



# Navigating the Next Steps in AI-Powered Retail Planning



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Today's retailers can leverage powerful interactive visualizations, machine learning algorithms and artificial intelligence (AI) as part of their supply chain management efforts. Early adopters with a proactive AI strategy have enjoyed profit margins greater than 5%, according to a November 2017 McKinsey study<sup>1</sup>.

Using machine learning and AI capabilities within their retail planning platforms, retailers can successfully navigate the next steps in their digital transformations while avoiding costly pitfalls, taking advantage of key opportunities for greater efficiency and driving revenue.

Forward-thinking retailers will build a foundation of four goals to overcome current and future supply chain challenges:

- 1. Proactively Anticipate Potential Stock-Outs**
- 2. Prevent Cart Abandonment With Automatic Replenishment**
- 3. Dynamically Allocate Inventory To The Right Locations**
- 4. Maintain Inventory Levels To Meet Demand Spikes**

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<sup>1</sup> McKinsey, "Digital Transformation: Raising Supply Chain Performance To New Levels," 2017



## GOAL ONE:

# Proactively Anticipate Potential Stock-Outs

Out-of-stocks  
cost North  
American  
retailers  
**\$144.9 billion**  
annually.

- IHL GROUP

Stock-outs are a recurring problem for many brands. They chip away at potential sales and can have long-lasting effects on customer satisfaction and loyalty. Knowing in advance where potential stock-outs lurk is critical for retailers that want to delight their customers at every turn.

The efficiencies found through centralization have led to the consolidation of merchandising activities at the regional or even the corporate level. This makes focusing on the needs of one location — to align product orders and replenishment schedules with buying forecasts and trends — too big a job to handle manually.

Brands don't just need to forecast trends correctly. They also need to dig into the data at a granular level so the right merchandise is available for the likely profiles of consumers at the point of need. Different regions may lean toward a particular color palette, for example, or favor certain styles.

For many retailers, the data is all there, sitting in spreadsheets and disparate systems, just waiting to be found. The problem? From a human perspective, taking in and analyzing all of that information is nearly impossible. Trying to compile everything into something that's usable is overwhelming. The complexity of the task is just too much.

### **Stock-outs are the natural result when the process breaks down.**

Machine learning, with its ability to address those gaps and identify the inventory needs of individual stores, can be a real game-changer in the world of stock-outs. Retailers can use AI to turn large volumes of data into actionable insight. Even if the information comes from several different sources, the right AI platform can bring everything together, examine the details and quickly unearth the patterns retailers need to help them satisfy their customers' demands and avoid stock-outs. It's a powerful advantage in an increasingly competitive marketplace.

<sup>2</sup> IHL Group, "Out of Stock, Out of Luck," June 2018



## CASE IN POINT

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In apparel, it isn't good enough to have a shoe in stock. A store needs to have that shoe available in the right gender, size width and color. *A single style easily could have more than 100 different SKUs.* Amplify that across the entire catalog, and across hundreds of store locations in several countries.

For example, an intimate-apparel retailer that offers a highly complex merchandise offering across a multi-country retail network must meet the needs of each location as well as size and style variations by country, culture and demographic. Spreadsheets and manual review of plans slows the process of allocating the right merchandise to the right location at the time needed. This retailer relies on machine learning to enhance its size optimization to precisely serve the needs of each location while reducing costly transfers and lost sales.



## GOAL TWO:

# Prevent Cart Abandonment With Automatic Replenishment

Big data has enabled leading retailers to increase forecasting accuracy for new stores by up to **93%**.

- KPMG<sup>3</sup>

Much of retail planning centers around optimizing distribution. Merchants want to allocate lower amounts initially, process the demand signals they receive so they can understand where products are selling, then replenish locations based on demand-sensing signals. Using that information as the trigger, innovative retailers will often manage larger holdbacks to drive better margins.

Looking at customer and product profiles by retail locations can be a monumental task for one person or even a team of people. Add e-Commerce product sales on top of that, and not only is a manual review of the data out of the question, it's unlikely anyone could begin to develop any kind of replenishment strategy before the information goes stale.

This is the type of manually intensive work that's perfect for the power of advanced analytics driven by AI, which can automate much of the function, evaluating incoming data and prioritizing replenishment orders. With the right technology in place, retailers may only need to touch one of every five orders, freeing up staff to work on higher-level tasks, from promotions to new merchandise plans for retail locations that can better incentivize sales.

There are other risks that machine learning can help brands avoid. Inventory that isn't sold during its intended season begins to erode margins and hurts the company's overall profitability. Automated replenishment moves merchandise where it's needed and ensures that less of it reaches the discount rack. Where different pockets of inventory exist (think: e-Commerce versus wholesale versus retail), a merchant that isn't able to visualize its merchandise in a holistic way may not have the insight it needs to make the best decisions about where to deploy products to keep its customers happy and maximize inventory investments.

