailers are not powerless – they can do something to meet both challenges, and that is to both plan and execute within the four walls better than they are doing now.

As we noted in the **Research Overview** section of this report, the single most impactful action retailers can take is to address **inventory visibility and accuracy**. As our 2022 benchmark noted:

*“It's nearly impossible to make informed decisions about what to sell if a retailer cannot trust its current inventory data....”*

**Addressing inventory visibility is beyond the scope of this benchmark, but it is a prerequisite for the opportunities we discuss in the next sections of this report.**

Retailers also clearly need to commit to improving their **data analytical capabilities**. Beyond the transactional information that retailers can use to better understand demand (past sales and promotions, inventory) there is a wealth of external non-transactional that can help retailers plan more accurately.

In the next section of this report, we will learn how retailers prioritize the opportunities associated with those capabilities.

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<sup>3</sup> Merchandising In The Modern Era: More Important Than Ever, *ibid.*

# Opportunities

## New Data & New Analytical Capabilities = Better Plans

in RSR’s 2022 merchandising benchmark<sup>4</sup>, we highlighted forecasting as the top opportunity:

*“The ability to accurately forecast demand <45%> and adjusting to changes in the forecast <48%> top the list. To further punctuate this point, the importance a demand forecasting platform jumped by 10% (from 35% to 45%) when we look at a YoY analysis of our <2021> findings.”*

But in that same study, we learned that while 61% retailers claimed to have ‘full capability’ when it came to using customer analytics as key inputs into merchandise planning, only 42% of average and underperformers could make that claim. There is a lot of room for improvement.

In this study, the 2022 results are amplified. *Long-term product level forecasting* and *localized forecasting using predictive models* that use new data are top opportunities.

Figure 10: The New Imperatives



Source: RSR Research, February 2025

Merchandise planning today is enabled not only by analyses of historical sales data (by product, category, location, season), but also an understanding of customer demographics and buying patterns, and assessments of market trends and competitor analysis. In a 2023 RSR benchmark

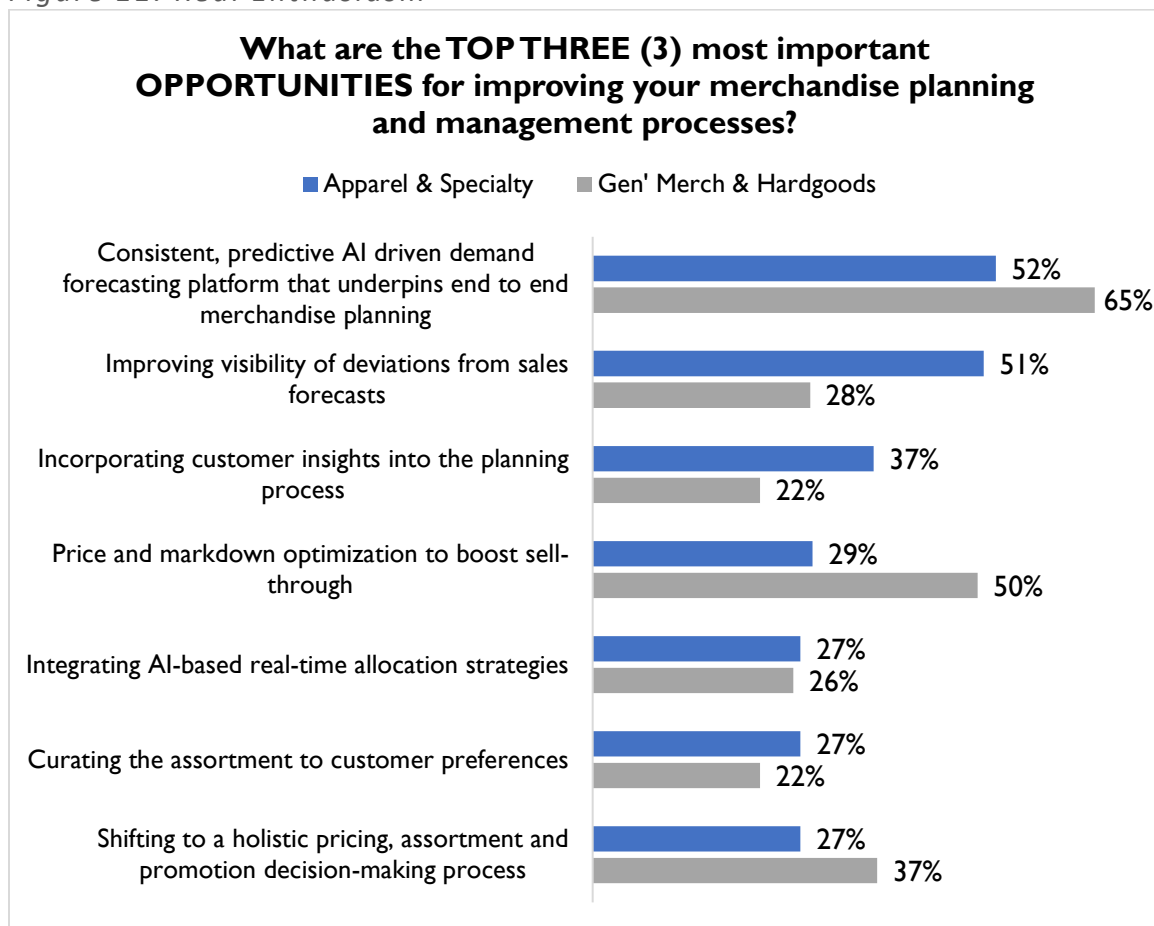
<sup>4</sup> Merchandising In The Modern Era: More Important Than Ever, ibid d

on the value of location data and analysis<sup>5</sup>, a key finding was that *the ability to use customer analytics as key inputs into merchandise planning* was ‘very important’ to 70% of the retailers queried.

All these findings point to the same opportunities: first, retailers need to take advantage of the new data available to them to run pre-season simulations of different demand scenarios to forecast demand more accurately; and secondly, forecasts need to be updated in-season as the selling period unfolds to make short-term adjustments. Both capabilities are empowered by new data (customer, product, competitor, and market) and the analytical tools that can turn those data into insights.

When we asked retailers to identify the top 3 opportunities available to them to improve merchandise planning and management processes (Figure 11), a *consistent, predictive AI driven demand forecasting platform that underpins end-to-end merchandise planning* rises to the top for both apparel & specialty and for general merchandise & hardgoods retailers.

