

An aerial photograph of a multi-lane highway running parallel to a coastline. The ocean is on the left, and a sandy beach is on the right. A red semi-truck is visible in the right lane of the highway. The image is overlaid with a large red rectangle containing the title and a smaller white rectangle containing the subtitle. The background is a composite of the aerial view and dark geometric shapes.

The Ahead-of-Time Supply Chain Model

WHAT IS IT AND WHAT DOES
IT TAKE TO GET THERE?

Managing their supply chain remains a priority and sometimes difficult balancing act for retailers, and this last year magnified how fragile global supply chains are, leading many to rethink their models.

The COVID-19 pandemic tipped the scales and spotlighted compounding manufacturing and distribution issues, which were exacerbated by national labor shortages. All the while, heightening consumer demands continue to put pressure on retailers to fill and deliver orders faster than ever. In today's highly competitive market, retailers are vying for consumer loyalty, but it can be hard to attain and easy to lose when supply chain snafus damage customer relationships. Strong supply chains are built with the customer's experience in mind – how is the experience tailored to them and how can it be better? What retailers are finding is that it may be time to adopt a new standard all together.

A hybrid supply-chain model that combines tactics from just-in-time and just-in-case models can have many benefits for the retailer in today's economic landscape, as well as augment customer relationships. **Enter: the ahead-of-time supply chain model.**



The ahead-of-time supply chain model pairs the cost conscious just-in-time concepts with specific just-in-case solutions that can improve supply chain resiliency. That balance of cost and risk resiliency is the new strategy many retailers are now trying to bring to life.

The ahead-of-time supply chain model will be fueled by advancements in artificial intelligence (AI), relying heavily on predictive demand forecasting models that will inform more accurate purchasing. It will also rethink manufacturing arrangements to use a broader diversity of geographic suppliers, including those close to key markets.

Traditional Models



JUST-IN-TIME SUPPLY CHAIN MODEL

Traditional philosophy to manufacturing based on planned elimination of all wastes, reduced costs, and continuous improvement of productivity.

While this approach allows retailers to focus on efficiency by only receiving inventory when needed, it can create issues when there are surges in demand and the retailer is lacking supply.



