



# *The Digital Transformation Of The Retail Business Model*

## Benchmark Report

Brian Kilcourse and Steve Rowen, RSR Managing Partners

June 2023

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# Executive Summary

## Key Findings

Compared to other industries, retailers are late to the digital transformation agenda. Yet they cannot take a time-out to perform a wall-to-wall redesign of their operations on either the selling side or the supply side of their businesses. So where should they start? **Which business processes are the best candidates for digital transformation strategies?**

These are the questions that the RSR team sought to answer when conducting this study, and the following are some of the highlights of what we found:

- The top three investment priorities for retailers all relate to servicing consumers in the new *digital+physical* selling environment. This means that **optimizing processes to better service consumers takes precedence over efforts to lower operating costs**. While the two shouldn't be mutually exclusive – with the explosive growth in omnichannel customer order fulfillment - they tend to be. This is entirely new ground for our industry.
- At the same time, internal operational challenges are shifting from a focus on inventory accuracy and visibility toward consumer-related issues. This is significant, because just one year ago, retailers were most concerned about “real-time inventory accuracy”. Now, their top issue is “*visibility into customer's shopping behaviors*”. This isn't an RFID-issue, but rather about **leveraging the digital signals generated by shoppers' digital paths-to-purchase to understand and better serve them**.
- When it comes to the roadblocks standing in the way, too many projects have backed up, and retailers' IT departments are at a breaking point. Retailers do not point to the cost of adoption – in fact, less than 1 in 5 points to cost. ***This is unprecedented; retailers know they can afford these technologies*** (the rapidly diminishing price of RFID technologies, in particular, has had enormous effect here) – **they just don't have the human capital to manage all of the things they would like to take on**.
- When asked to rank the necessity of a host of technologies that *could* go into a comprehensive digital transformation strategy, retailers see RFID to provide real-time insights as the lynchpin to everything else that they hope to do. They anticipate this intelligence will help improve decisions not only into the products they sell and how those products move throughout the supply chain (and when applicable, throughout the store), but also into how their operations and personnel could be used to better effect. IoT technologies like RFID are how they think this new story needs to start.

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,

*Brian Kilcourse and Steve Rowen*

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# Research Overview

## The Rationale For The Digital Transformation In Retail

The global pandemic of 2020-22 accelerated the rate of change throughout the entire retail ecosystem: for retailers, suppliers, and the supply networks that connect them. As new consumer shopping and fulfillment options rapidly gained popularity, the new costs associated with providing these options tended to undermine per-order profitability, while at the same time, increasingly fickle consumer demand undercut retailers' abilities to "buy big" to optimize the cost of goods. To compound matters, consumers have a whole world of choices available to them 24x7 by virtue of their always-connected mobile devices.

As a result, **agility** (the ability to quickly adjust to changes in consumer demand) and **resiliency** (the ability to respond to supply side shocks) have become boardroom issues. Retailers have learned that they must be able to respond to changes in either supply or demand while events are happening, not after-the-fact - in ways that improve rather than undermine profitability. That kind of responsiveness requires real-time visibility into operational processes – and that is the driving force behind the *digital transformation* agenda.

The most immediate challenge driving retailers' interest in pursuing a digital transformation agenda is the need to expose – in real-time and with a high degree of accuracy – **available-to-promise inventory** to both consumers and employees anywhere within the enterprise. Inventory visibility is an enabler for an effective omnichannel selling environment, but it also enables retailers to identify supply chain bottlenecks and disruptions, and ultimately to optimize the flow of goods in an agile manner as market demands dictate.

That is only one business rationale, however. The idea behind digital transformation is that any physical thing can have its "digital twin" – shipments, inventory, employees, internal processes, consumers, locations, equipment and rolling stock, that can in turn be observed and analyzed in ways that make it possible to *hyper-optimize* business processes.

Compared to other industries, retailers are late to the digital transformation agenda. To what extent is the concept applicable? **Which business processes are the best candidates for digital transformation strategies?** These are the questions that the RSR team sought to answer when conducting this study.

## Defining Digital Transformation's Impact

In 2016, John Chambers, then the CEO of network technology giant Cisco Systems, made a bold statement:

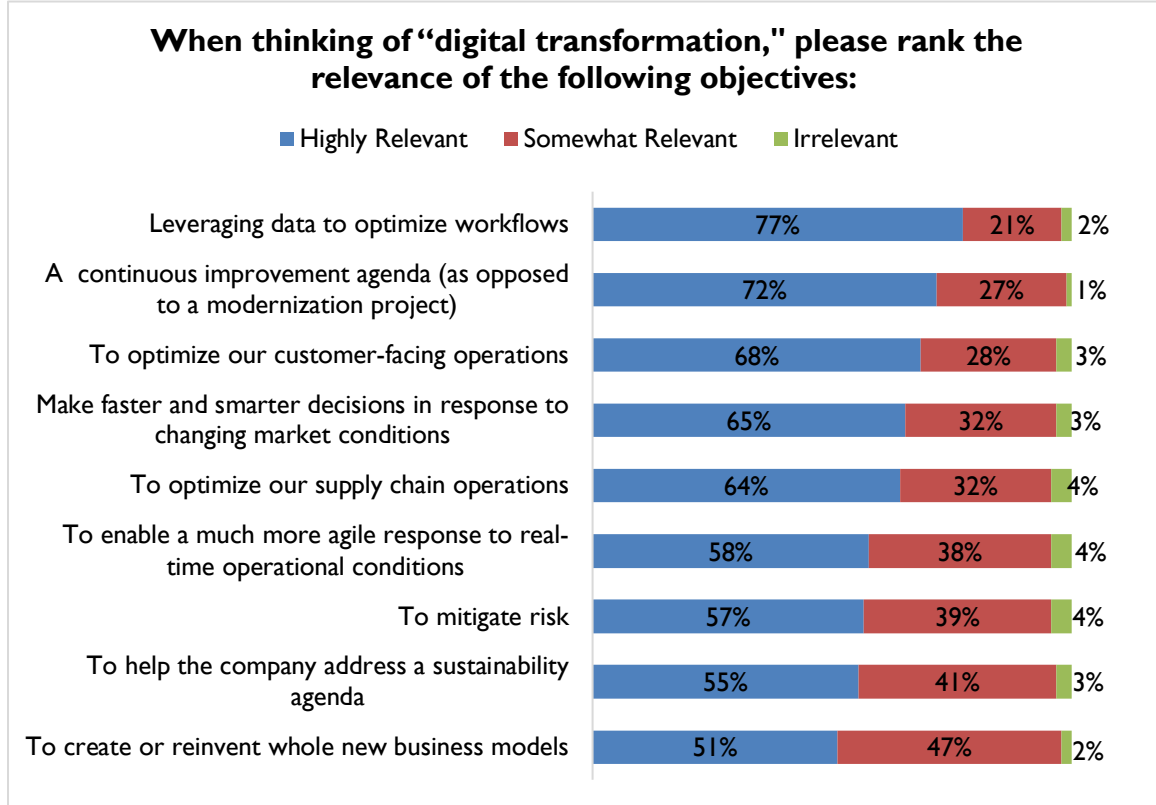
*"If you're a leader in today's world, whether you're a government leader or a business leader, you have to focus on the fact that this is the biggest technology transition ever. This digital era will dwarf what's occurred in the information era and the value of the internet today. As leaders, if you don't transform and use this technology differently—if you don't reinvent yourself, change your organization structure; if you don't talk about speed of innovation—you're going to get disrupted... The hard part is how do you change your organization structure? How do you change your culture to be able to think in terms of outcomes for your customers? **It's all about speed of innovation and changing the way you do business.**"*

That challenge is all-encompassing, but retailers aren't able to "stop the train" while they redesign the fundamentals of their operations. Even though incrementalism has been standard operating

procedure (especially when it relates to new technology adoption), retailers know that digital transformation is all about taking a *data first* approach to every aspect of their business.

With that in mind, we asked retailers to rank the impact that digital transformation theoretically can have on key strategic objectives (Figure 1).

Figure 1: Digital Transformation Will Help Retailers Realize Strategic Objectives



Source: RSR Research, June 2023

A “word cloud” of these choices might be the best way to highlight retailers’ sense of the opportunities:



To summarize:

**Retailers are confident that *digital transformation* offers an over-arching opportunity to continuously optimize and even re-invent the business, enabling agile and resilient responses to changing conditions in the marketplace.**

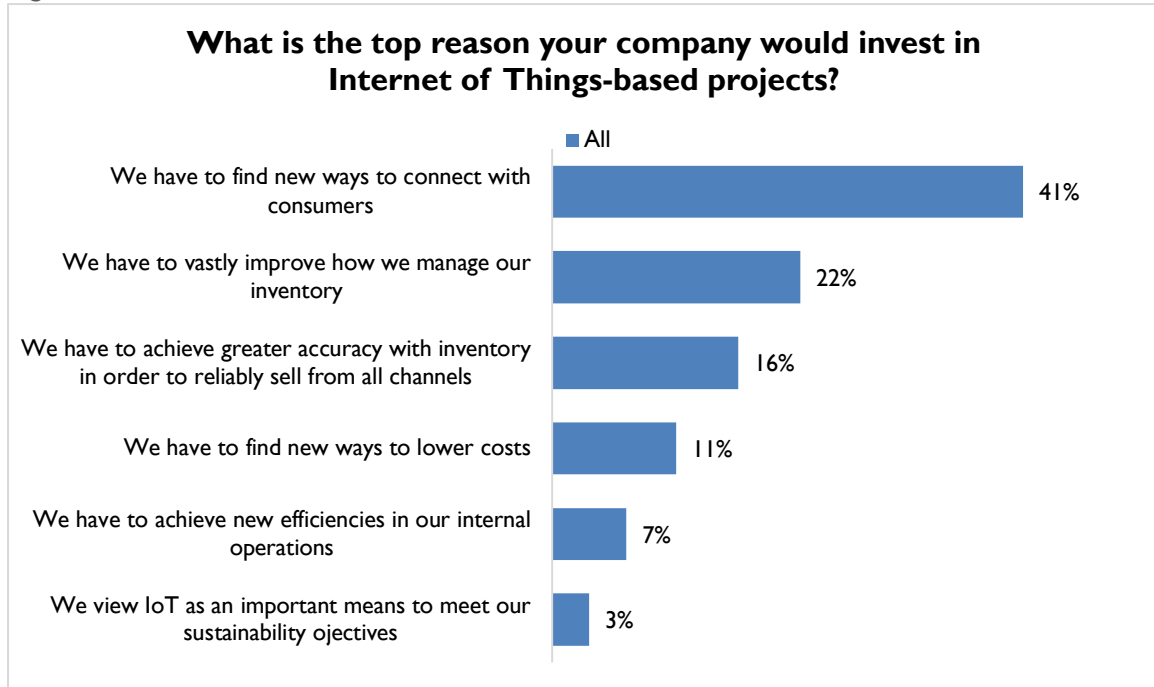
**These are big challenges – and big opportunities.**

This will be a major theme of what unfolds in the pages of the research.

## First Things First

The fact remains that retailers can't take a time-out to perform a wall-to-wall redesign of their operations on either the selling side or the supply side of their businesses. So where should they start? According to our survey respondents, the top three investment priorities for retailers all relate to servicing consumers in the new *digital+physical* selling environment. (Figure 2).