Figure 11: Real Enthusiasm



Source: RSR Research, February 2025

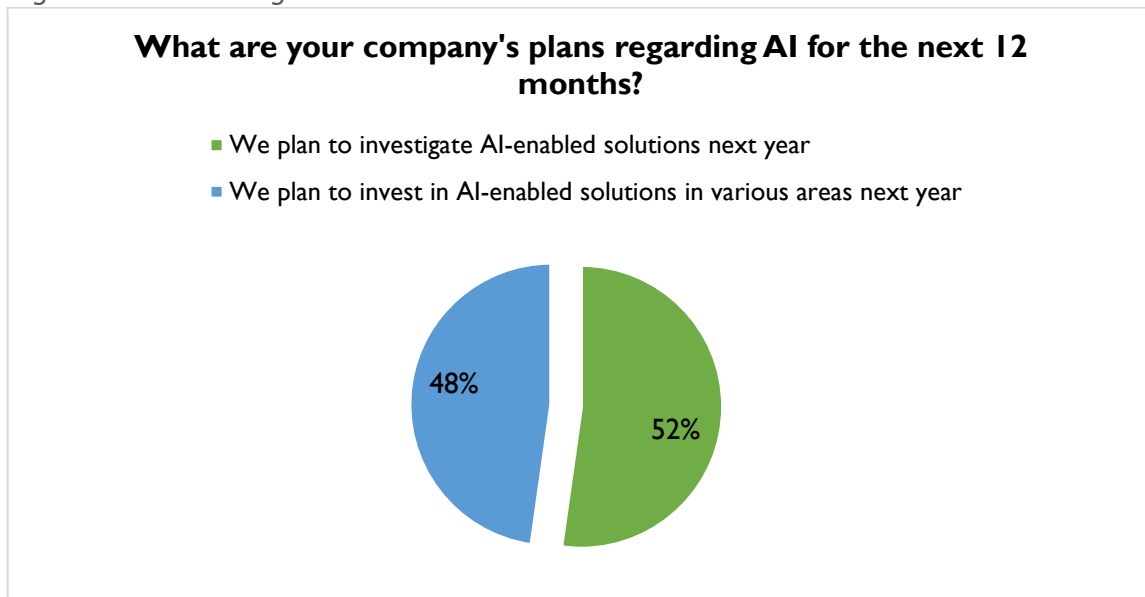
<sup>5</sup> *Agility, Resiliency, And Sustainability As A Strategy In Consumer-Facing Businesses*, RSR Benchmark Study, August 2023

So, although retailers hedge their bets about AI's transformative powers in Figure 2, the results in Figure 11 show no hesitation. **Retailers see new data and new analytics as critical to improving planning across the entire merchandise lifecycle.**

There is however one interesting difference between the two vertical groups. Apparel & specialty retailers are more interested in being able to see in-season deviations from forecasts than general merchandise and hardgoods retailers are. As we mentioned earlier in this report, this makes sense; apparel and specialty retailers only get one shot at the season, and therefore more of them see the analytic capabilities of AI as valuable in-season to execute reactionary measures with an aim to salvage as much profit and margin as possible. General merchandise & hardgoods retailers are more focused on clearing out remaining inventory towards the end of the season as efficiently as possible.

Given this vote of confidence in the new technology, the only question is whether retailers are willing to back up their enthusiasm with action? The answer – simply – is “yes”.

*Figure 12: Turning Enthusiasm Into Action*



*Source: RSR Research, February 2025*

No retailer in this study indicated that that weren't at least investigating AI-enabled solutions in the next 12 months - responses were very consistent across performance groups and retail verticals. Clearly, retailers don't see any other way to improve their merchandise planning without using the insights that could be derived from new data and new analytics. With the caveat mentioned earlier regarding the need to achieve more accurate and timely inventory visibility (Figure 9), retailers are ready to act.

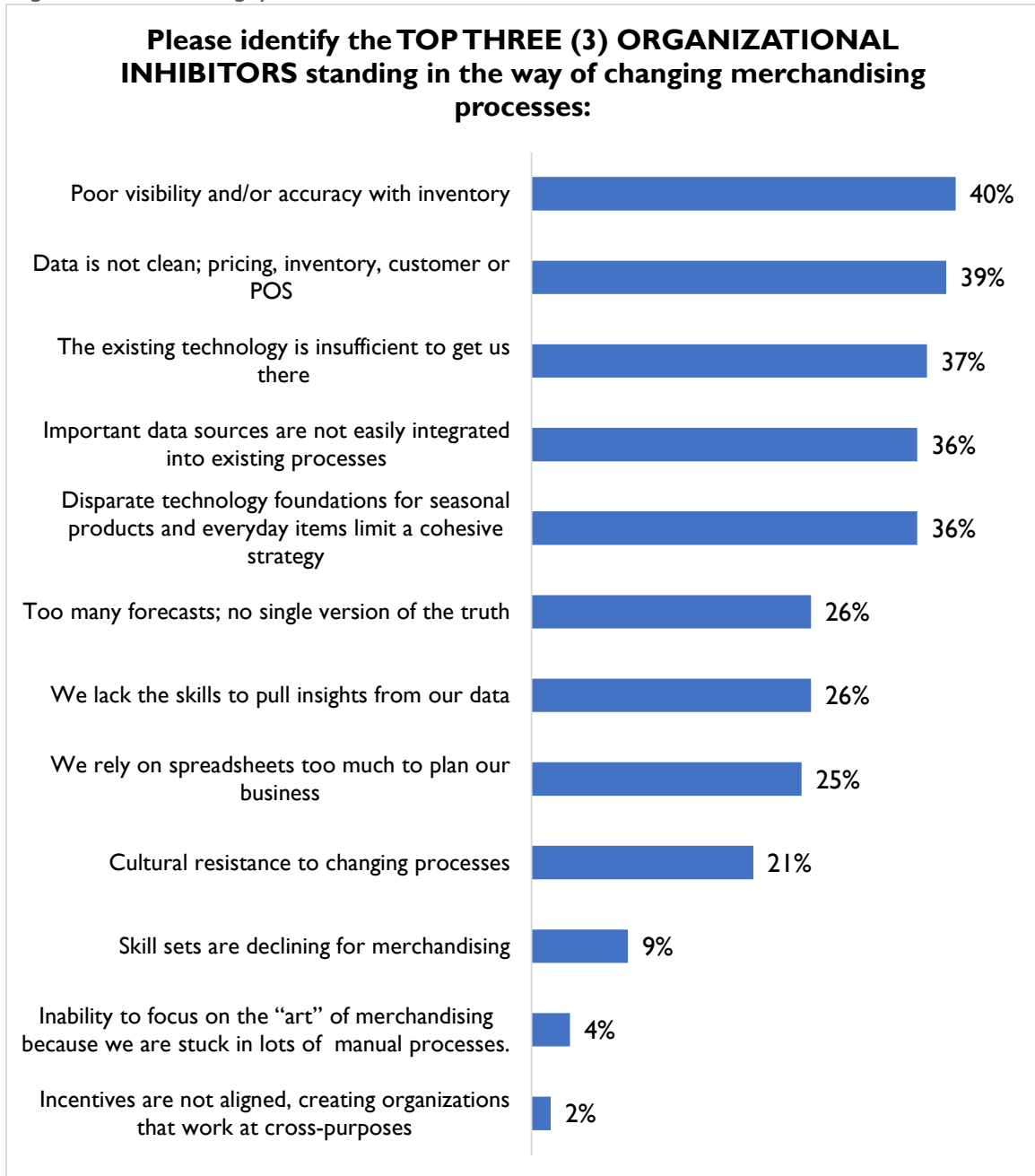
In the next sections of this report, we'll discuss what stands in the way, and how technology investments are prioritized.

