Inventory Management in Apparel Retail

Optimizing Inventory Levels To Maximize Profitability

Consulting-Outsourcing-Capability Building

A White Paper by Weave Services Limited

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"Inventory is one of your largest assets, but also one of your biggest liabilities."

- John Horten

Inventory – A Strategic Asset

Overstocks and out-of-stocks cost retailers $1.1 trillion globally. While inventory management has always been an issue for retailers, the problem has been exacerbated with the advent of e-commerce and increased access to substitute products. Shoppers are becoming increasingly difficult to serve as they expect retailers to provide more product variety and higher levels of customization all at lower prices. The result: it is harder now than ever for retailers to maintain healthy inventory levels.

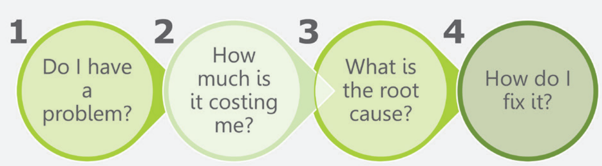

Exhibit 1: Key questions to ask to improve the inventory health of any organization.

Inventory health is determined by a complex chain of events: buyers need to forecast and order accurately, suppliers need to deliver the right quantities at the right time, distribution needs to ensure the product reaches the stores, and the stores themselves need to get product onto the shelves. When inventory issues occur, it can be unclear who or what has caused it—making the problem very difficult to fix.

To understand the health of your organization's inventory, we recommend following the simple four step process highlighted in Exhibit 1. Start with determining whether your organization has an inventory problem. An effective way to accomplish this is to compare your inventory KPIs to competitors and industry benchmarks.

Next, calculate the financial impact of inventory mismanagement in the organization. Doing this requires understanding the impact of stock outs (lost sales, expediting) and understanding the impact of carrying excess inventory (carrying costs, markdowns).

Before diving into solutions, gain a thorough understanding of what is driving the issue. We recommend hypothesis driven problem solving to find the root cause. Use preliminary data analyses and input from experts to validate or eliminate possible hypothesis as you search for the root cause.

Once the root cause has been successfully identified, it is time to fix it. This step can involve the implementation of new processes or tools, changes to the organization's structure, or training to improve knowledge and skills. With any of these 'fixes' change management is critical to ensure the change sticks.

Do I have a Problem?

Inventory management is the ultimate balancing act: how to reduce the cost of holding and transporting goods, while meeting customer service targets. Companies are continually working to find optimum levels of inventory that can maximize profits, production/logistics efficiency, and customer service.

Benchmarking against competitors is an effective way to analyze the effectiveness and efficiency of your buying practices and inventory management. Common KPIs for identifying inventory problems include fulfillment rate, weeks of supply, and inventory turns.

Inventory turnover is a ratio showing how many times a company's inventory is sold and then replaced over a period of time. It measures the amount of capital invested in inventory. The higher the ratio, the less inventory the firm is keeping in relation to its sales.

The average apparel retailer sells through their entire inventory 3.53 times per year[1]. A lower than average inventory turn is a sign that a company is carrying too much inventory. A higher than average inventory turnover suggests a brisk business: robust sales coupled with lower holding costs. However, a high turnover only works if the company is not unnecessarily discounting or running out of merchandise.

1 IBISWorld Industry Report
2 Retailer Owner Industry Benchmarks: Inventory Turns

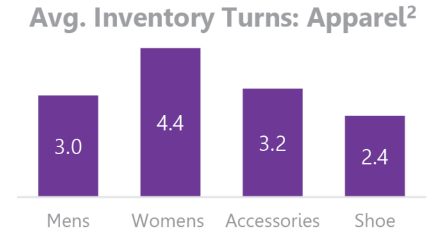

Exhibit 2: Average inventory turns for apparel retailers by category

How much is it costing me?

Lost sales are selling opportunities that you missed because an item was out of stock. 57% of shoppers faced with a stock-out end up purchasing the same item at another store[1]. This can be detrimental to revenue. Not only do you lose the sale of the product, but customers may decide to buy their whole basket of products elsewhere.

Research has shown that there are varying reactions to missing goods based on the type of product consumers are looking to purchase. In apparel, basic items (i.e.. plain t-shirts) will be substituted more easily than trend-based seasonal inventory.

Carrying more inventory than is optimal can also be costly. You have to warehouse it, insure it, consider depreciation, limit cash flow, and risk obsoletion. Carrying cost can be as high as 40% of the value of the inventory, and are on average about 20-25%.