Figure 2: Customers First



Source: RSR Research, June 2023

That's an important insight, since it means that **optimizing processes to better service consumers takes precedence over efforts to lower operating costs**. The two shouldn't be mutually exclusive – but with the explosive growth in omnichannel customer order fulfillment, they tend to be. For example, a recent **McKinsey & Company** study conducted for a technology solutions provider found that fashion retailers have incurred 15-20 percent of sales in new expenses to replenish, pick, and stage buy-online-pickup-instore (BOPIS) customer orders, and an additional 10-15% to deliver orders direct-to-consumer (D2C) from order fulfillment centers. Retailers in other verticals have experienced similar results – to service new customer shopping behaviors, many have sacrificed profitability.

Nonetheless, retailers can't afford to lose the sales to other, more agile competitors– and so their first priority has been to support consumers' digitally enabled shopping behaviors and enable omnichannel order fulfillment. That has required retailers to expose inventory availability to consumers and to begin to optimize customer order fulfillment processes. Internet of Things (IoT) technologies are well suited to help retailers to accomplish those tasks. But Figure 2 shows that retailers are clearly looking beyond the first use-case (supporting omnichannel selling and order management), towards connecting with consumers in new ways.

And as is so often the case, over-performers ("Retail Winners") are much more aggressive in taking advantage of what the technology can do for them.

### Retail Winners And Why They Win

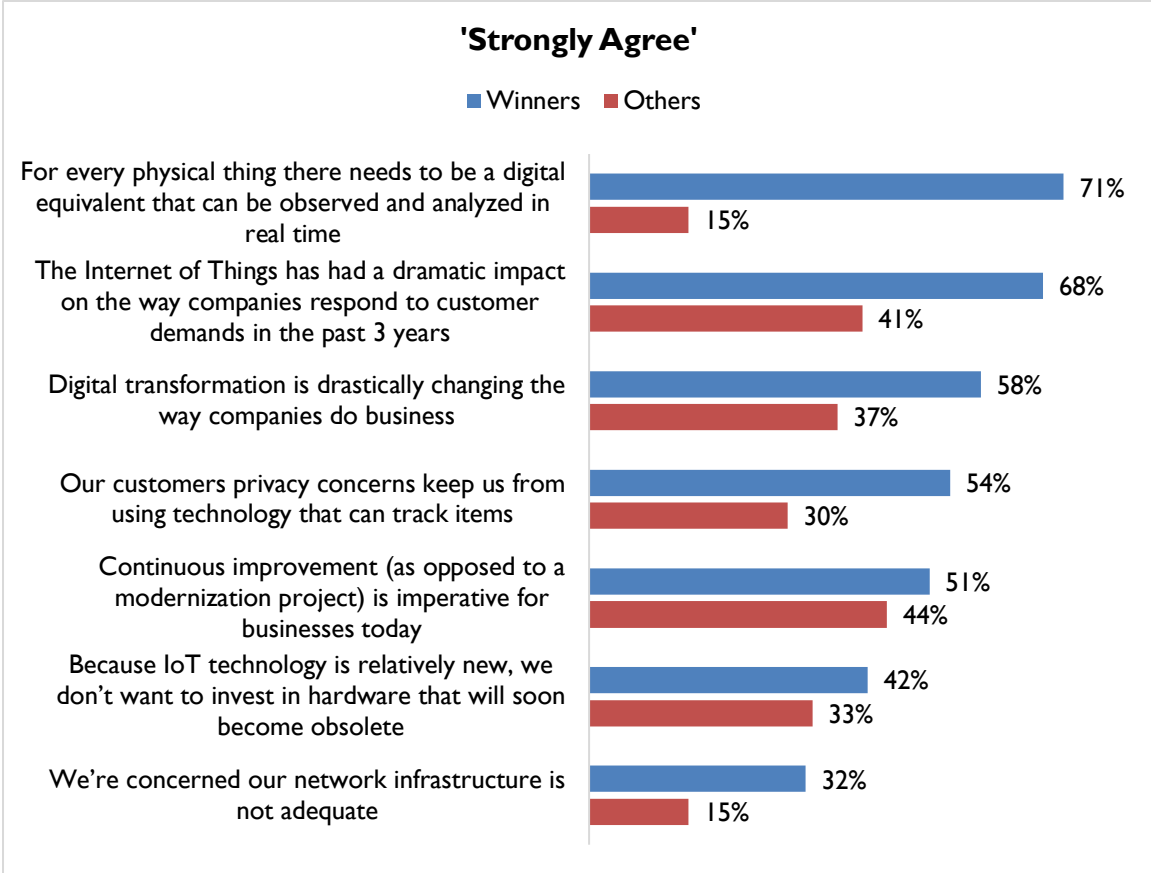
In our benchmark reports, RSR frequently cites differences between retailer over-performers in year-over-year comparable sales and their competitors. We find that consistent sales performance is an outcome of a differentiating set of thought processes, strategies, and tactics. We call sales over-performers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

RSR’s definition of these Winners is straightforward. Assuming industry average comparable store/channel sales growth of **4.5 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.”

One trend that will emerge throughout this report is that Retail Winners view the Internet of Things through a *strategic* lens, whereas non-winners tend to think of IoT *tactically*, to address specific challenges. This is consistent with what RSR has observed in virtually all of our benchmarks: Winners view the information assets as having *strategic* ability to create new value, while average and under-performers view information assets *tactically*, to control operations.

Nowhere is this difference more apparent than in how different performance groups rate their level of agreement to several statements that we put to them (Figure 3).

Figure 3: Why Winners Win – With IoT



Source: RSR Research, June 2023

The majority of Winners strongly agree that IoT has had and will have a profound impact on how retailers conduct business – and Winners believe that its impact is driven by the insights that enable



transformation. Average and under-performers aren't focused on *transformation*; instead they are using IoT to incrementally improve processes particularly on the customer-facing side of the business.

One statement that approximately 40% of all of our respondents agree to is that retailers need to be cautious about investments in new technologies. But one technology that is not new – and has a proven track record - is **RFID** (**r**adio **f**requency **i**dentification), a subset of IoT. Most retailers know about Walmart's early efforts to use RFID to identify *case packs and pallets* in the supply chain in 2005, but since that time many companies have quietly been implementing RFID at the *item* level to improve inventory visibility and control.

With the accelerated growth in omnichannel commerce, that level of inventory visibility and control has become an imperative. Ecommerce provider **Shopify** explains RFID's value this way:

*“Radio-frequency identification (RFID) technology is a way for retailers to identify items using radio waves. It transmits data from a RFID tag to a reader, giving you accurate, real-time tracking data of your inventory... RFID has gone from “nice to have” to foundational for today’s omnichannel retailers.”*

Winners assign more value to RFID for almost every merchandise category we listed than do average and under-performers. Whether that value is realized on the supply side of the business or in the selling environment, the technology is seen as a key enabler (Figure 4).

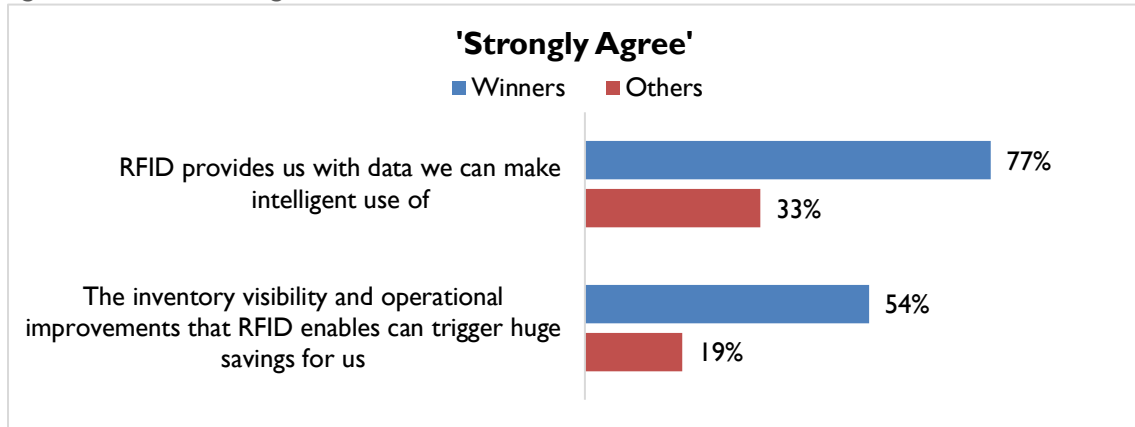
Figure 4: RFID's Value Is Established

<b>Please rate how the management of the following product categories could benefit from real-time data generated by RFID ('High Value')</b>		
	<b>Winners</b>	<b>Others</b>
Routine clothing purchases (t-shirts, socks)	82%	44%
Furniture	66%	52%
Hardware/tools	65%	48%
Fresh produce	63%	26%
Shoes and sneakers	62%	41%
Electronics	62%	67%
Sporting goods	62%	52%
Health and beauty items	60%	48%
Jewelry and accessories	60%	37%
Kitchen and cooking accessories (pots and pans, dining ware)	58%	33%
Household items (household cleaners, lightbulbs)	57%	33%
Packaged groceries (boxed pasta, cereal, etc)	57%	41%
Major appliances (dishwasher, refrigerator, etc)	54%	48%
Pharmacy / OTC drugs	54%	33%
Toys	54%	37%
Baby products	49%	33%
Lawn and garden	49%	41%
Fashion/special occasion clothing purchases	46%	44%

Source: RSR Research, June 2023

With these insights in mind, it's no surprise then that Winners have the most favorable perception of both RFID's data-generating capabilities and the technology's specific value to enable inventory visibility and control (Figure 5).

Figure 5: A Winning Difference



Source: RSR Research, June 2023

Throughout the remainder of this report, we'll highlight how retailers see the challenges that create interest in digital transformation strategies, how Winners in particular turn those challenges into opportunities, and how technology plays a role in modernizing retail applications.