# Organizational Inhibitors

## Not So Fast

Despite our retail respondents' enthusiasm for better planning processes, optimized inventory flow, and increased use of powerful new tools and technologies to realize their lofty goals, the ugly truth is they have a world of internal challenges to take on first (Figure 13).

Figure 13: The Ugly Truth



Source: RSR Research, February 2025

Hard truths prevail in retail, and the top two data points in Figure 13 are some of the most telling indicators of retailers' current predicament: it is daunting, at best, to try and optimize inventory accuracy when an organization has poor visibility into that inventory's flow. That challenge is *only compounded* when the data used to make sense of inventory – *and the daily comings and goings of the entire operation, itself* – (point of sale information, customer data, pricing statistics) – **cannot be trusted due to “dirty” and incomplete data**. Retailers need real help here and have been telling us for quite some time across multiple studies (our annual Supply Chain Report, our annual Merchandising Report, our annual Store Report), that they are not going to be able to simply “leapfrog” these underlying issues by adopting new technologies.

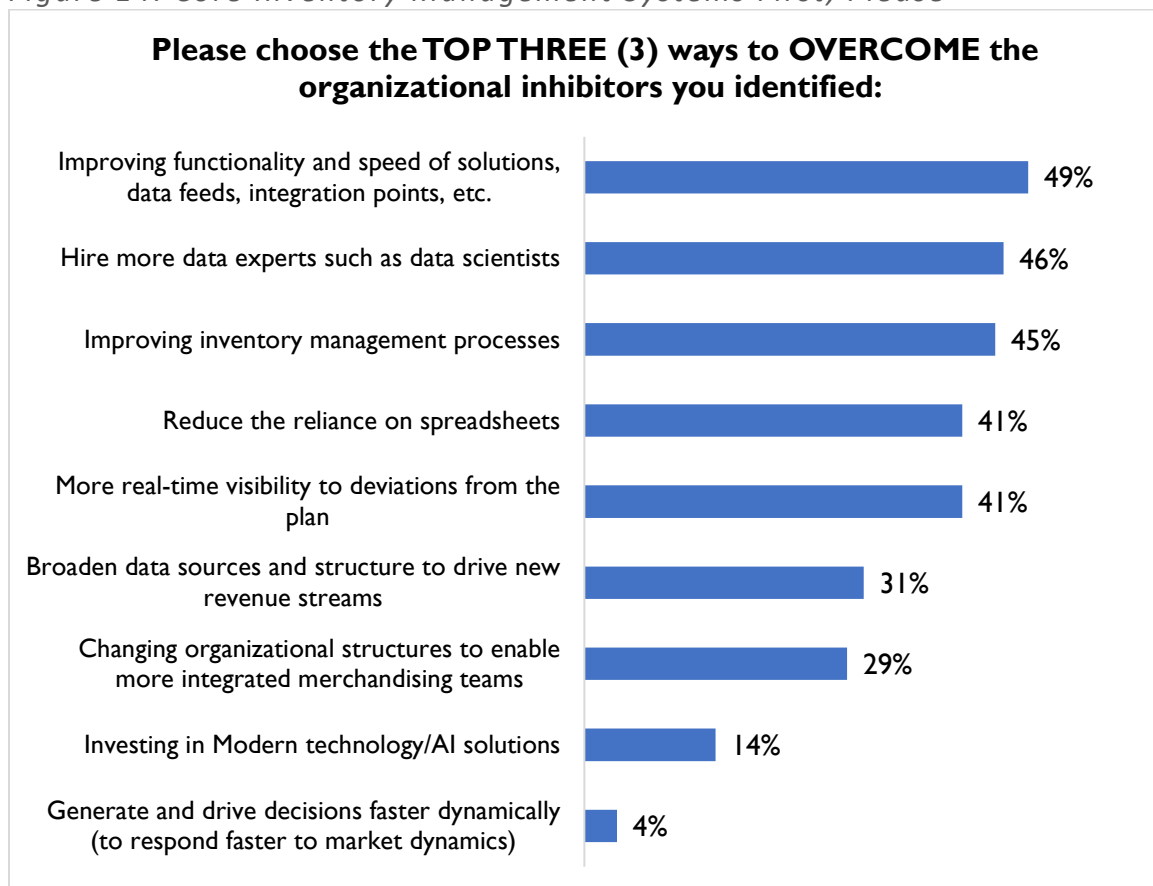
Yes, their technology infrastructure is holding them back. But no, they cannot simply bolt something new on to fix it. They have difficult internal work to perform first.

The good news is that retailers recognize this. What then, do they self-assess as the next best series of actions?

### The Dose Makes The Poison/The Dose Makes The Cure

With such a difficult data situation at hand, Figure 14 shines as something of a light in the storm: retailers need to hire more experts – and provide those experts with tools to get beyond the “old ways” of doing business.