<sup>3</sup> KPMG, "The Future of Retail Supply Chains," May 2016

## CASE IN POINT

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A store in a growing suburban area is not on the priority list for inventory replenishment based on outdated customer demand metrics. As shoppers notice a recurring pattern of empty shelves, they switch their buying preference to a competing retailer. Some of those customers may never return.





### GOAL THREE:

## Dynamically Allocate Inventory To The Right Locations

**30% of retailers said they need to respond to customer mandates for faster, more accurate and unique fulfillment as a top business priority moving forward.**

- LOGILITY<sup>4</sup>

Every time a retailer touches merchandise, it erodes margins. Getting products to the right place when they're needed — without unnecessary trips in between — is both cost- and time-effective. But while some retail locations may be in contact with their primary distribution center to help facilitate efficient allocation, few have visibility into the inventory available in other distribution centers and stores. AI supports dynamic sourcing capabilities within the network to enable streamlined allocation across the entire retail portfolio.

Merchants that adopt machine learning also gain the ability to tap into entirely new data sources that can help drive better inventory allocation decisions. Syndicated data, such as weather patterns that could influence demand in particular regions, becomes available as part of the information stream.

The power of AI can take in multiple types of syndicated data simultaneously and analyze where, when and how the overall selling profiles and traffic flows are likely to be influenced by each component. If stores need to be moving the next collection in sooner than initially planned, the retailer will have access to that insight and can take action during the prime time window. Alerts driven by AI further enhance supply chain management efforts, highlighting areas where the organization is under- or over-performing and allowing staff to make high-value decisions on improving the allocation process.

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<sup>4</sup> Logility and APICS, Webcast: "Accelerate Supply Chain Performance Using Advanced Analytics", 2018



## CASE IN POINT

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A retailer has planned in advance, looked at historical data and used forecasting to refine those plans. But then winter comes early to the Northeast while temperatures continue to swelter in the South. Seasonal plans for multiple regions are pulled out of sync with each other and thrown off schedule by several weeks.







#### GOAL FOUR:

## Maintain Inventory Levels To Meet Demand Spikes

**19% of supply chain leaders said they want to leverage machine learning to improve their company's forecast accuracy.**

- LOGILITY<sup>5</sup>

There's another supply chain challenge catching retailers off guard.

Demand spikes — particularly those driven by promotions and new product introductions — are among the most difficult signals to read when it comes to determining the right amount of inventory to have on hand. Even brands that have historically kept pace with event-triggered demand levels are finding themselves in difficulty as business moves faster and competition increases. Some retailers have already shifted their strategy and are planning to the week, but in the current environment some of them should be reacting at a daily level. It's a complex, time-sensitive process that doesn't tolerate delays.

But rather than a lack of data around demand spikes, there's often too much information coming in to effectively identify demand levels. Using AI to harvest and analyze demand data helps merchants navigate inventory distribution risks in a demand landscape that's moving faster than ever.

AI elevates the entire demand forecasting workflow, and does it very quickly. Through the application of the appropriate algorithms, retailers are able to gain critical awareness of what's in the plan or outside the plan. They'll have the information necessary to take action when it's still meaningful and meet customers' needs. This enables retailers to be comfortable sending out much lower amounts of initial inventory because they know their system will deliver the insight they need to drive accurate and timely replenishment decisions.

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<sup>5</sup> Logility and APICS, Webcast: "Accelerate Supply Chain Performance Using Advanced Analytics", 2018

## CASE IN POINT

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Weekly reports are crucial for good planning, but it can take staff a month or more to gather all the necessary data. The cycle leaves the retailer dangerously behind the demand curve. Once the insight is eventually compiled and evaluated, it's too late to do anything useful, and the process begins again in hopes the retailer can take timely action before the next spike.



## Conclusion: The Future Of Retail Planning Is Here

28% of businesses see the ability to blend data from multiple systems for complete supply chain visibility as a key benefit of an advanced analytics initiative.

- LOGILITY<sup>6</sup>

In today's digitally competitive retail marketplace, planners need more comprehensive data driving their decisions and a better way to visualize all factors influencing the supply chain.

Bringing together the power of back-end systems into one interface — with deep dives into key data sets and alerts around best practices and recommended next actions — will position merchants to move their supply chain management strategy forward. The right technology tools can be used to improve forecasting, facilitate faster data acquisition and analysis, and develop higher-performing inventory management strategies.

In short, AI and machine learning can fundamentally change the direction of supply management and retail planning.

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<sup>6</sup> Logility and APICS, Webcast: "Accelerate Supply Chain Performance Using Advanced Analytics", 2018



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