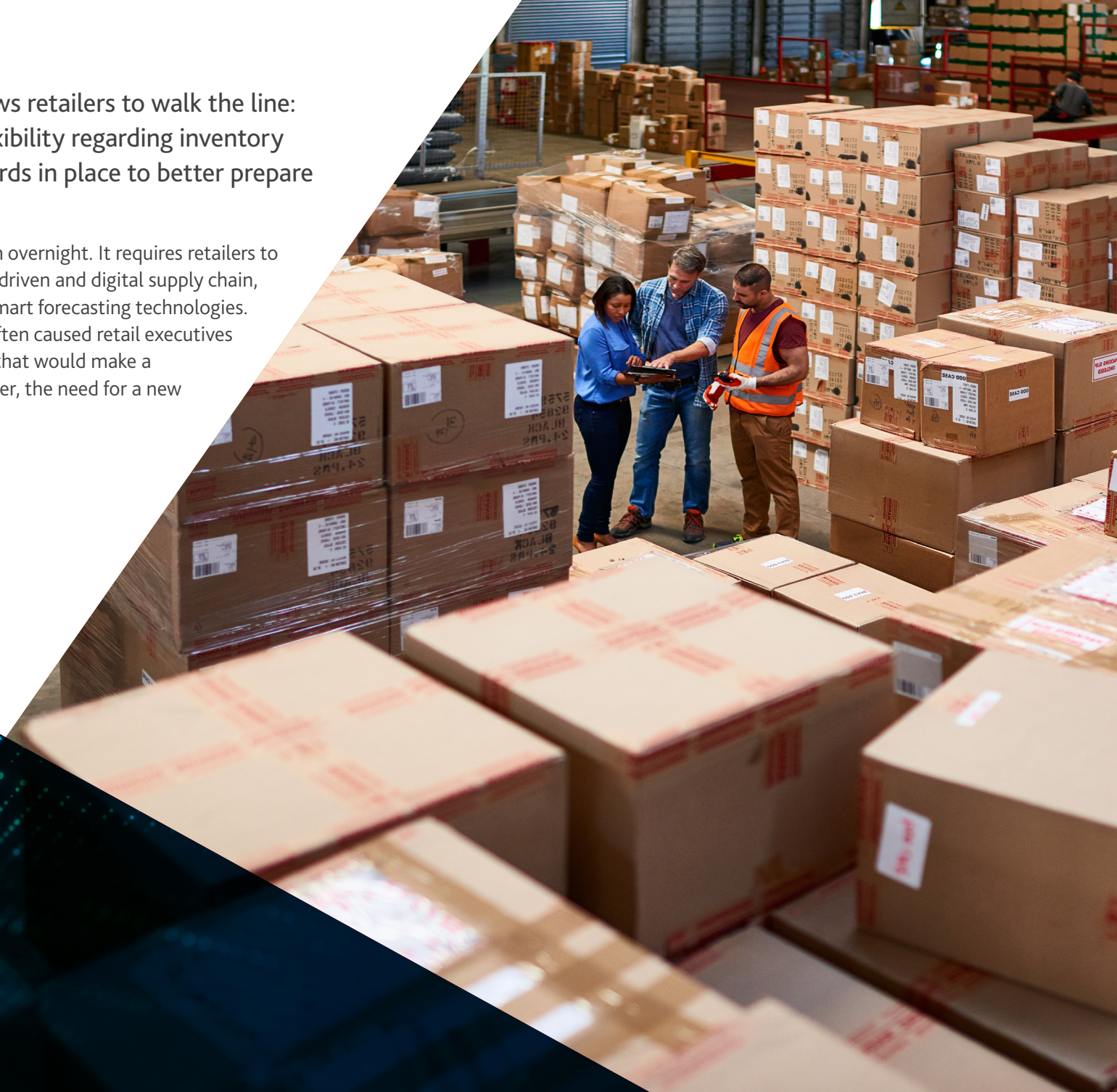
JUST-IN-CASE SUPPLY CHAIN MODEL

A production model in which inventory is provided in advance and in greater quantities than expected demand.

While retailers keep larger inventories on hand to adequately manage demand, this approach can leave retailers with excess and potential product waste.

An ahead-of-time model allows retailers to walk the line: It builds in room for some flexibility regarding inventory and demand but puts safeguards in place to better prepare for disruptions.

But moving to this model can't happen overnight. It requires retailers to make upfront investments into a data driven and digital supply chain, including logistics management and smart forecasting technologies. These expenses, at least historically, often caused retail executives to shy away or delay the investments that would make a difference. As pressure mounts, however, the need for a new model will outweigh associated costs.



Current market trends are giving way to a variety of pain points that can no longer be ignored.



Manufactures and suppliers around the globe continue to face **material scarcities**, leading to production shortages.



Factories in China are still recovering and coming back up to speed after long closures amid virus outbreaks and continued **COVID related shutdowns**.



Labor shortages across the board from truckers to warehouse and manufacturing staff to in-store employees continue to be an issue, leading to additional delays and slow delivery times.



Companies are grappling with **overextended capacity at ports** as port workers try to process the backlog of shipments waiting to be offloaded.



Consumer demand, especially for non-essential goods or products, is slowing amid increasing **inflation**. Retailers will need to carefully plan ahead to ensure their inventories do not go to waste.



Heightening consumer expectations for **same-day or next-day delivery** continue to put pressure on retailers.



Inflation led to a sharp **uptick in product prices** and many retailers are passing down costs to customers, an unsustainable long-term strategy.

For these reasons and more, supply chain bottlenecks will be inevitable for the near future. While retailers may be able to solve for one link in the chain – for example, nearshoring a supplier to get products manufactured faster – it will be difficult to remedy the entire chain until all pieces are in sync. For example, maybe the product is developed faster, but there is still not enough distribution staff to get it out of the center and onto shelves.

All of these are indicators of systemic weakness in global supply chains and further underscore the need for retailers to begin building in resiliency now.

Get Your Preparedness Score

To help you understand how strong your current supply chain is, we've developed the following self-assessment.



Check each box that applies to your company and get your preparedness score:

We are often left with extra inventory that does not get purchased.

We often struggle to receive the inventory we need or want on time.

We are often backlogged due to supplier and manufacturer issues offshore.

We have too much warehouse space not in use.