Figure 14: Core Inventory Management Systems First, Please



Source: RSR Research, February 2025

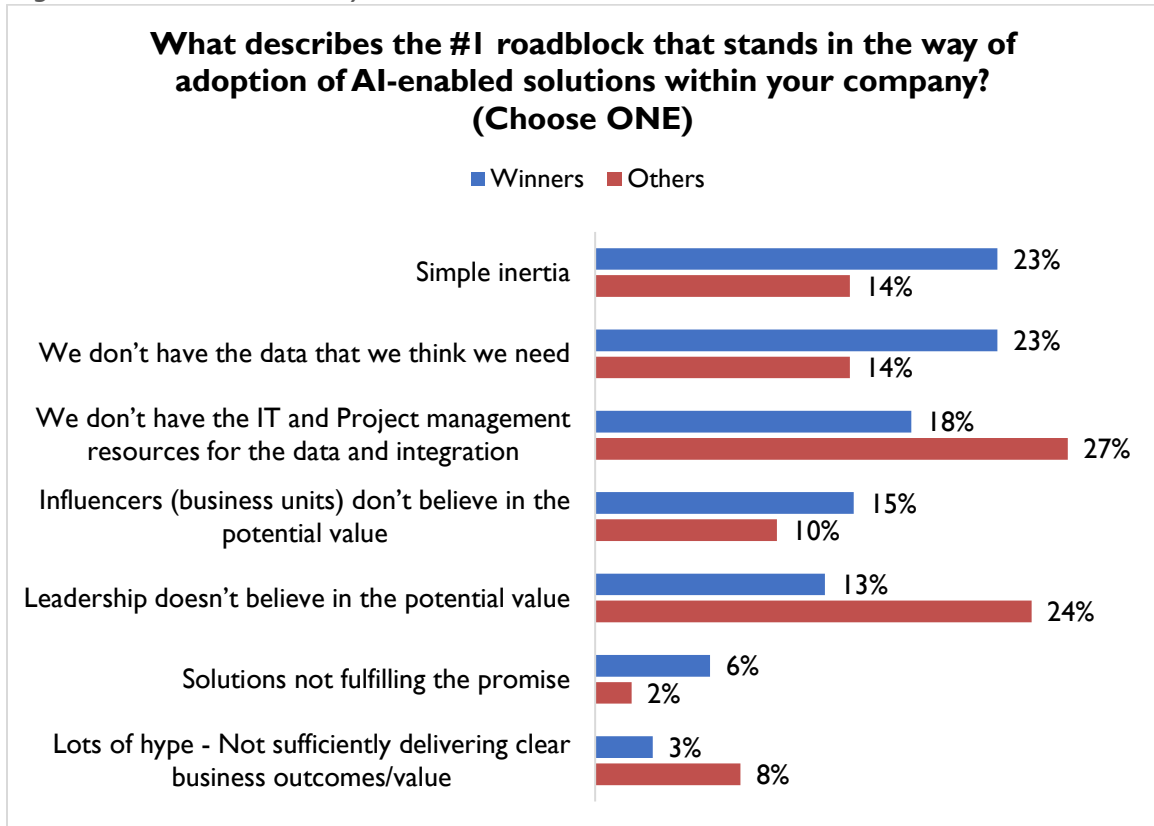
For far too long, retailers have relied on spreadsheets for mission-critical operations. While the average consumer might be surprised by this reality, the closer someone is to behind-the-scenes retail, the more this notion resonates. Nearly half of our respondents selected “*reduce our reliance on spreadsheets*” as a top-three means (among a long list of options) to get past the laundry list of roadblocks to progress they previously listed. Doing so would help significantly with their top inhibitor: lack of inventory accuracy. Doing so would also help significantly with their second most-cited inhibitor: *the inability to trust operational data*. POS data, pricing data, customer data: these key to an enterprise’s ability to make better decisions today than in the past. Yet if they are all analyzed with spreadsheets, their value is dramatically undermined, and errors abound.

In a twist of irony, retailers say improving the functionality and speed of solutions will be their best way forward. Yet it is only once they can overcome their reliance on the older generation of solutions that they can bring this to reality. Spreadsheets once served them well. They no longer do. And if they want to move forward, it is time to let go.

### An Object At Rest...

In the Opportunities section of this report, we found retailers to be wide-eyed about the possibilities artificial intelligence could provide in their ability to understand customer demand better, plan better to meet moving-target expectations, and track the success of new initiatives with an increased ability to sense and respond to changes in conditions in near-real-time. But despite this optimism, when pressed for what most stands in their way, it turns out the top reason for inactivity thus far is as old as the hills: change is difficult in retail. Inertia is powerful. The best performing retailers are even more aware of – and concerned about - this reality (Figure 14).

Figure 15: The Old Ways Prevail – Not For The Better



Source: RSR Research, February 2025

What is perhaps even more interesting than the top data point in Figure 15 is the second: Winners don't just lack the ability to move, they lack the confidence that they'd have what's needed from a *data perspective* to succeed even if they could get moving on AI-enabled projects. Dirty and incomplete data – and the consequences it reaps throughout the enterprise – reveals its ugly head once more.

For average and underperformers (who we've already seen are further behind in their efforts to improve planning and operations), they don't even get this far. Their top roadblocks to AI-based undertakings are a lack of IT and project management resources (more than a quarter of average and underperformers select this as their primary reason AI-enabled projects are on the back burner), and a lack of leadership.

For technologists trying to convince retailers of the need to get moving on AI-based initiatives, different messages will be required for retailers based on who they are, what they sell, and how their sales have performed in the past 12 months. As it relates to artificial intelligence finding greater foothold in retail, there is no one-size-fits-all here.

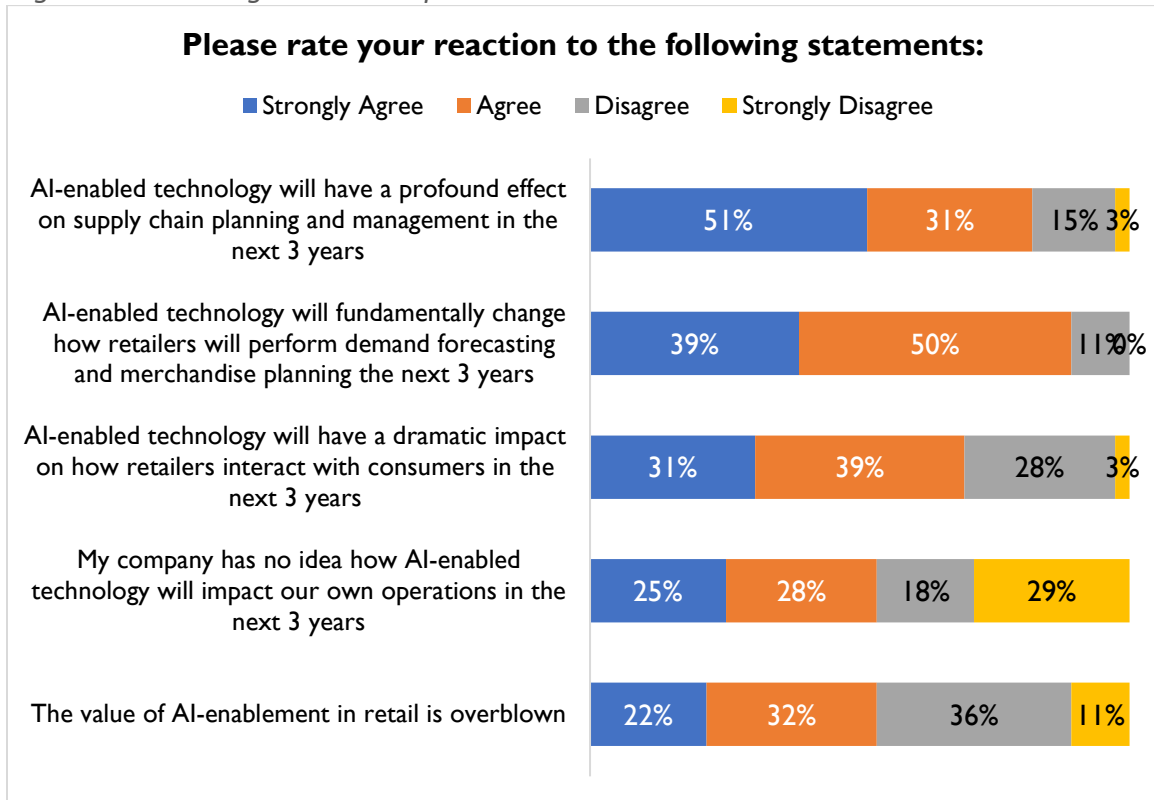
Let's now then turn our attention toward which technologies retailers identify as holding the most potential – and which they are most likely to adopt soonest.