## 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 April-May 2023 and received answers from 92 qualified retail respondents. Respondent demographics are as follows:

- **2022 Revenue (US\$ Equivalent)**

Less than \$250 million	2%
\$250 million - \$499 million	8%
\$500 million - \$999 million	27%
\$1Billion to \$5 Billion	51%
Over \$5 Billion	12%
  
- **Products sold:**

Fast moving consumer goods	23%
Apparel, footwear and accessories	37%
Hard goods	11%
General merchandise	26%
Brand manufacturers	3%
  
- **Retail Presence:**

USA	100%
Canada	38%
Latin America	14%
UK	16%
Europe	20%
Middle East & Africa	4%
Asia/Pacific	8%
  
- **Year-Over-Year Sales Growth Rates** (assume average growth of 4.5%):

Average & Worse Than Average	29%
Better than average (“Retail Winners”)	71%

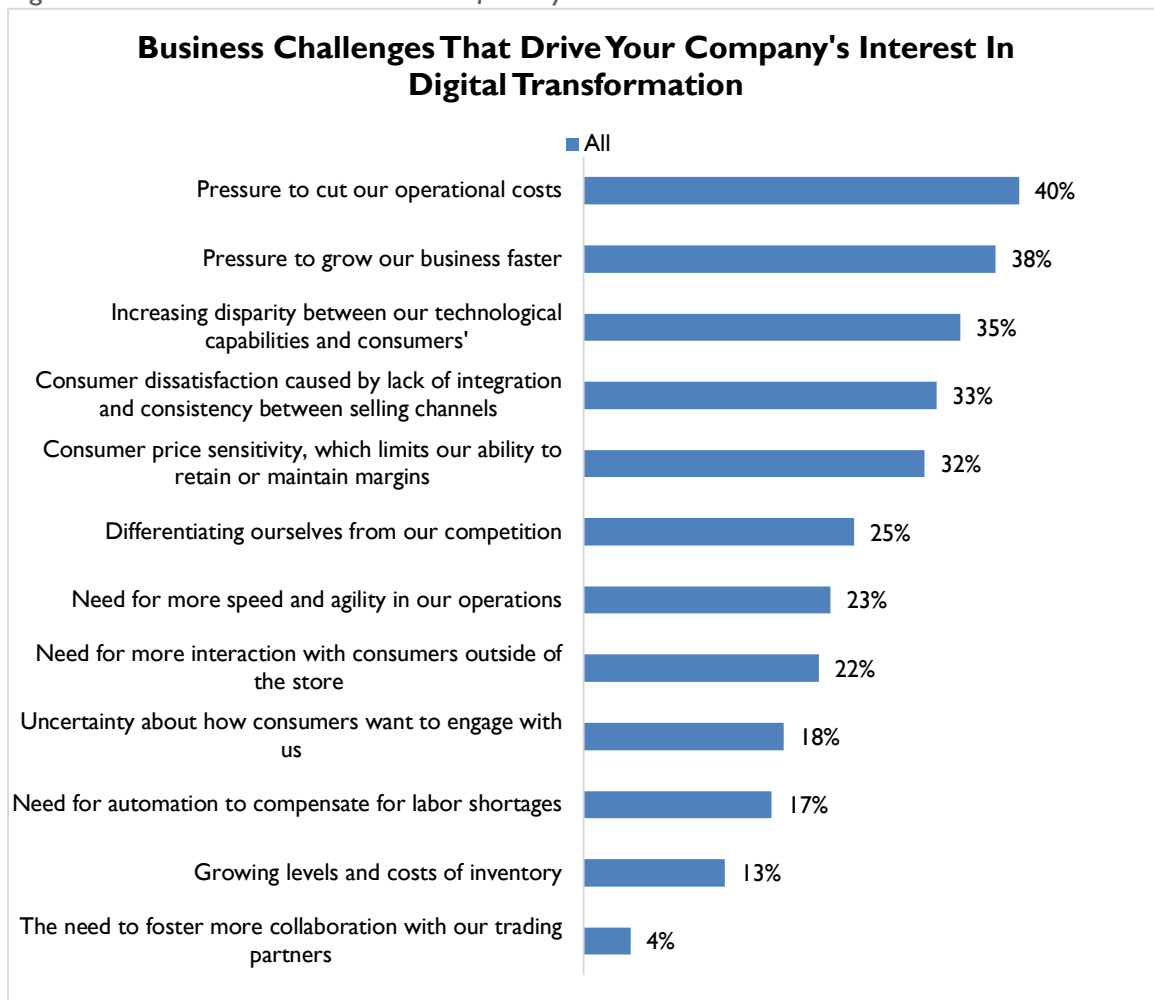
# Business Challenges

## Manage Costs, Grow The Business – Or Both?

It may be an over-used bit of conventional wisdom that “if your business isn’t growing, it’s dying.” But growth at the expense of profitability isn’t a long-term strategy either, as retailers across all verticals experienced as a result of the explosive increases in customer omnichannel orders during the pandemic of 2020-22. That was a business choice, not an accidental outcome; in a benchmark study conducted by RSR in early 2020 (just before the start of the global pandemic), retailers cited “sales” over “profitability” in addressing the buy-online-pickup-instore opportunity<sup>1</sup>.

Now attitudes have clearly changed – retailers want to grow, but are also focused on optimizing the business to cut their operational costs, in order to grow profitability (Figure 6).

Figure 6: The Need To Grow Profitably



Source: RSR Research, June 2023

<sup>1</sup> [BOPIS & BORIS: Good Or Bad For Retailers?](#), RSR Research, April 2020

It is noteworthy that the overwhelming majority of retailers aren't concerned about "growing levels and costs of inventory". Merchants aren't succumbing to an insecurity about the status of available-to-promise inventory and "flooding the zone" to ensure that customers are able to buy what they want whenever they want it. But they also know that real-time visibility will help them to manage and optimize inventories more effectively.

Going back to the top challenges – costs vs. growth: while retailers' assessment of the pressure to cut operational costs has remained unchanged since the last time we surveyed them on the subject in 2022<sup>2</sup>, the importance of growth has only increased (Figure 7).

Figure 7: The Pressure Is On

Business Challenges (selected YoY differences)	2023	2022
Pressure to cut our operational costs	40%	40%
Pressure to grow our business faster	38%	24%

Source: RSR Research, June 2023

But looking inside those prioritized challenges by retailer performance tells a more nuanced story (Figure 8). Retail Winners are most concerned about achieving new growth, whereas a clear majority of non-winners are challenged to reduce costs in order to improve profitability.

Figure 8: The Need To Grow- Profitably

Business Challenges (selected differences)	Winners	Others
Pressure to grow our business faster	42%	30%
Pressure to cut our operational costs	34%	56%
Need for automation to compensate for labor shortages	22%	7%
Growing levels and costs of inventory	9%	22%

Source: RSR Research, June 2023

Growth and improved profitability enabled by digital transformation are highlighted in recent retailer earnings reports. For example, U.S. grocer **Kroger** announced strong growth and improved profits in March 2023. CEO Rodney McMullen stated that, "*Kroger achieved exceptional results in 2022 as we executed on ... our Accelerating with Digital strategy....*" Similarly, in May 2023 **Walmart** CEO Doug McMillon said, "*We had a strong quarter... We leveraged expenses, expanded operating margin, and grew profit ahead of sales.*" Both of these companies adopted digital transformation strategies years before most of their competition and were well-positioned when the pandemic accelerated the shift in business towards omnichannel.

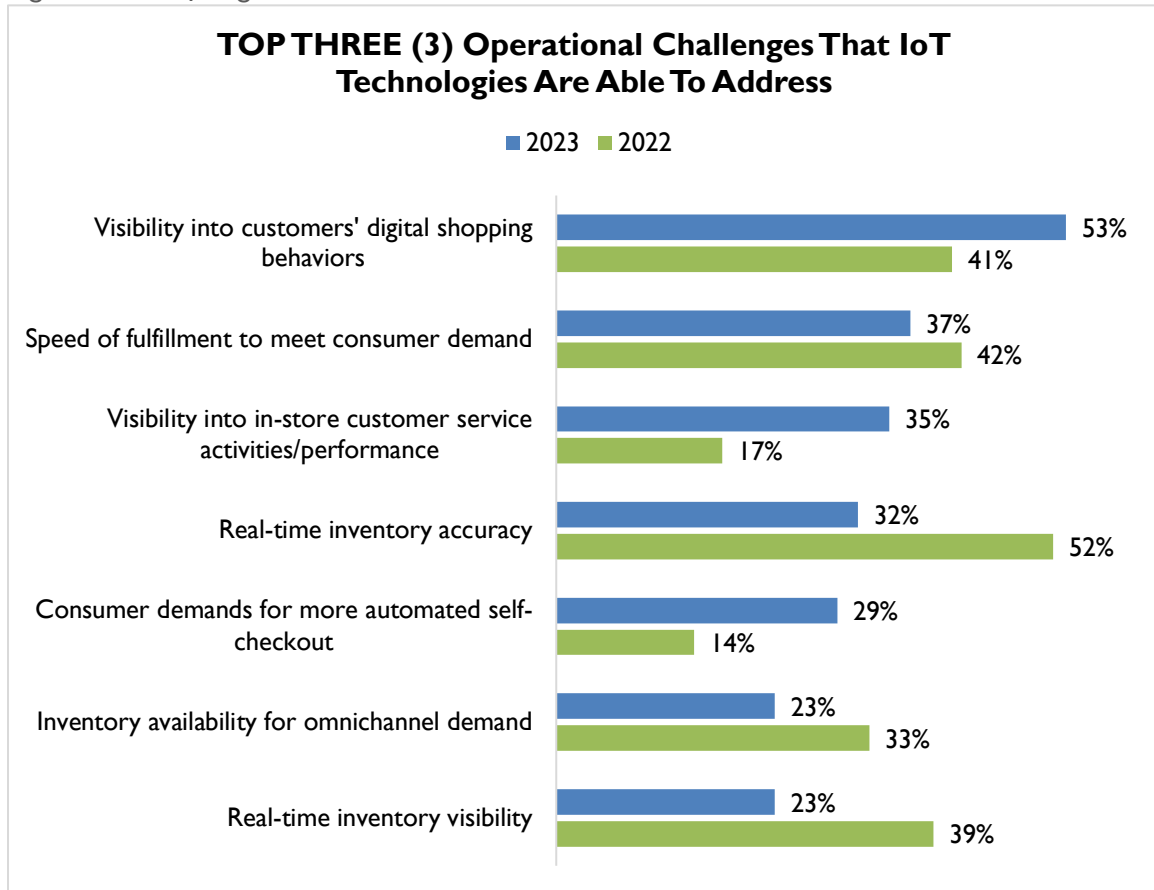
## Moving Beyond 'Inventory' Challenges

RSR benchmarks distinguish between "Business Challenges" (pressures coming from consumers, competitors, investors, trading partners, etc.) and "Operational Challenges" (coming from inside the enterprise itself). As we've already seen, retailers' top business challenges that drive an interest in a digital transformation strategy clearly relate to pressure to grow and/or to be more profitable.

<sup>2</sup> [A Deep Dive Into Retailers' Views About RFID And The Internet Of Things](#), RSR Research, April 2022

But internal operational challenges are shifting, from a focus on inventory accuracy and visibility, and towards consumer-related issues (Figure 9). Just one year ago, retailers were most concerned about “real-time inventory accuracy”. Now, the top issue is “visibility into customer’s shopping behaviors”. This isn’t an “RFID” issue, but rather about leveraging the digital signals generated by shoppers’ digital paths-to-purchase to understand and better serve them. It’s about how to best elevate the customer experience.

Figure 9: Shifting Focus YoY



Source: RSR Research, June 2023

Visibility into shoppers’ digital shopping behaviors isn’t a new issue, but it has gained much greater emphasis because of the big shift in shopping journeys towards *digital+physical* shopping. One recent study<sup>3</sup> estimated that “63% of all shopping journeys begin online, whether or not the consumer ends up making their purchase online or in-store”.