We struggle to understand and predict consumer demand or upcoming trends.

We receive more complaints than we would like related to delivery delays or customer service.

We struggle with our shipping company properly handling package volume.

We don't have as much staff as the company needs.

We have enough employees to operate but talent attraction and retention is eating into the budget.

We do not implement predictive analytics technology for demand forecasting.

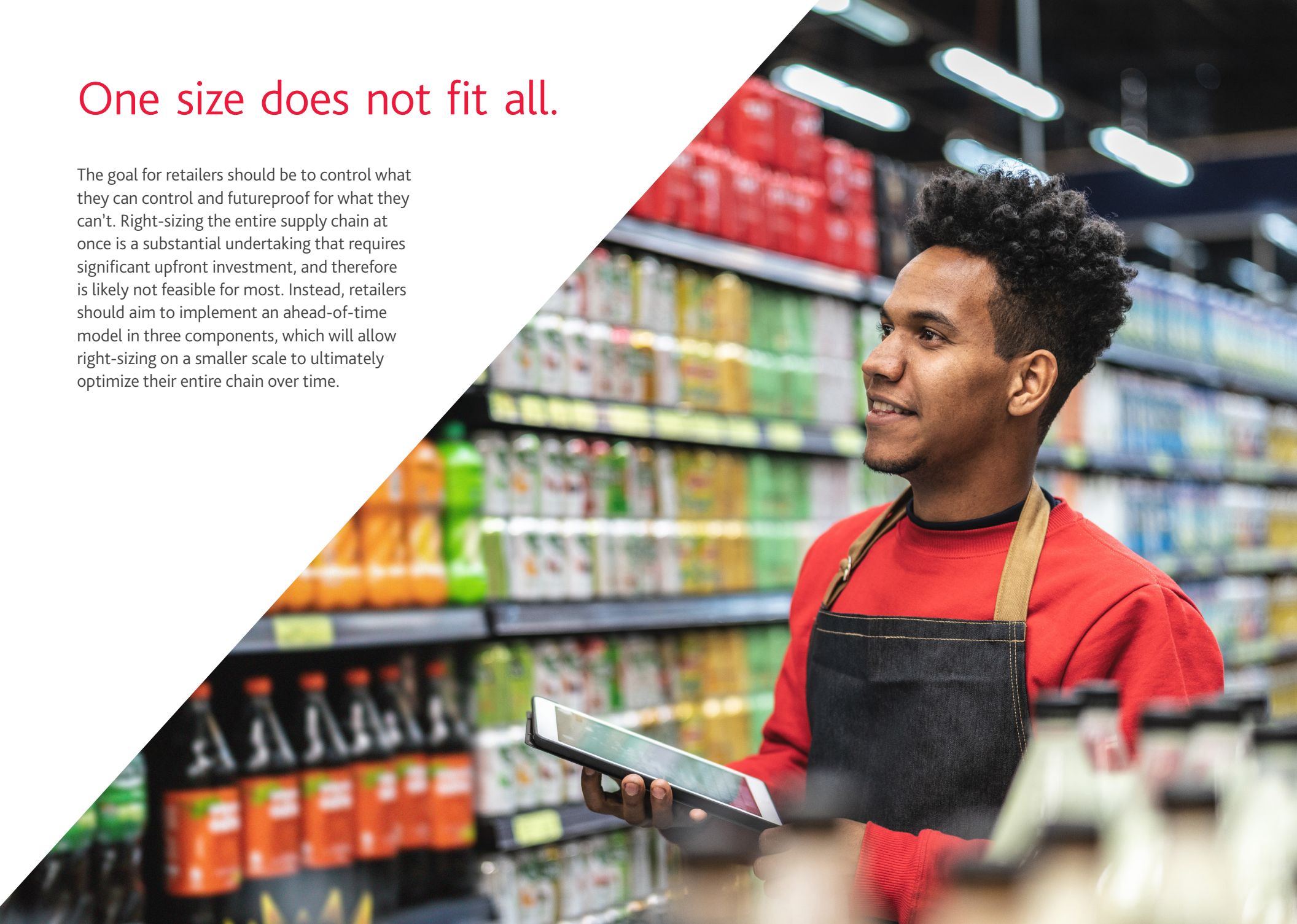
We do not implement merchandising technology.