# Technology Enablers

Despite the inhibitors to AI adoption discussed in the last section of this report, our retail respondents are bullish on the future that artificial intelligence can provide. Figure 16 shows the extent to which they think AI will be gamechanger across multiple aspects of their own day-to-day operations.

Figure 16: A Bright And Empowered Future



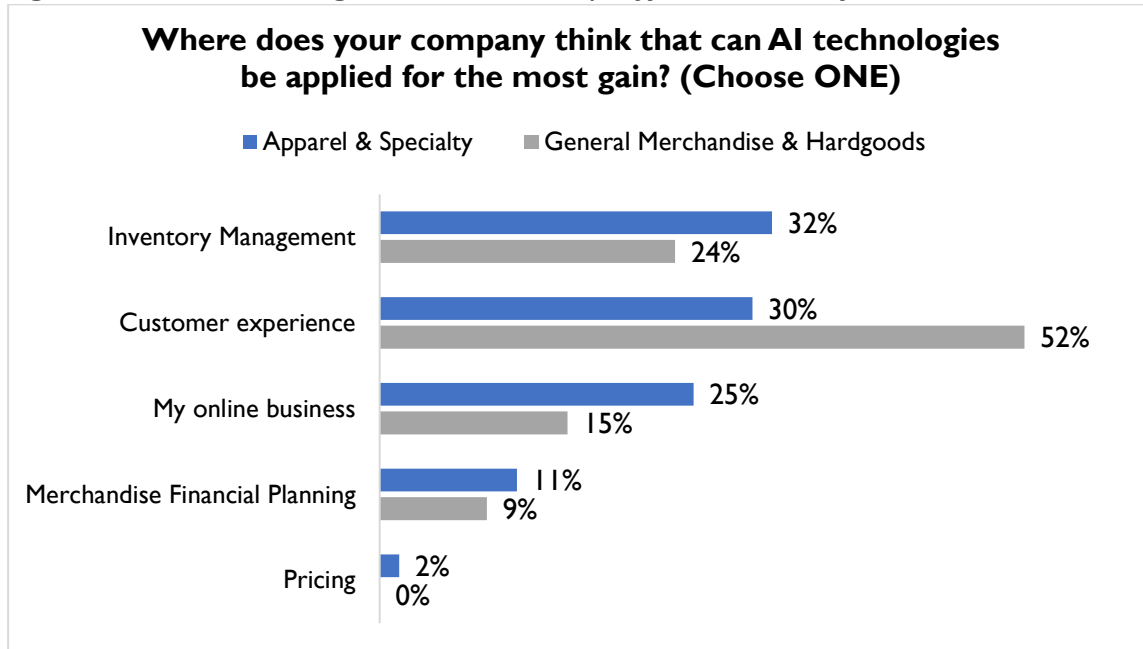
Source: RSR Research, February 2025

RSR conducts several benchmark reports each year and has been doing so since 2007. Rarely have we ever – in 18 years of research – seen more than half of retailers strongly agree to *that the value of a new technology will be transformative*. Put plainly, **they are bought in** on the transformative nature of AI, particularly as it relates to supply chain planning. What’s more, they believe that benefits will be actualized in the next 36 months.

Additionally, when combining strongly agree and agree (the blue and orange columns above), we see that many also have expectations for dramatic changes in forecasting (89%), and interactions with customers – in both the physical and the digital domains – to the tune of 80%. Do retailers really believe that AI holds power to positively impact the customer experience?

As Figure 17 shows, that response varies enormously based on the products a retailer sells.

Figure 17: Product Segment Drastically Affects View Of The Potential



Source: RSR Research, February 2025

What is most surprising is that when asked to choose the *one, singular* area of the business where AI's power can be leveraged for the most gain, retailers are clearly focused on their two most pressing challenges, improved inventory management and an improved customer experience.

For Apparel and Specialty Retailers, the number one area of their business they hope to improve with AI-enabled technologies is their inventory management. This makes sense due to the intricacies and nuances of their highly unique business model.

For those selling General Merchandise and hardgoods retailers, the promise of AI is felt in its ability to connect on a more personalized and relevant way with customers.

But what about *merchandise financial planning* (MFP) and *pricing*?