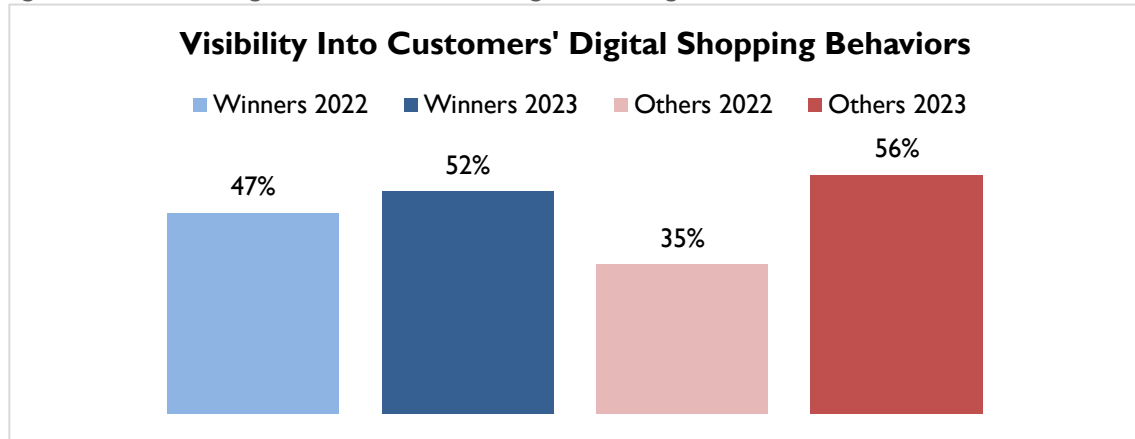
Retailers know they have a problem with how consumers start their shopping journeys. A 2021 RSR consumer survey<sup>4</sup> revealed that 50% of respondents start on **Google**, 26% start on **Amazon** – and *only 24% start on a retailer’s website*. Visibility into those behaviors is a prerequisite to influencing them.

<sup>3</sup> <https://www.zippia.com/advice/online-shopping-statistics/>

<sup>4</sup> [RSR’s Annual Evaluation Of Retailers’ Website Performance: Lost Revenue Opportunities Continue](#), RSR Research, July 2021

This study shows that the increased focus on the digital part of shoppers' shopping journeys isn't an exclusive concern for Winners vs. others, but it is a growing one. Figure 10 shows how many retailers identify this as a top challenge this year compared to 2022.

Figure 10: Shifting Focus – A Growing Challenge



Source: RSR Research, June 2023

That is not to say that inventory visibility and accuracy are not top issue for retailers; in fact, they remain the top-two issues for fast-moving-consumer goods (**FMCG**: grocery, chain drug, convenience) and **GM** (General merchandise) retailers (Figure 11).

Figure 11: Inventory Visibility & Accuracy – Still An Issue

Operational Challenges (Selected Differences)	FMCG	GM
Real-time inventory visibility	38%	38%
Real-time inventory accuracy	48%	48%

Source: RSR Research, June 2023

Of course, retailers are capable of handling more than one issue at a time, and it's likely that they want to move on several fronts at once. The underlying analytical capabilities that turn non-transactional data generated by IoT into actionable insights are the same.

### The New Speed Of Business: 'Now'

Whether the pressures are coming from outside of the "four walls" of the business or from within, retailers are clearly trying to catch up to the *new speed of business* – which, simply put, is "now!". Retail operational decision cycles were once measured in quarters, months, weeks, and days. Now operational decisions are made in hours and minutes – to the point where retailers are trying to find ways to influence business processes in near real-time. One example might be, "where is the best inventory location to fulfill this customer order from, and how does that affect shipping costs?" Another one might be, "should we replenish this endcap from the backroom now, based on how fast a product is moving, and how much do we have in the backroom?"

Real-time responsiveness to operational events must be powered by real-time data and analysis – the very essence of *digital transformation*. For retailers used to managing operations in daily, weekly, monthly, or quarterly cycles, this represents a huge challenge.

But this study shows that retailers are aware of the challenge and many are already addressing it, albeit at different levels of commitment.

In the next section of this report, we'll examine the opportunities that are enabled by *digital transformation* of the operational model.



# Opportunities

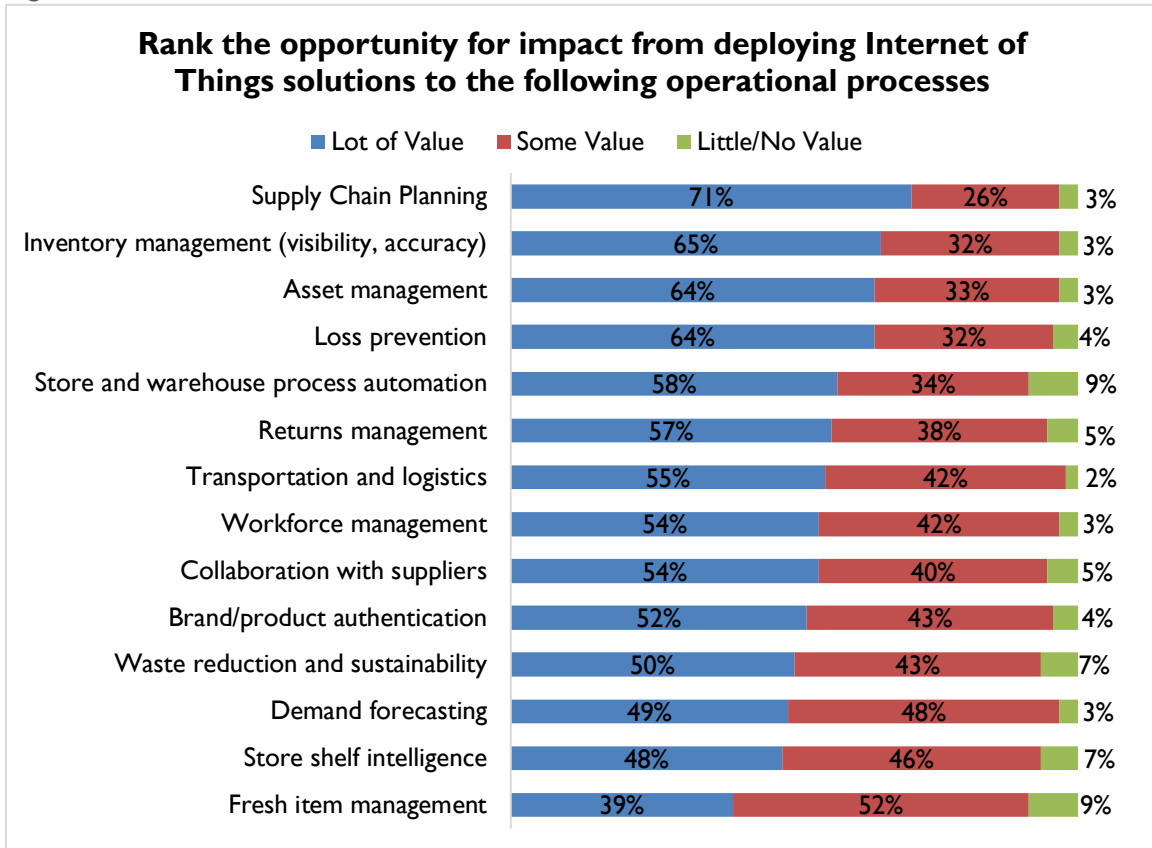
## High Value Opportunities

In the Research Overview section of this report, we learned that retailers believe the concept of *digital transformation* to be “highly relevant” in achieving key strategic objectives (Figure 2). Aside from the more general objectives (*optimize workflows, continuous improvement, invent new business models*), retailers highlighted several specific ones:

- Optimize our customer-facing operations (69%)
- Make faster and smarter decisions in response to changing market conditions (68%)
- To optimize our supply chain operations (66%)
- To enable a much more agile response to real-time operational conditions (65%)
- To help the company address a sustainability agenda (65%)
- To mitigate risk (60%)

Retailers in this study map those objectives to opportunities that are served by the deployment of IoT. Chief among them is *supply chain planning*, followed closely by *inventory management* (Figure 12). RFID systems and next-generation analytics that make sense of all the data that RFID can generate (discussed later in this report) are the primary enabling technologies for these two opportunities.

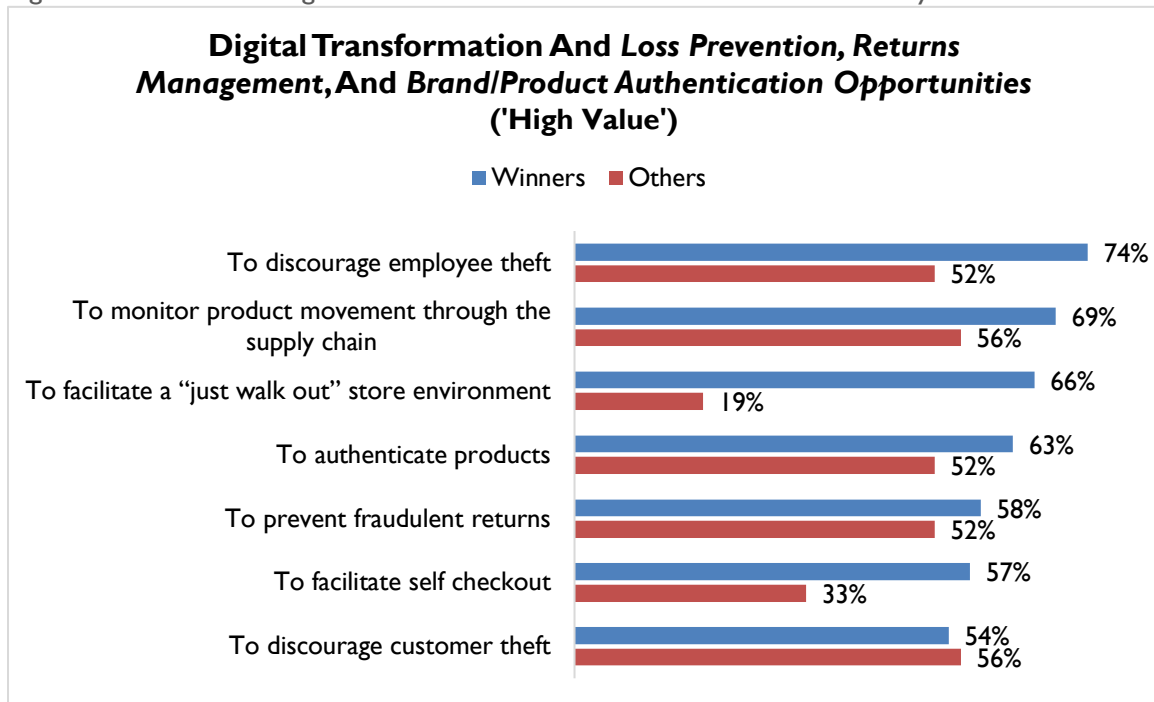
Figure 12: Business Processes That Benefit



Source: RSR Research, June 2023

But that's just the start. Other opportunities that can be addressed by IoT (again, specifically item-level RFID tagging) include but are not limited to *loss prevention*, *returns management*, and *brand/product authentication*. Winners are particularly enthusiastic about the opportunities (Figure 13).

Figure 13: Addressing Fraud/Loss Prevention – A Winners' Story



Source: RSR Research, June 2023

One interesting difference by company performance is in how retailers view digital tagging of products as an enabler to reduce theft in a **shelf checkout** and **instant checkout** ("just walk out") environment. While a majority of Winners favor that idea, most non-Winners do not.

The jury is still out when it comes to "just walk out" stores; RSR's 2022 benchmark study on the state of the store<sup>5</sup> revealed that while 67% of over-performers assigned "high" potential value to those concepts, only 40% of average and under-performers did. But in this study, Winners view the implementation of digital transformation technologies as a way to ensure that if such a concept is implemented, it will not result in more losses from theft.

Two opportunities that Winners and others are in close agreement on are "to authenticate products" and "to prevent fraudulent returns". These opportunities are closely related. Product returns are a growing challenge to the point of reaching "crisis" proportions in 2023, whether they are honest or fraudulent. According to the National Retail Federation:

- In 2020, returns amounted to approximately \$428B (10.6% of total U.S. sales), **of which 5.9% were fraudulent.**
- In 2021, returns amounted to \$761B (a 78% increase).