Our company would like to run more scenario planning exercises.

If you checked **more than three boxes**, it is likely time to reassess your supply chain model. Read on to see which component of an ahead-of-time supply chain model may be right for you to start implementing based on the boxes you checked off.

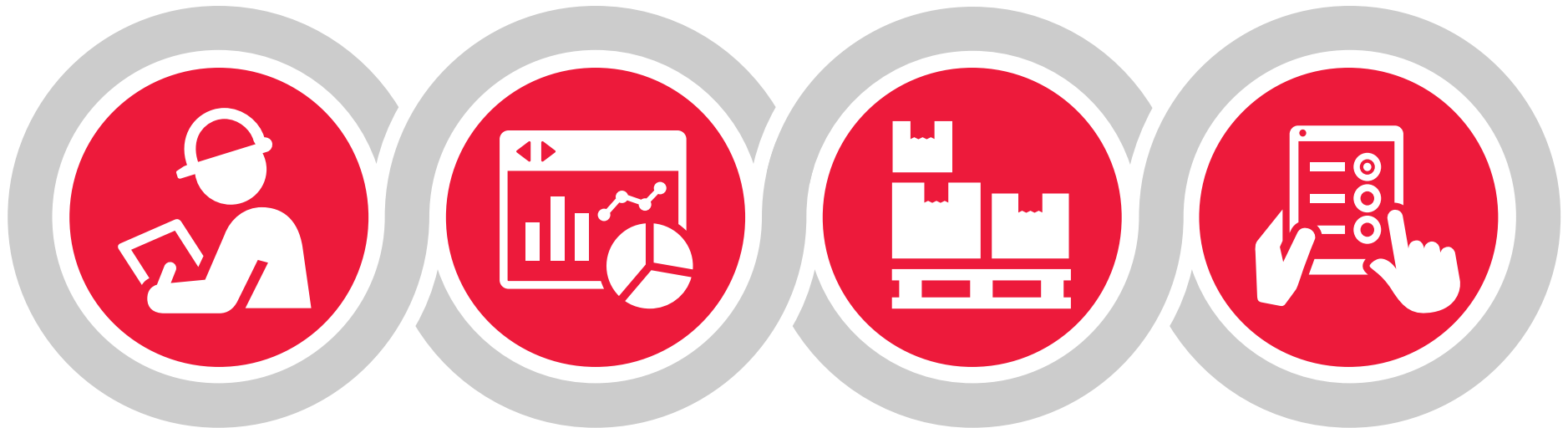
One size does not fit all.

The goal for retailers should be to control what they can control and futureproof for what they can't. Right-sizing the entire supply chain at once is a substantial undertaking that requires significant upfront investment, and therefore is likely not feasible for most. Instead, retailers should aim to implement an ahead-of-time model in three components, which will allow right-sizing on a smaller scale to ultimately optimize their entire chain over time.



Component 1: Investing in the Right Technology

An important step when moving to an ahead-of-time model is identifying and investing in the right technology. The right technology provides extended visibility for proactive decision-making and accurate forecast modeling, two key elements of optimizing any supply chain. While many technology options exist for retailers, there are several key tools to consider investing in at the beginning:



Warehouse Management Systems, Vendor Management Systems and Demand Planning Systems

These tools provide transparency into the supply chain and actionable data to better understand inventory.

Consumer-focused predictive analytics or AI

These tools are essential to understand rapidly shifting consumer trends and demand, including regional shifts in demand that can be detected and applied to inventory allocation.

Supply chain automation

Automation technology that alerts retailers to issues across the chain can greatly help eliminate bottlenecks and pinpoint where the issue is coming from so companies can act quickly to fix.

Merchandising technology

This technology creates an open line of communication between stores and their processors so retailers can glean important insights for accurate ordering.

Component 2: Highly Functional Manufacturing and Distribution Networks

Another key component of an ahead-of-time supply chain model is building manufacturing and distribution networks with vendors and suppliers that are adaptable and highly efficient. Retailers should focus on putting parameters in place that focus only on value-add operations and mitigate disruption risks. In doing so, retailers are better prepared for volatility because the downstream pieces of the supply chain would continue to run optimally. This frees up time so retail executives can focus on aligning decision-making upstream. Key considerations include:

SKU Rationalization

Analyze the current products on the shelf to understand what sells and what doesn't and eliminate the SKUs that are not performing or that are redundant. This will help optimize distribution outputs.