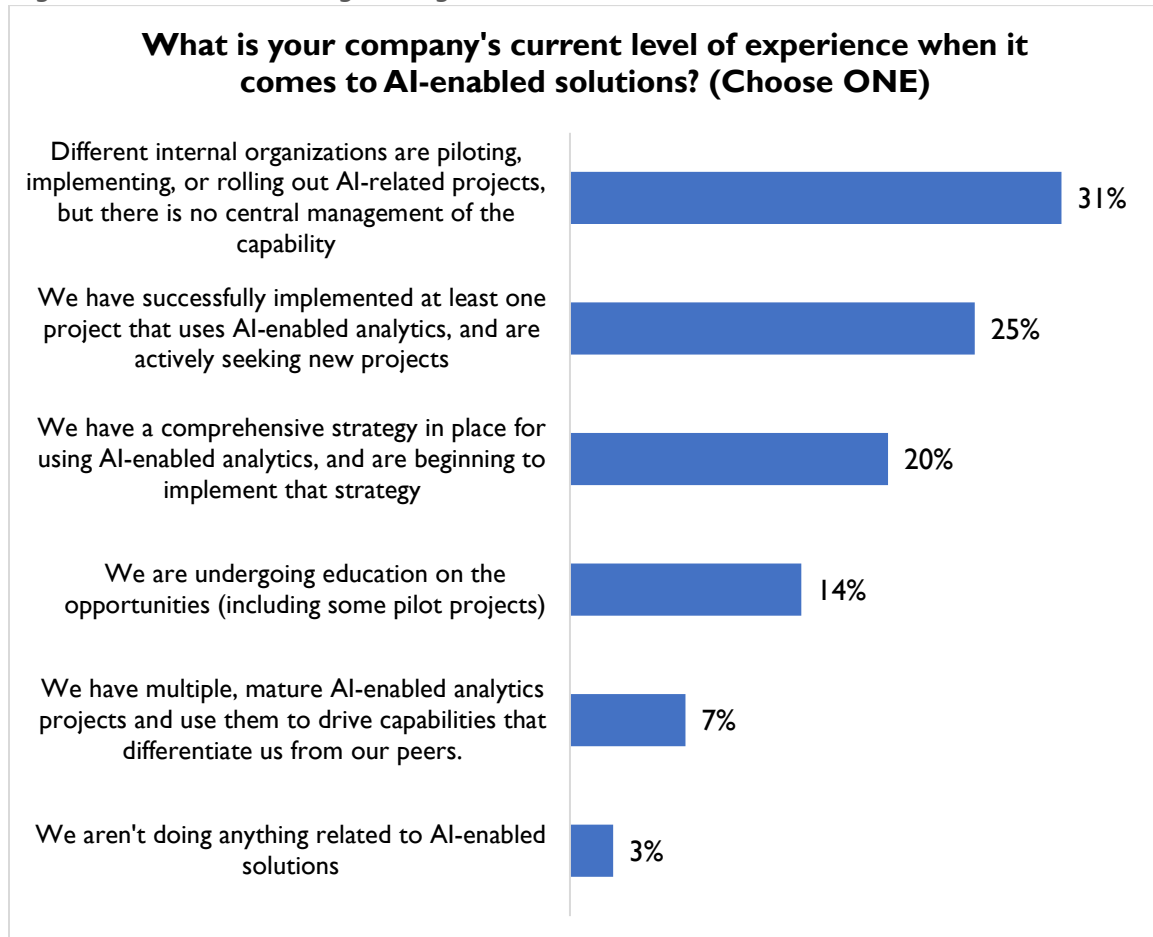
As relates to MFP, RSR's assessment is that retailers are missing an important opportunity. MFP is a data-driven process intended to align inventory purchases with sales goals in ways that maximize profitability. Integral to that process is the ability to not only analyze past internal sales data, but also to understand customer demographics and shopping behaviors, as well as market trends and competitive information. All of these have benefited from an explosion of new data. As we mentioned earlier, AI's ability to sift through huge datasets to glean important insights is new to many retail planners – but it will be an essential tool going forward.

When it comes to improving pricing, customers continually site price as a primary value attribute, and retailers continually tell us price is something they need to get right. And technologists continually tout the power that AI technologies can bring to advancements in pricing *right now* – not in some distant future. RSR's take is that retailers simply cannot afford to overlook this opportunity.

## Starting From Scratch

However, while the future-looking areas of gain in the above two charts are interesting, it is also worth doing a reality check, knowing where our retail respondents are today in their journey down the AI-enabled pathway. As is expected, they have a lot of ground to cover to meet realize any of their self-identified goals (Figure 18).

Figure 18: Humble Beginnings



Source: RSR Research, February 2025

Though the data above shows that most retailers are still in the nascent stages of leveraging AI's capabilities, progress *is* being made. However, if the 25% of retailers reporting “we have successfully implemented at least one project” comes as surprise, it is worth noting that in our 2022 AI research, we asked retailers a similar question. At that time, 27% shared “we have bought a software package from vendor that has AI/ML embedded.”

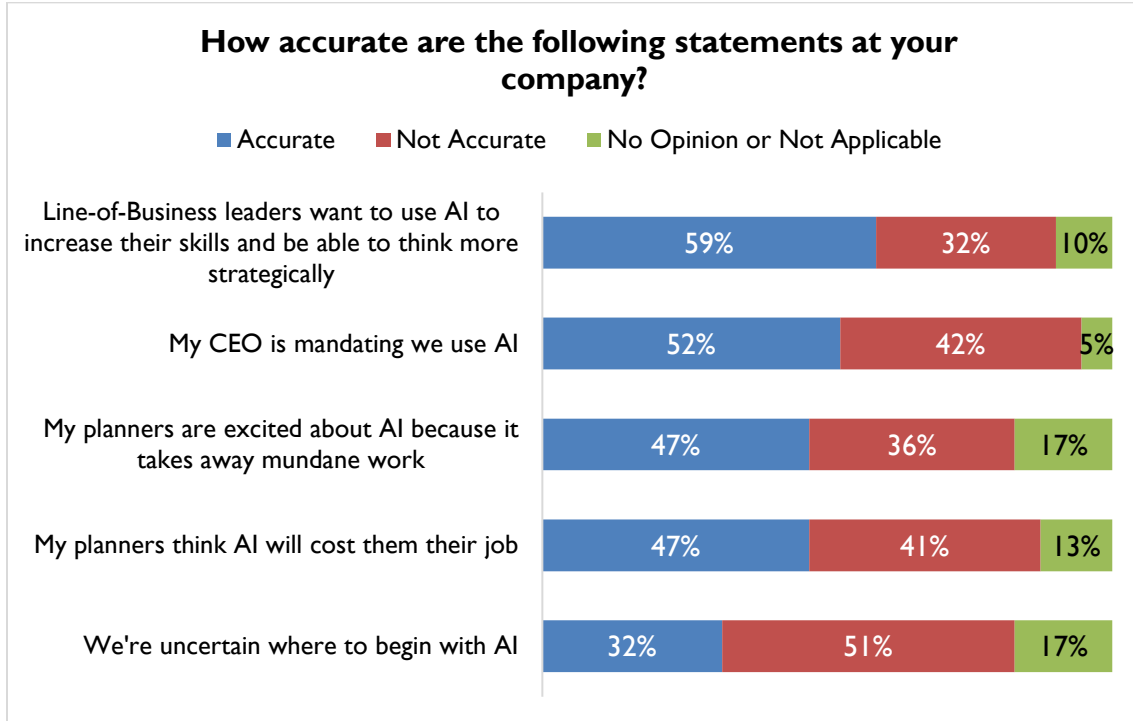
It is quite likely that these numbers are so closely aligned for a reason: retailers may well be giving themselves credit for an “AI-implementation” if they have bought software with the words “AI” in its messaging.