<sup>5</sup> [What Can Retailers Do In Stores That Amazon Still Can't?](#), RSR Benchmark, August 2022

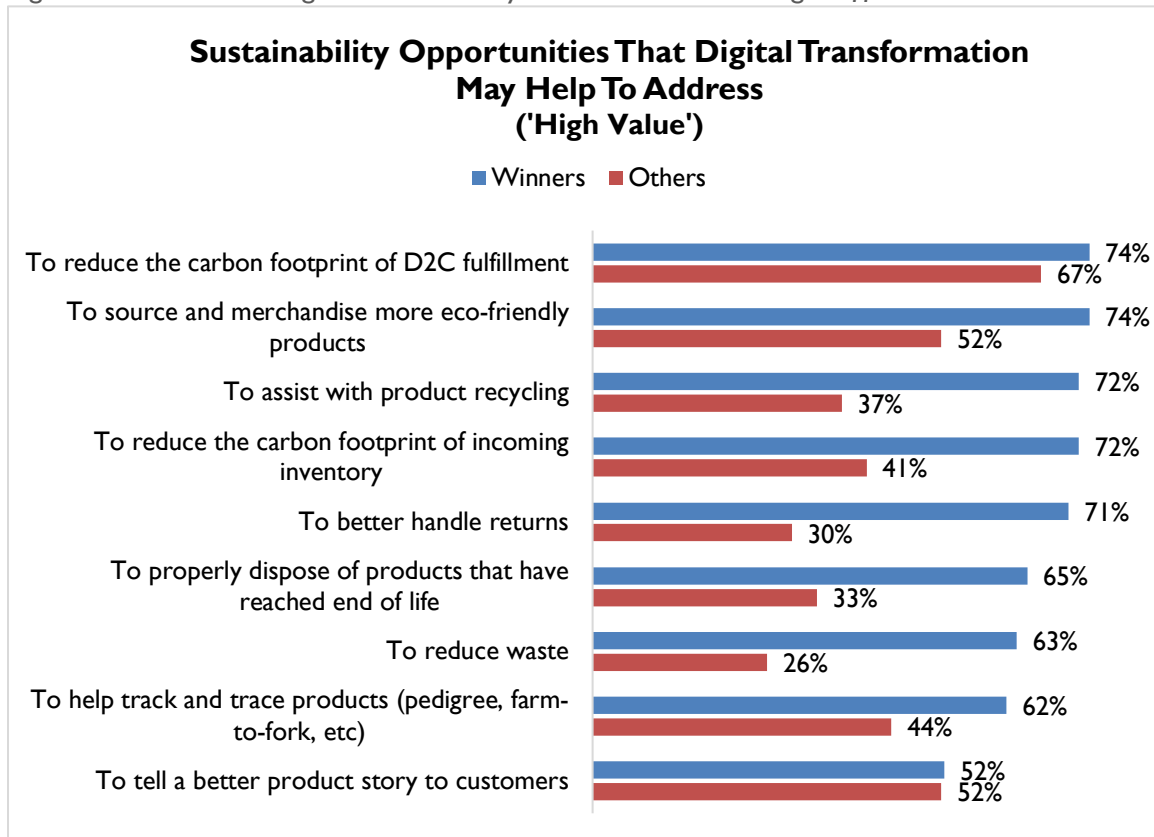
- In 2022, the U.S. retail industry, including online and brick-and-mortar stores, transacted \$4.95 trillion in sales. Returns equaled \$816B, about 16.5% of the total across all verticals and selling channels.

**Facilitating product returns and preventing returns processing from exposing the retailer to massive fraud are strong reasons for retailers to consider item-level tagging.**

### IoT’s Part In Helping Retailers Address Sustainability

In Figure 12, we learned that one-half of our retailers assign “a lot of value” in IoT’s ability to help retailers address “waste reduction and sustainability” opportunities. Shockingly, that finding is almost entirely driven by Retail Winners (Winners: 62%, Others: 22%). We see that reflected in how retailers in this study view IoT’s value in realizing opportunities associated with sustainability (Figure 14). While about one-half of all retailers agree that addressing sustainability is a good story in the eyes of consumers, other, more specific opportunities are favored by more Winners.

Figure 14: Addressing Sustainability – Another Winning Difference?



Source: RSR Research, June 2023

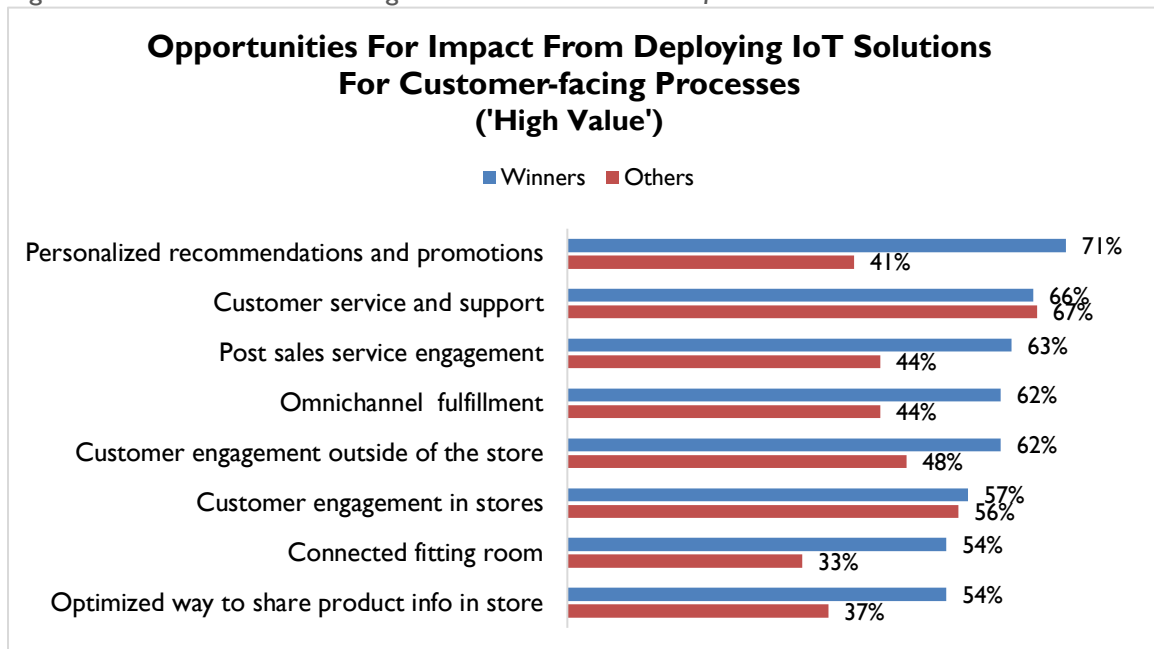
**This is a big “miss” for average and under-performers.** Retailers are being driven more by changing consumer expectations than internal considerations when prioritizing efforts associated with sustainability. For over-performing retailers, sustainability is quickly becoming a competitive wedge issue separating them and other lesser-performing retailers. Other recent research from RSR shows that while all retailers acknowledge its importance, over-performers are most keenly aware of both the operational improvements associated with the sustainability agenda and of how the company’s value can be enhanced in the eyes of consumers.

## What About IoT's Part In Enabling The New Selling Environment?

Earlier in this report, we learned that the top (and growing) operational challenge for retailers is in addressing the need for greater visibility into customers' digital shopping behaviors. Now we see why that is such a challenge; retailers (and Winners in particular) want to be able to put *personalized recommendations and promotions* in front of consumers during the digital part of their shopping journeys (Figure 15).

Incongruously though, fewer Winners - as well as others - view the IoT devices that consumers carry around with them in their purses and pockets (mobile phones) as a way to share product information with them *in the store*, even though there's general agreement among over one-half of our survey respondents that IoT creates an opportunity for *customer engagement in the stores*. We can only assume from this that retailers are thinking about IoT devices that *they* (not the consumers) own.

Figure 15: Customer-Facing Processes Also Benefit



Source: RSR Research, June 2023

Aside from those incongruities, there's a general sense that while the majority of over-performers are thinking about IoT's part in realizing customer facing opportunities, the majority of average and under-performers are not, at least with any specificity.

## Digital Transformation Requires A Prioritized Roadmap

Retailers are very clear when it comes to IoT's value in enabling greater agility and resilience in the supply chain and in its ability to enable consumer visibility into available-to-promise inventory. Beyond those specific opportunities, the roadmap loses clarity. As Cisco System's CEO said in 2016, "*It's all about speed of innovation and changing the way you do business.*" Retailers need an **enterprise-wide strategy that delivers a prioritized roadmap to digital transformation**. They simply cannot transform the business without one.

# Organizational Inhibitors

## The Human Capital Conundrum

When it comes to the roadblocks standing in the way, our respondents are clear: too many projects have backed up, and their IT departments are at a breaking point (Figure 16).

Figure 16: Something's Gotta Give



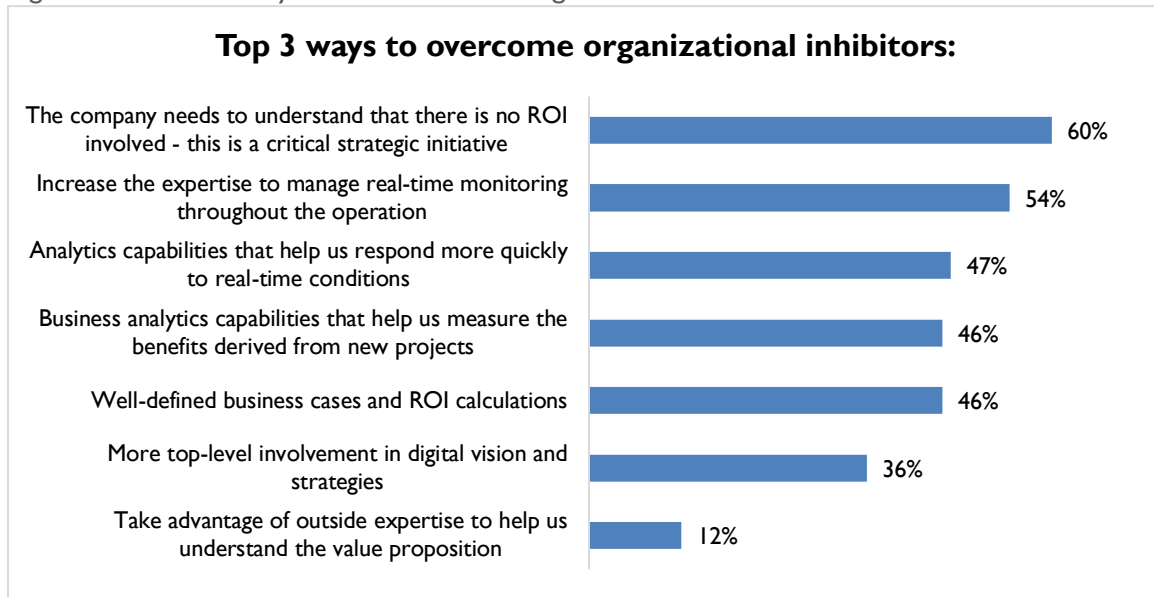
Source: RSR Research, June 2023

This data is extremely informative. When given a list of 8 options and asked to choose just three, *half* of our 100 respondents immediately point to the lack of bandwidth at a *personnel* level. They do not point to the cost of adoption – in fact, less than one in five points to cost. **This is unprecedented**; retailers know the technology works, and based on the data in Figure 16, they aren't even citing cost as the reason. **They know they can afford these technologies** (the rapidly diminishing price of RFID technologies, in particular, has had enormous effect here) – **they just don't have the human capital to manage all of the things they would like to take on**. What, then, are they to do?