Process Optimization

Do a deep dive into distribution, fulfillment and delivery workstreams to find inefficiencies and right them, which will lead to overall improved profitability within the network.



Adopt a Lean Manufacturing Approach

The key in this approach is minimizing waste within your manufacturing plant. Waste is often defined as anything that customers don't think adds value or are not willing to pay for. Among many benefits, lean manufacturing can lead to faster product development and improved delivery performance.

Supplier-Vendor Portals

This technology can help introduce better information-sharing between retailers and their suppliers, giving both sides increased transparency into product availability, ultimately mitigating additional inventory risks and enhancing supplier relationships.

Component 3: Incorporating Intentional Redundancies

Supply chain resiliency isn't just about battling disruptions when they happen. It is also about proactive planning and practice. The goal of this segment is to build in redundancies to avoid a single point of failure and better understand risk exposure. Try implementing the following protocols and tools:



Digital Twin and/or Supply Chain Simulator

Simulations of supply chain logistics and operations can give clear visibility to retail executives and illuminate where the most significant bottlenecks exist or how much additional capacity is needed. Retailers can add real-time visibility into their current processes to see if their supply chain meets day-to-day needs, as well as modeled disruptions.



Scenario Planning Exercises

Engaging in various scenario planning exercises and running them routinely is critical in a post-COVID retail landscape to accurately anticipate next steps in the wake of a disruption.



Supplier Risk Assessments

Assessing suppliers and their locations can eliminate future issues fast. Retailers should look to see if there are opportunities to nearshore certain suppliers and/or incorporate backup suppliers into the chain.

Futureproofing Your Supply Chain

This last year proved yesterday's supply chain models, whether just-in-time or just-in-case, are no longer sustainable. Supply chain dysfunction will continue through 2022 and into 2023. While supply chains are slowly recovering from pandemic shutdowns and retailers are better able to build their inventory, now they are grappling with major shifts in consumer demand. Due to record-high inflation – June's inflation rate soared to a new high of 9.1% – and a looming recession, consumers are experiencing sticker shock, leading them to curb spending at virtually the exact same time retailers are finally stocked and ready for them to spend.

As the pendulum continues to swing quite wildly, the volatility retailers are currently incurring is likely to be a catalyst for change.

For many retailers, it will also be just as important to look inward when making changes as not all threats are external. Improving the employee experience can pay dividends because labor shortages and employee turnover leaves retailers at risk for damaging customer relationships.

Think about the connection employees have to each stage of the supply chain and how small improvements to their experience can improve talent attraction and retention. Investment in the employee experience often centers around provided benefits, vacation and leave policies, and even continued education or certification programs. When employees are happy, customer service is often improved.

Looking forward, it's critical retail executives balance cost effectiveness with supply chain operability as they identify ways to right-size. While most retailers will require a holistic revamp to their processes, technology, and supplier relationships to fully move to an ahead-of-time model, addressing upstream and downstream elements pillar by pillar should prove an effective strategy for navigating the future.

Executives who take stock now and invest in the appropriate technologies and talent, rather than wait for the next massive disruption, will build resilient supply chains that can stand up to the complex challenges of today's retail ecosystem.



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Where to go from here?



No matter where you scored on the self-assessment, the first step before any change is shifting your mindset. Retail leaders who adopt nimble mindsets are best positioned for innovation.



Supply chain improvements should always be centered around the end customer. Take a moment to think through your customers' experience and identify ways you can better stay connected to their changing wants and needs.



Understanding your posture after taking the self-assessment is important, but it might not be straightforward. Consider working with a third-party provider or consultant who can help you map a plan that drives results.

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TED VAUGHAN

Assurance Office Managing Partner for
BDO's Retail & Consumer Products Practice
214-665-0752 / tvaughan@bdo.com



R.J. ROMANO

Managing Director
Supply Chain Advisory Practice Leader
412-315-2453 / rromano@bdo-ba.com



NATALIE KOTLYAR

Assurance Partner
Retail & Consumer Products Industry
National Practice Leader
212-885-8035 / nkotlyar@bdo.com

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