To fix the issue of excess inventory, products are often sold at a deep discount, hurting gross margins. With the apparel sector using historic levels of promotion to counter declining customer traffic, significant discounts are required to clear through excess stock. 30% off promotions no longer move the needle. 45% of women need to see a discount of at least 41% to consider entering a store[2].

Beyond markdowns, retailers use liquidation and even donation as final steps to clear excess inventory. Estimates show that dead inventory is costing the US retail industry approximately $50 billion a year [3]!

What is the Root Cause?

Correcting availability problems begins by better understanding their root causes. While it may sound surprising, few retailers have a good grasp of where, when, and why they transpire.

Creating an issue tree is a valuable tool for examining hypothesis of inventory mismanagement. Exhibit 3 shows a basic example of how to breakdown the root causes that could be driving out of stocks in your business. From there, analyze KPIs across the tree to narrow in on potential issues across the value chain impacting inventory.

Execution issues can occur at any point across the product-to-market lifecycle, impacting inventory levels. Incorrect purchase orders are created. Products are lost or damaged en route from factories. Shrinkage occurs in distribution centers. Products fail to make it from the back of house to the sales floor.

Forecasting demand is a key driver of inventory availability and often a large root cause of issues. Over forecast and you end up with excess product. Under forecast, and you could run out of stock. Creating accurate forecasts has always been a challenge for retailers, and it is getting harder with increased demand distortion. Bigger promotions, more frequent collections, and extreme seasonality are just a few factors driving complexity. By their nature, forecasts are (almost) always wrong. Retailers can reduce error rates by correcting sales history - cleansing data of promotions, correcting for out of stocks, and removing outliers. If forecast accuracy can be improved on an aggregate level, safety stock levels needed to hit target fill rates can be lowered, and the bottom-line will benefit.

But even a near perfect forecast relies on manufacturing partners to deliver specified products by required dates. Working with suppliers who fail to deliver product on-time and in-full will create inventory issues. Orders that are delivered too early or with a quantity above the specified amount will drive excess inventory. Orders that are late or short on quantity can lead to insufficient inventory—it's a balance.

How do I Fix my Issues?

There is no one size fits all formula for inventory optimization. The optimal solution will depend on issues that need to be fixed and the return on investment for changing. Below, are a set of general strategies proven effective by best in class retailers.

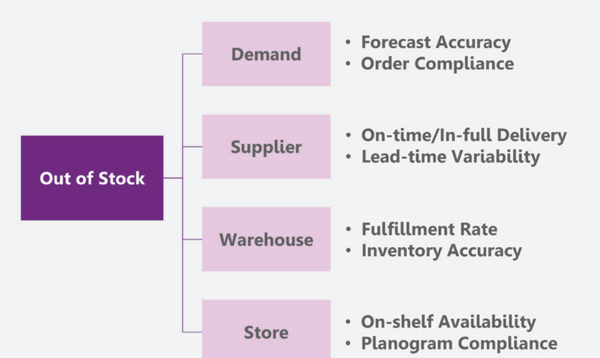

Exhibit 3: Root cause analysis of out-of-stock items will determine course of action to minimize future occurrences.

1 Harvard Business Review, Stock-Outs Cause Walkouts
2 Markdown Mania: Consumer Perspectives on Retail Discounting Strategies: First Insights
3 Forbes 2017, Markdown Death Spiral