## Time To Get Over It

The data in Figure 17 is as clear as it gets: the only way forward is through.

Figure 17: The Way Forward Is Through



Source: RSR Research, June 2023

At the outset of new waves of technological innovation, retailers often exhibit a “prove-it-to-me” mode of thinking. They ask for better case studies. They cite soft ROI projections. They want more proof from the vendor community that initiatives will live up to the promise.

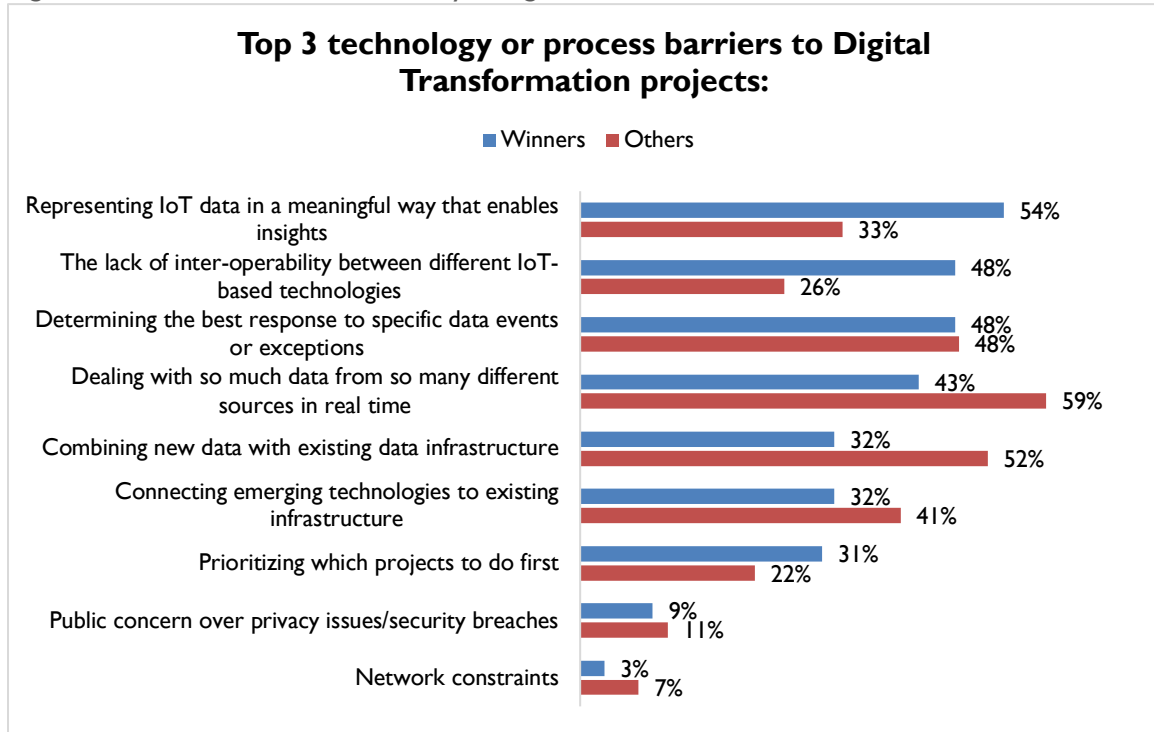
This is not the case today.

Despite being presented with options such as “bring<ing> in outside expertise to help understand the value proposition” or better defined business cases and ROI calculations”, retailers’ top selection is to simply get on with it. **Retailers recognize that ROI is not an applicable gating factor – that digital transformation is a critical strategic initiative.** Retailers don’t have the choice to opt-out here. They have to act, and the good news is: they know it.

### Winners Look For More

The best performers have a slightly different take on things. More than one-half of Winners (compared to only 1/3 of non-Winners) recognize the hallmark for success is *if* IoT technologies can provide more meaningful insights, but in *what* insights can be revealed today (Figure 18).

Figure 18: Presentation Is Everything



Source: RSR Research, June 2023

At its core, this is a story about relevance. RSR has been quite loud in its messaging about the need for relevance in much of our research in 2023, to date. From our February **“What Makes An Excellent Customer Experience?”** Benchmark Report:

*Retail Winners know that if they can increase the number of times shoppers think of them as the favored brand to help solve whatever shopping problem they are trying to solve, then a whole world opens up – a world of **net-new customer segments**.*

*...in their eyes, if they can leverage technology to create a value proposition that is more relevant to consumers according to a number of metrics (demographic, product affinity, etc.), **then promotions can be more effective than in the past**. They don't yet believe that they are able to promote highly personalized offers to consumers, but they can promote a relevant product to a more targeted segment of both new and existing customers. This is not about 1:1 marketing, for Winners, but it is about both not wasting money and being more relevant.*

How does a vignette about marketing and promotions find home in a report about Digital Transformation? Because the tools discussed in this report – when used properly as part of a larger, enterprise-wide endeavor – enable the types of insight about both products AND shoppers that help facilitate relevance. In the age of Amazon.com, as time progresses, that ability to offer relevance becomes increasingly more critical to success.

Now let's see if – and how – technology can help.

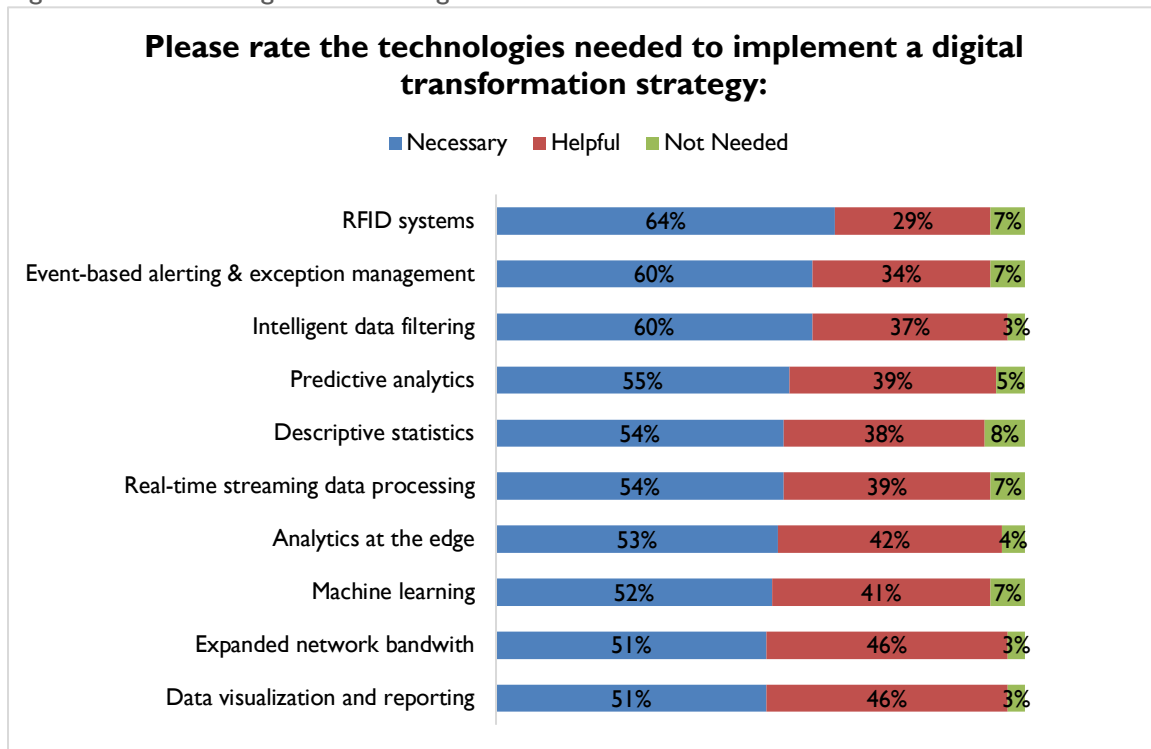
# Technology Enablers

## Begin At The Beginning

When asked to rank the necessity of a host of technologies that *could* go into a comprehensive digital transformation strategy, retailers don't see much to be ignored (Figure 19). However, their most logical starting place is the most logical starting place: RFID systems to provide real time insights.

Insight not only into the products they sell and how those products move throughout the supply chain (and when applicable, throughout the store), but also into how their operations and personnel could be used to better effect. They see RFID as the lynchpin. In fact, all of the data points below "RFID systems" in Figure 19 stand to benefit from such capabilities: better data feeds enable predictive analytics, which in turn enables machine learning – and on and on. IoT technologies like RFID is how the story should begin.

Figure 19: Starting From A Logical Point



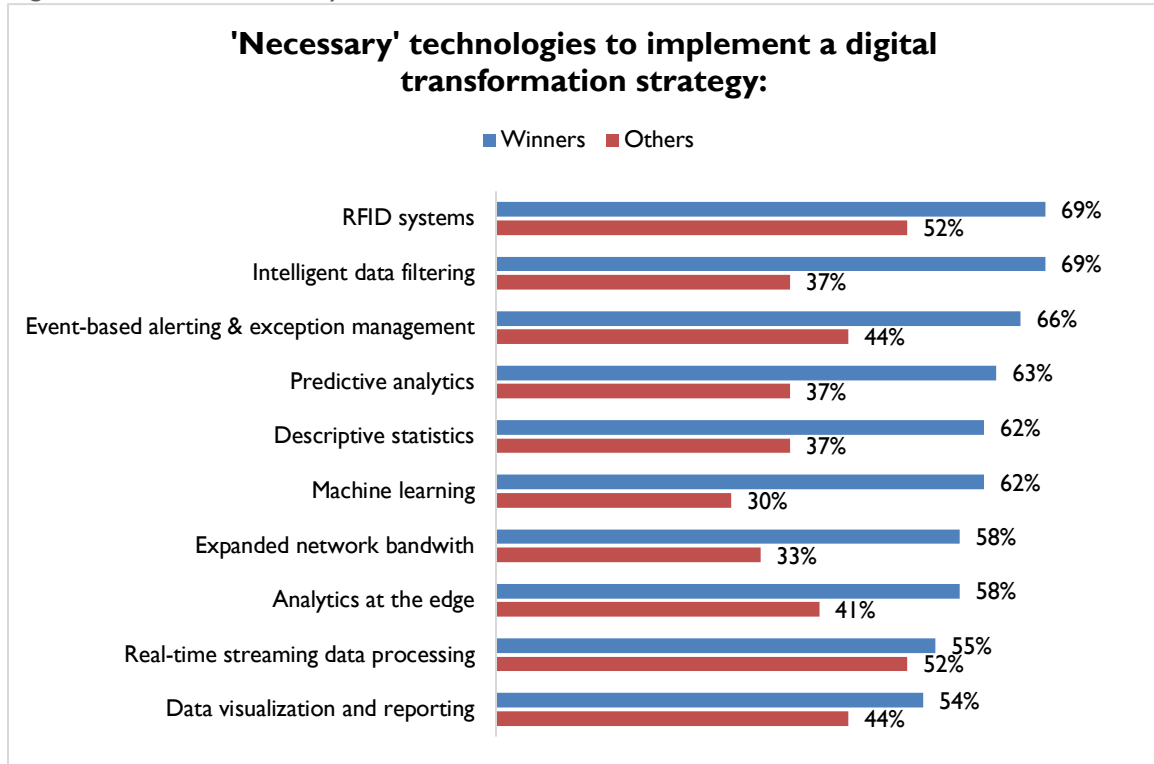
Source: RSR Research, June 2023

## Winners Need No Convincing

One of the things RSR's research often bears out is the need for technology solutions providers to have separate messaging techniques for various segments of retail: grocers may need to hear one set of stories (in comparison to fashion), whereas average performers may need more education to the business value than to Retail Winners. As it relates to digital transformation, however, this is not the case. We've already seen that everyone "gets it" (personified in the takeaway from Figure 17 – "the company needs to understand that this is not about ROI – this is a strategic initiative.") Winners just happen to "get it" about which technologies are prerequisite to achieving their goals more so than their peers (Figure 20).