Either way, retailers have a long road to travel.

## The Opening Lineup

If retailers are to move from the tactical initiatives shown in Figure 17 and Figure 18, and towards a more strategic positioning, the question immediately becomes: who must be involved? Figure 19 tells the tale.

Figure 19: The Artificial Intelligence Who's Who



Source: RSR Research, February 2025

When it comes to forward progress, Artificial Intelligence is a top-down initiative – but with a twist.

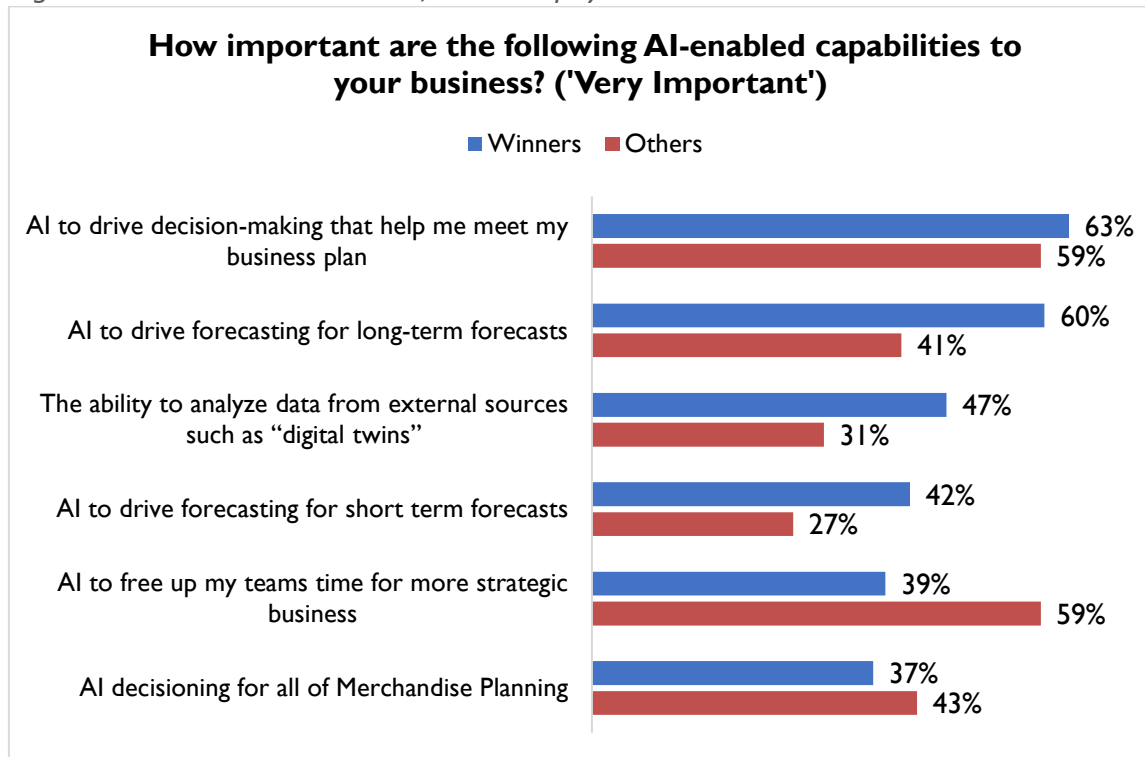
The “buzz” that has made AI the talk of our industry for several years is working both for and against our retail respondents. That buzz may have been enough to initially gain the CEO’s attention for fear of not wanting to be left behind. However, much of that buzz transmuted into “noise” – and from everything we’ve seen so far in this report, retailers are looking for concrete evidence that any new tech project worth risking one’s career for must deliver truly transformative results. As a result, Line of Business leaders are now the loudest voice at the table, and the drivers of change. They won’t stick their neck out for a new tech initiative if they don’t believe it can increase the skills of the people they manage: merchandisers, planners, and supply chain personnel who will be hands on with these technologies day in and day out.

This is a highly transformative time in retail, both technically and organizationally. It’s exciting.

## What Next And Why?

The last data in our research relates to what specific capabilities retailers hope to improve with the next generation of AI-powered tools. As Figure 20 shows, the answer depends on a retailer’s current sales performance.

Figure 20: Better Decisions, Not Empty Promises



Source: RSR Research, February 2025

For average and underperforming retailers, their expectations are with the ability to free up team members’ time to become more strategic to the brand (more on this in a moment), and the ability to drive decisions that are more in line with the business plan. Winners, too, cite this as their top priority, and for good reason: what the promise of AI worth if not to help smart people in positions of influence make better decisions?

Winners in particular want to get beyond improving their teams’ abilities to make more strategically aligned decisions and to respond more effectively to in-season issues. To that end, over-performers are anxious to leverage new AI tools to improve *long-term* forecasts.

Theirs is a lead worth following here.

And now it is time to suggest some other baseline recommendations for retailers – regardless of their performance, what they sell, or their AI-enabled maturity may be – based on all the things this report’s data has revealed.

# BOOTstrap Recommendations

Over the past decade, RSR's benchmarks have highlighted a paradox: retailers value merchants' experience and intuition - the art of retail - but know that the dynamics of the marketplace are too complex for even the best merchants to handle without the help of the kinds of analytics that state-of-the-art systems are capable of. So, on the one hand we have been told repeatedly that there is an over-dependence on data (58% of retailers in 2022, and 62% in this study), but on the other hand an astounding 89% of the retailers in this study agree with the statement that AI will fundamentally change how they develop demand forecasts and merchandise plans in the next few years.

The proliferation of new data available about consumers and the competitive marketplace require advanced tools that can go far beyond analyses of past sales, consumer buying patterns, and competitive analyses that retailers have relied on for so long to establish their merchandise plans. The good news is that new tools are able to combine new data and internal historical sales data to help retailers model alternative demand scenarios to arrive at more precise long-term pre-season plans and adjust in-season plans to reflect conditions in the marketplace while they are happening – thus maximizing sales and profitability.