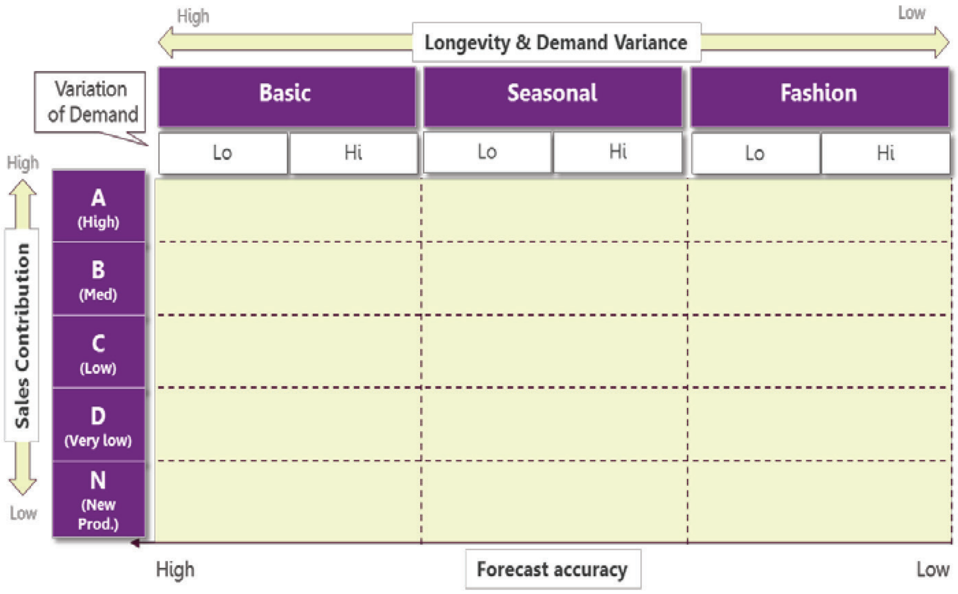

Exhibit 4: ABCDN inventory segmentation combined with a product based segmentation technique

Retailers can use these groups to quickly and easily identify inventory management techniques. For instance, they may put more time and money into cultivating relationships with suppliers of "A" products to reduce the risk of these products going out of stock.

Statistical Safety Stock

If demand were predictable and suppliers always reliable, retailers could operate without any safety stock. Unfortunately, neither case is true, so retailers hold safety stock as a buffer against fluctuations in supply and demand. Safety stock helps meet customer service targets and reduces stock outs. But, it comes with a cost.

Product Segmentation

Product segmentation is the foundation of any inventory management strategy. It is difficult to manage hundreds, or even thousands, of items everyday with informed decisions. Therefore, retailers should focus on the items that matter most. Segmentation simplifies inventory management by defining products into groups.

There are many ways to segment inventory. ABCDN segmentation identifies new products as well as the small percent of items that generate the majority of sales. Product-based segmentation uses the longevity of the product and the product's demand variance to define groups. In this approach, Basic/Core products will be the longest living items with the least demand variance while fashion items will have a short time on offer and high demand variation. Exhibit 4 shows a framework for combining ABCDN and product based segmentations.

While the use of gut feelings or fixed levels are easy to execute, a sound mathematical approach to safety stock will provide more accurate results. The most common approach is based on the standard deviation of demand and supply variability. Standard formulas account for several variables: order frequency, lead-time length and variability, forecast accuracy, and service level target. Each organization must identify acceptable service levels. Setting safety stock involves finding the right balance between acceptable inventory cost and the failure to fill customer orders within an acceptable time. Service level targets can be set independently for product segments based on criteria such as strategic importance, profit margin, or dollar volume. SKUs with greater value to the business will have more safety stock.

Lead-time Reductions

Lead-time is the length of time between when an order is

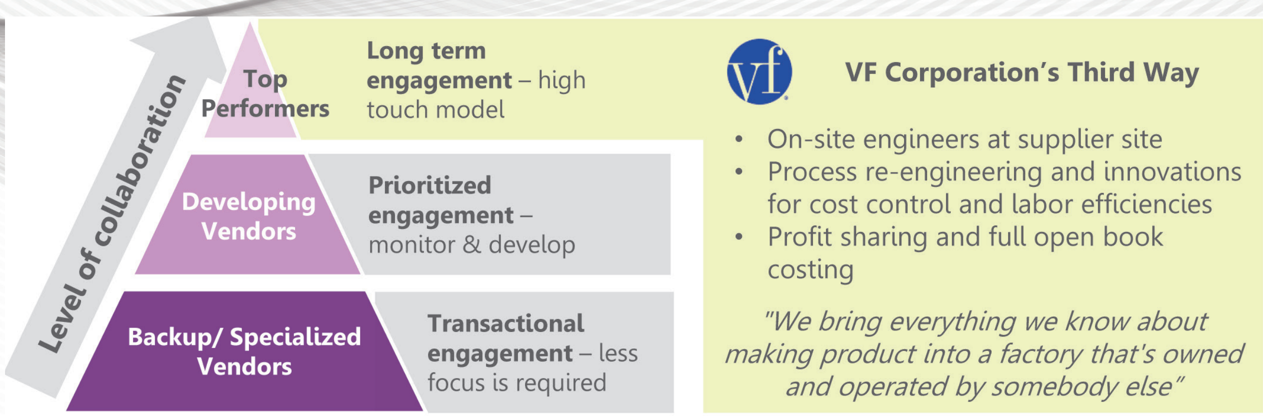

Exhibit 5: Vendor tiering identifies key suppliers for strategic partnerships along with best practice case study.

placed and the date the goods are available for use. Reducing lead-time can help optimize inventory levels. Forecasting demand 6-12 months ahead of product launch is a challenging way to meet customer expectations. Forecasting closer to market allows retailers to keep up with customers' fickle demands and avoid investments that will result in excess inventory.