Figure 20: Winners Say 'More Please'

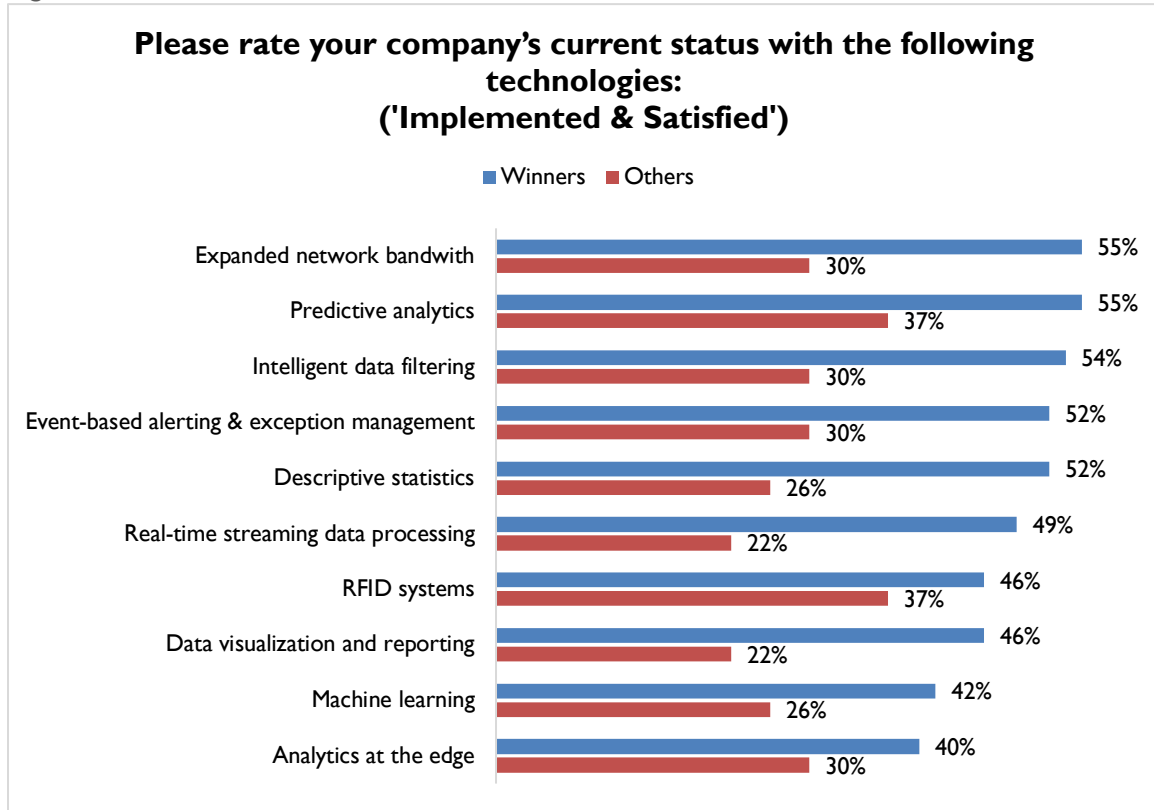


Source: RSR Research, June 2023

### Behind The Scenes

In order to leverage the benefits of such tech wizardry, however, retailers need to have put in some of the work, already. Figure 21 shows while Winners have made some inroads (expanded networking capability, more use of intelligent data filtering, etc), most retailers still have a lot of work to do before they can make full use of the transformative nature of the technologies on hand.

Figure 21: Much To Do Behind The Curtain



Source: RSR Research, June 2023

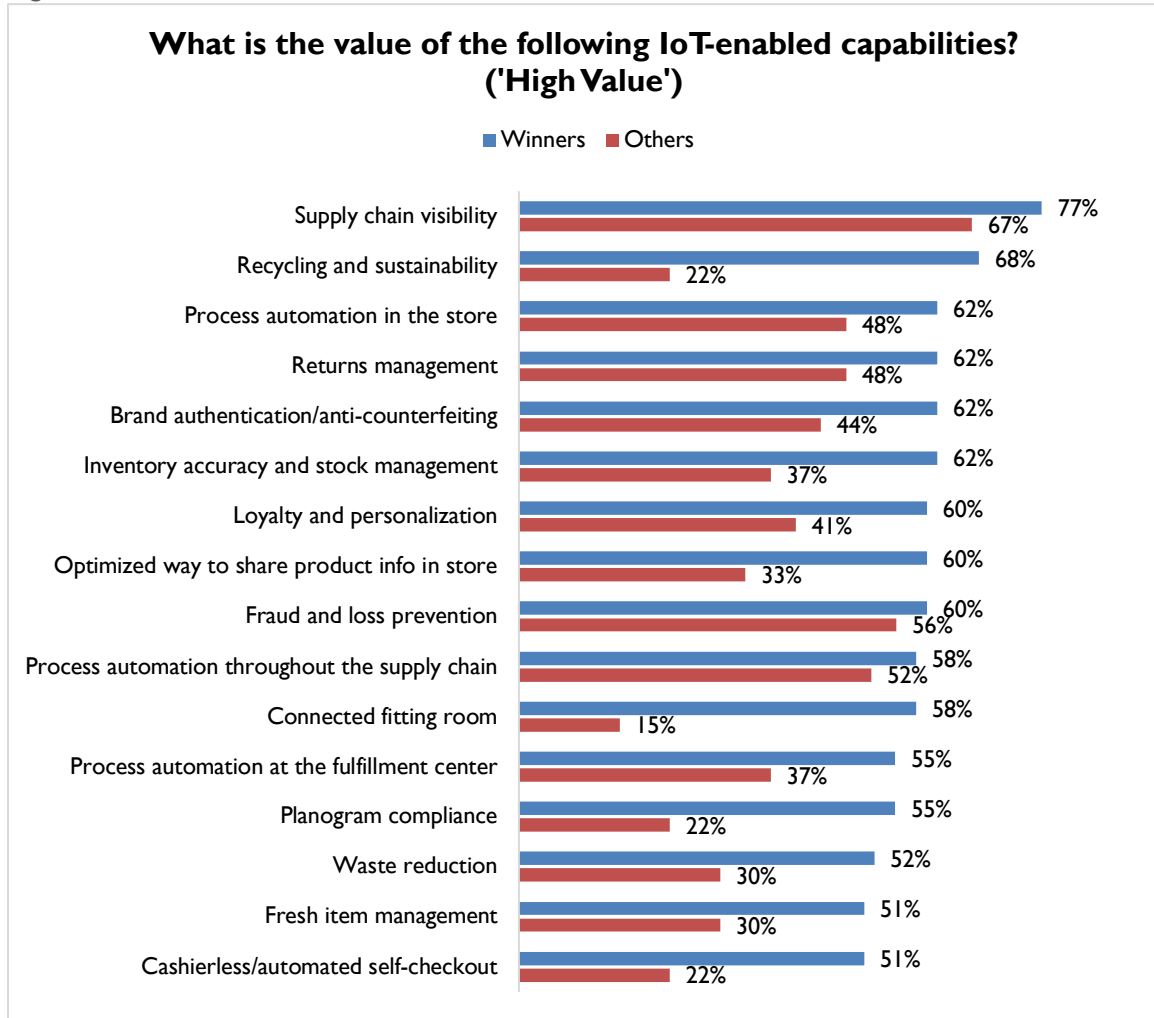
It is worth noting, however, that Retail Winners have gained significant advantage in many of the most important data points in Figure 21 – most notably – by a ratio of more than 2:1 in such areas as *data visualization* (46% have implemented such tools and are satisfied with them) and *real-time streaming data processing*. For those who’ve read our June 2022 Key Performance Indicators Benchmark Report **OR** our April 2023 Supply Chain Benchmark Report, these two points will be worth echoing: Winners cannot overstate the value of visual tools’ ability to convert data into actionable insight. It’s an enormous component of how they attribute their ability to make smarter decisions both today – and going forward.

### Is IoT All It’s Hyped Up To Be?

The retail industry goes through hype cycles with predictable regularity. While “AI” is the current buzzword to dominate most conversations, IoT has been enjoying its silver-medal position beneath several of the industry’s latest headline-grabbing issues for quite some time. In fact, we launched our first IoT-specific study back in 2014. At that time, despite our provision of a clear definition, our respondents told us they *didn’t know what IoT was*, but that the technology media and vendor community was pressuring the issue to the point of complete noise.

While that hype may have come on strong, the value has now become evident enough to penetrate the enterprise. Figure 22 shows that retailers are now hungry for IoT-enabled capabilities, rather than needing to be dragged along by pundits, analysts, or the tech community. The story is even more compelling for better performers.