But retailers have work to do to be able to take advantage of what the technology world is offering. Here are RSR's recommendations for next steps:

## Put The (Data) House In Order

The top obstacle to making any progress with new AI-enabled modeling is dirty and incomplete transactional data coming from operational systems. There is no getting around this obstacle, but retailers may have better data than they realize. There are advanced techniques like statistical analysis and machine learning algorithms that can examine existing data patterns and relationships within datasets to "fill in the blanks" where data is missing. That's real data science, and although most retailers can't afford the data specialists that would be needed, sophisticated AI systems have them embedded. Then, more direct remedies to fix operational systems to deliver clean and complete data over time can be deployed.

## Recognize That It's Been Done Before

Retailers are famous for their caution when it comes to adopting any groundbreaking innovation. Few retailers have an "R&D" line item on their income statements and being late followers for new ideas is the way that most choose to go. But data technologies are moving fast, and AI modelling is no longer new. In fact, many of the industry's leaders have several years' experience already. For the rest, it's important to recognize that AI-enabled merchandise planning is fast becoming a necessary tool for remaining competitive.

## Make It Strategic

The retailers in this study tell us that it is Line-of-Business (LOB) leadership that is taking the lead when it comes to AI adoption, and we see that reflected in the priority projects that they have identified, inventory management (apparel and specialty retailers), and improving the customer experience (general merchandisers). These priorities are in line with retailers' tendency to think *tactically* rather than *strategically*. But retailers need to balance the two.

It's a truism with "data first" systems architectures that functions may change continuously, but the underlying data entities will remain relatively stable over time (for example, a *product* is still a product, even when additional attributes needed by new or changing functions require new attributes). Retailers need to make the leap from a function-first view to a data-first perspective.

To flip the business from a "function first" orientation to a "data first" one isn't a trivial pursuit— but it is strategic to the ongoing success of the business. That is why Boards of Directors across all industries are pushing the operating officers of the companies they oversee to support "digital transformation" projects.

How should retailers get going on such a transformative change? There's only one "right" answer; LOB leadership can't do this on their own. The CEO needs to get behind it.

## Get Help

Retailers cite organizational inertia as the top reason they aren't making more progress towards adoption of new AI-enabled capabilities. We're reminded of Newton's First Law Of Motion, that an object at rest will remain at rest unless acted upon by an external force. There are two external forces at work here: nimble competition and informed and demanding consumers. This is an organizational development issue as much as a technical one, and the best way to overcome it is to bring in outside expertise to break through old assumptions and practices.

## Get Over The "Not Invented Here" Syndrome

A surprising number of retailers still favor either bespoke systems development or heavily modified "best of breed" solutions to automate business processes. RSR has said this before in several ways: when it comes to using advanced analytics to modernize business processes like merchandise planning and forecasting, there are solutions available now that meet both near and long-term objectives. Technology providers have gone a long way towards "democratizing" data science in their solution portfolios. Retailers need to recognize that they are strategically **disadvantaged** by not adopting what the technology world has to offer.

## The UI Shouldn't Be An Issue

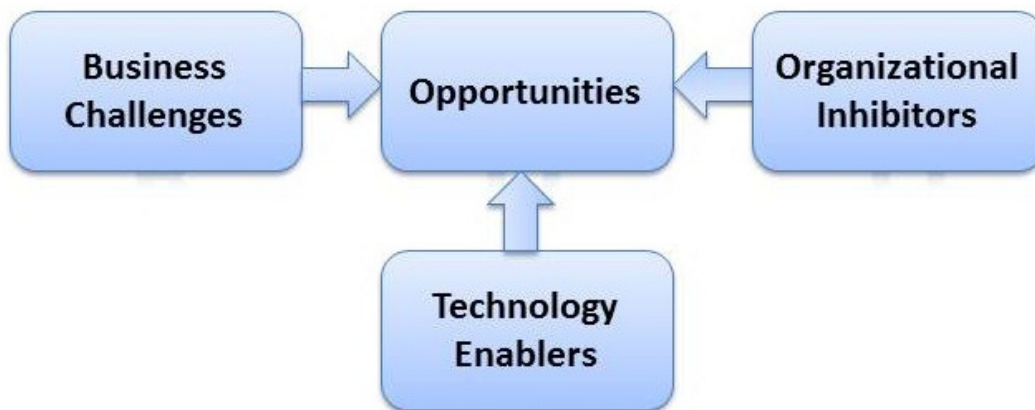
Retailers have long been struggling with another paradox: spreadsheets are too limited, but spreadsheets are what their planners like to use. The human brain is wired to handle logic, structure, and recognize patterns – and that's what a spreadsheet-like UI appeals to. So RSR's advice to systems developers is simple: however complex the underlying logic is, make the human interfaces look like spreadsheets and histograms. If nothing else, it lowers the stress levels of the planners who are transitioning to new systems.

## Appendix A: The BOOT Methodology©

The BOOT Methodology© is designed to reveal and prioritize the following:

- **Business Challenges** – Retailers of all shapes and sizes face significant **external** challenges. These issues provide a business context for the subject being discussed and drive decision-making across the enterprise.
- **Opportunities** – Every challenge brings with it a set of opportunities, or ways to change and overcome that challenge. **The ways retailers turn business challenges into opportunities often define the difference between Winners and “also-rans.”** Within the BOOT, we can also identify opportunities missed – and describe leading edge models we believe drive success.
- **Organizational Inhibitors** – Even as enterprises find opportunities to overcome their external challenges, they may find **internal** organizational inhibitors that keep them from executing on their vision. Opportunities can be found to overcome these inhibitors as well. Winning Retailers understand their organizational inhibitors and find creative, effective ways to overcome them.
- **Technology Enablers** – If a company can overcome its organizational inhibitors, it can use technology as an enabler to take advantage of the opportunities it identifies. Retail Winners are most adept at judiciously and effectively using these enablers, often far earlier than their peers.

A graphical depiction of the BOOT Methodology© follows:





## Appendix B: About Our Sponsor



Invent.ai is a pioneering AI-decisioning platform that gives retailers superpowers to make the best planning and operational decisions to grow sales, revenue and margin dollars. Delivering fast, measurable value through its technology solutions, [invent.ai](https://www.invent.ai) brings together retail planning data, predicts outcomes, and optimizes inventory, pricing and merchandising.

## Appendix C: About RSR Research



Retail Systems Research (“RSR”) is the only research company run by retailers for the retail industry. RSR provides insight into business and technology challenges facing the extended retail industry, providing thought leadership and advice on navigating these challenges for specific companies and the industry at large. We do this by:

- **Identifying information** that helps retailers and their trading partners to build more efficient and profitable businesses.
- **Identifying industry issues** that solutions providers must address to be relevant in the extended retail industry.
- **Providing insight and analysis** about a broad spectrum of issues and trends in the Extended Retail Industry.

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