For items that unexpectedly exceed predicted demand, a short lead-time allows for quick replenishment back into stores, minimizing the impact of lost sales. Lead-time reductions can also help reduce overall inventory levels on replenishment items. Products with long lead-times and high variability will require additional safety stock. Cutting lead-time allows retailers to reduce overall inventory buffers freeing up extra cash for investment. To learn more about lead time reduction, refer to Weave's Speed to Market whitepaper.

Strategic Vendor Collaboration

Retailer-Supplier relationships do not have to be a zero sum game. Long-term, collaborative partnerships can be developed that are mutually beneficial to both parties. Strong partnerships may include sharing of sales and stock information or investments in time or resources to jointly improve capabilities. Sales and Operations Planning (S&OP), Collaborative Planning Forecast and Replenishment (CPFR), and Vendor Managed Inventory (VMI) are examples of how retailers and manufactures are breaking down external barriers to collaboration and visibility.

Combining the data and intelligence of trading partners in the planning and fulfillment of customer demand can lead to inventory improvements. Best in class partners manage a single shared forecast of demand across the value chain eliminating the bull whip effect and improving forecast accuracy.

Transparency and trust are essential for sustained success. Start by focusing on a few deep relationships with high preforming, high potential partners. These partners will form a close-knit network of vendors that continuously learn, improve, and prosper along with their retail partner. Exhibit 5 is an example on how to adjust collaboration strategies across tiers of vendors. Collaboration programs should only be pursued with the top tier of vendors with whom you are comfortable sharing your data.

Optimizing YOUR Inventory

Inventory is one of your largest assets, but also one of your biggest liabilities. Since inventory represents such a large investment, improving inventory management promises a significant return on investment. If you are not hitting your customer service targets or believe you are carrying too much inventory, we can help.

Weave's suite of flash diagnostics are propriety tools designed to deliver meaningful insights within one week. The diagnostic provides a baseline of key performance indicators and suggests ways to tackle inventory problems by better understanding their root causes. Both quantitative and qualitative analysis are conducted to better understand challenges impacting supply and demand .

Conventional wisdom would have you believe that providing customers with the best inventory service level requires the largest inventory expenditure. But what if you could get better overall service levels to your customers, while also saving money invested in inventory? Email us at weave@ weavenow.com to learn more.

Putting it into Practice

Weave Case Study

A $14B American department store with over 300 US stores faced inventory issues as they switched from a vendor in Asia to a vendor in South America and phased out existing styles for the assortment.

The client partnered with Weave to build an integrated business planning replenishment model for their Men's dress shirts.

Through a combination of collaborative planning and advanced analytics, the outsourced solution has improved sell-thru and in-stock rates.

Weave's executive dashboards provide deep insights into the supply chain's performance and a forward looking view to proactively identify issues.
As part of the solution, Weave worked with the client on assortment optimization to drive better quality of inventory across their stores.

Based on the sale distribution across sizes and colors, Weave clustered multiple assortment plans for evaluation. Store criteria were defined for choosing the best assortment plan and the program's sell-thru performance was simulated at different scenarios against demand drops.

The new assortment that resulted from the exercise yielded a 5% overall reduction as less stores now carry the SKUs that contribute in the last 20% of sales.

The rebalancing of inventory successfully increased sales and eliminated dead stock.

Improved sell-thru
2.4%

Sales per week
4.0%

Net store inventory
0.3%

Inventory Flash Diagnostic

Inventory is one of your largest assets, but also one of your biggest liabilities...

Improper management of inventory will lead to lost sales or high working capital costs.. The Weave Retail and Operations Diagnostic can identify opportunity areas for reducing lost sales from understock and inventory carrying costs from overstock. All within **1 week !**

5

Key questions will be answered by the diagnostic

1. Is the company operating at the right **level of inventory**?
2. Are problems due to high **Demand Variance**?
3. Are problems due to high **Supply Variance**?
4. What are the **financial implications**?
5. How **mature** are my supply chain operations?

Contact us at weave@weavenow.com to learn how our Flash Diagnostic can bring meaningful insights to your business

About Us

Weave Services Limited is consulting firm specializing in retail, apparel and footwear. Our unique business model aims to deliver lean and responsive supply chains through our three services: Consulting, Capability Building and Replenishment & Analytics.

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