Figure 22: The Value Is Clear

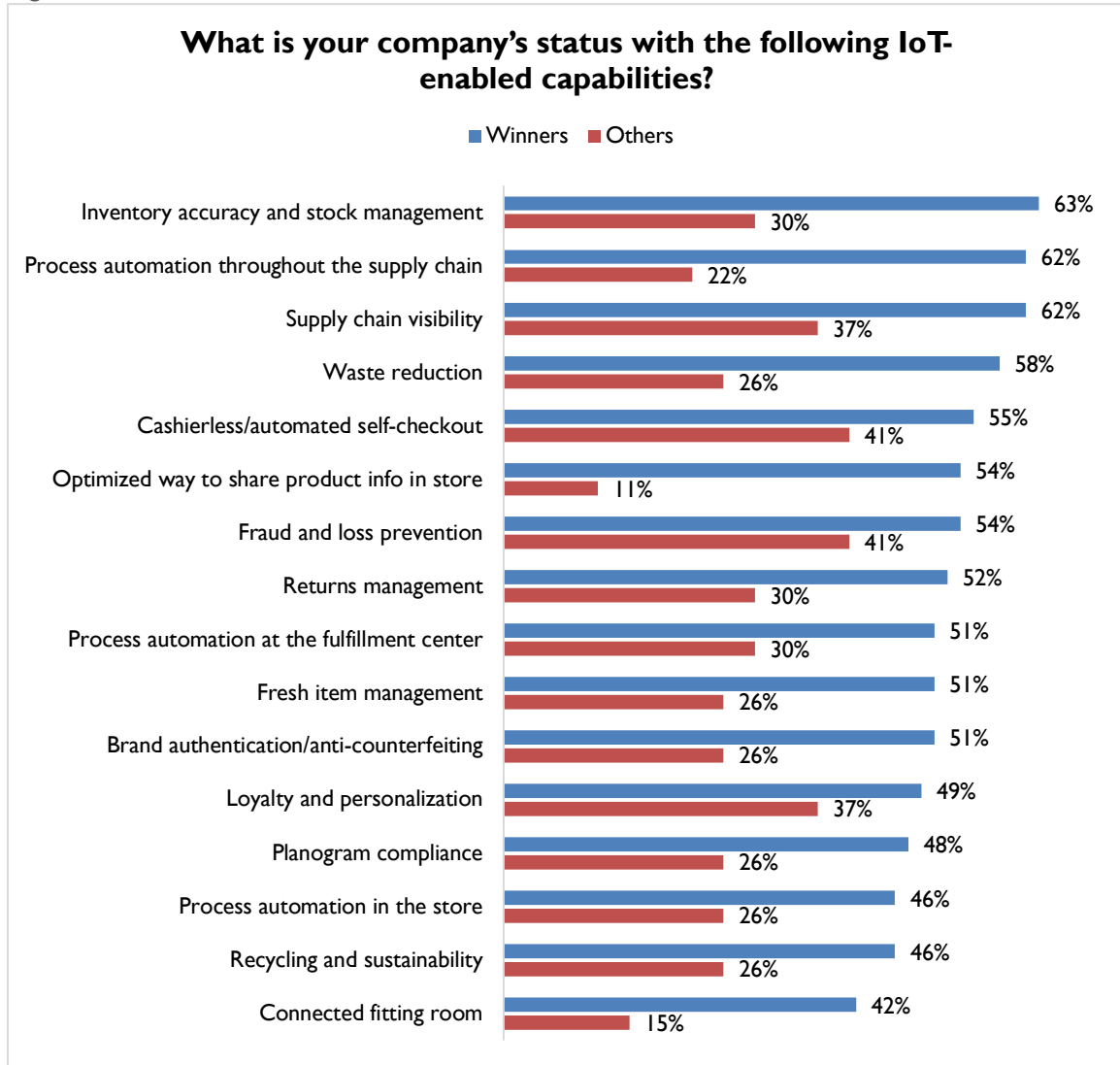


Source: RSR Research, June 2023

### On The Road To Pulling Away

However, in what is rapidly developing as a trend in RSR benchmark reports, Winners are dominant in their use of the technologies at hand. While the old adage of the “rich getting richer” bears itself out in real-time all over the globe, the phenomenon that the “slick get slicker” certainly seems to apply to the retail industry. Tech-savvy modern retailers widen the gap at nearly every turn in our research these days: digital transformation is no exception (Figure 23).

Figure 23: But The Use Is Owned

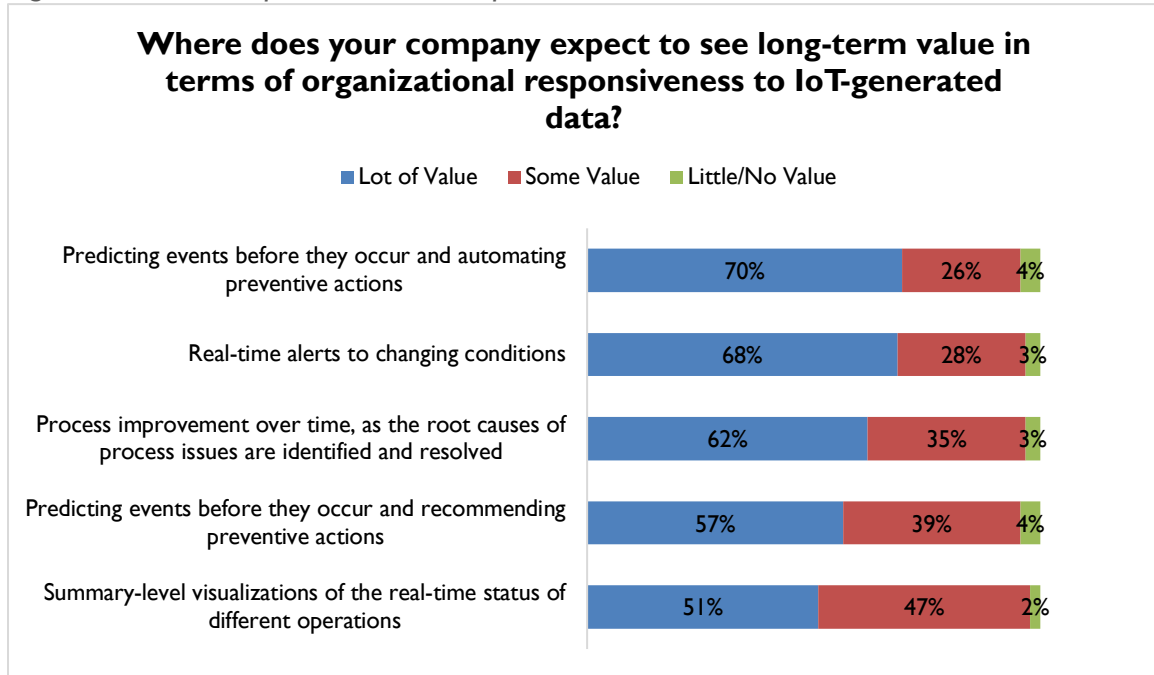


Source: RSR Research, June 2023

### Expectations For The Future

To conclude the data portion of this report, it is important to understand why retailers are so eager to undergo such widespread effort. They've shown us that their expectations are not about ROI, but rather about undertaking digital transformation as part of a larger, strategic set of objectives. What does that translate to? Preparedness (Figure 24).

Figure 24: The Expectation Is Preparedness



Source: RSR Research, June 2023

Retailers – even more so for the best performers – are simply unwilling to re-enact the pains and missteps exposed by the COVID-19 pandemic. They will not be caught in this situation again. Indeed, many know that they would not survive such a situation, and are doing everything in their power to ensure that they learn from their mistakes.

A supply chain can't be rigid. An understanding of optimized inventory can't be rigid – neither can its ability to be altered. Stores, workforces, customer service – all require an ability to turn on a dime. That means more predictions, more abilities to model, and more real-time alerts to conditions as they change – which they will invariably do as both technological development and the global pace of living speed up – all while economic, environmental, and social factors experience wild fluctuations with increasing commonality.

What a time to be in retail. Here are some suggestions based on what this data has shown.

# BOOTstrap Recommendations

As with all of our benchmark reports, RSR concludes by offering some baseline suggestions for retailers of all sizes, product segments, locations, and performance levels. The data we've seen lends itself to the following recommendations:

## Rethink RFID's Role

Walmart's "Sunrise Initiative" of 2005 had a tremendous – and lasting – negative effect on the many retailers' perception of RFID technologies, their usefulness, and their cost. While the company's intentions were obvious (to secure funding from trading partners), what got lost within this too-soon, too-expensive and too-forced initiative was the impending capability of RFID, itself. Tags have gotten smaller and cheaper. Readers have gotten faster and smarter. The ability to derive insights from RFID-provided data has improved exponentially. It is time to let go of past perceptions. Some brands' ability to do just that – and to make use of these assets (and the intelligence they provide) - will put them head and shoulders above the rest.

## Put Aside The Why

At a time when much of the platform our industry is standing on appears to be on fire (Amazon's continued march towards global dominance, increased cost-killing cross-channel shopping behaviors and returns, shopper's growing frustration with brands that don't immediately fulfill their every desire – at the lowest price possible), it's becoming increasingly difficult for many retailers to know which "survival depends on it" initiative to undertake next. It is important to keep in mind that digital transformation is not the typical retail technology implementation. The usual metrics of fast ROI doesn't apply. This isn't about competitive advantage: this is simply about the ability to survive long enough to play the next round.

## Join The Modeling Revolution

Few forward-thinkers would deny that the world will become more unpredictable with time. Weather events, social norms – even TikTok-driven trends – all happen faster and less predictably than in the recent past. Digital transformation and the technologies it employs offers the ability to predict all kinds of unforeseeable patterns before they occur – to model future states – and react to them faster once they do. Don't miss out.

## Seek Out Flexibility

The COVID-19 pandemic taught a great many lessons to any retailer willing to learn. The paramount need-to-know what inventory you have – and where – is just the beginning. How quickly a brand can change its course of action to get that inventory where it is needed most – in real-time is a less in the importance of flexibility that cannot be forgotten without great peril. It is only a matter of time until circumstance necessitates such agility again. Smart retailers are doing all they can to prepare for such a day.

## Think Small To Think Big

If the proposition of investing in a series of decades-old technologies without thought to ROI seems daunting, it is. But the real effects of digital transformation are not felt by all-or-nothing, sweeping endeavors. They are the culmination of many small projects tied together under a common set of well-defined goals. While the first steps may seem intimidating, brands that have already begun this journey report that the ensuing steps become both self-evident and easier to rationalize. The

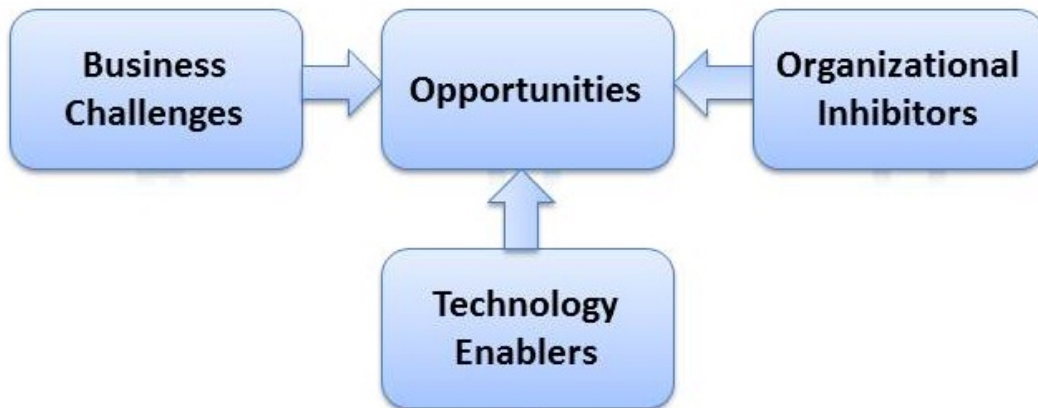
key, however, is a unifying set of goals to ride above each small undertaking, so that each plays its part in a much larger, enterprise-wide objective. As always, the time to start is now.

# Appendix A: The BOOT Methodology<sup>®</sup>

The BOOT Methodology<sup>®</sup> 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<sup>®</sup> follows:





## Appendix B: About Our Sponsor



Zebra (NASDAQ: ZBRA) helps organizations monitor, anticipate, and accelerate workflows by empowering their frontline and ensuring that everyone and everything is visible, connected and fully optimized. With an ecosystem of 10,000 partners across more than 100 countries, Zebra's customers include over 80% of the Fortune 500.

With both active and passive RFID technologies, RFID printers, labels and tags, readers and antennas to maximize performance, and software to deploy, configure and manage platforms from a single console, Zebra's full RFID portfolio enables your complete deployment with end-to-end solution simplicity.

<https://www.zebra.com/us/en.html>

## 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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