RETAIL OUT-OF-STOCK MANAGEMENT: AN OUTCOME-BASED APPROACH

Your customers get what they want, when they want and wherever they want
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While merchandizing and supply chain managers are constantly working on lowering Out-of-Stock (OOS) levels and controlling inventory investments, most retailers fall short of sales forecast for fast moving items; at the same time, inventory accumulates in other categories. An Aberdeen research indicated that 70% of the surveyed 120 retailers rated the performance of their inventory management function as average or below average.

The purpose of this paper is to comprehend ‘merchandise management challenges’ of retailers, especially those related to OOS, and understand how businesses can gain from a Key Performance Indicator (KPI)-driven process framework that aligns stock performance with corporate objectives.

The Retail Industry Today

Today, retail organizations are in a flurry to consolidate their existing operations, step into new markets, adopt new channels, and find innovative ways to enhance customer experience levels. Hyper-local retailing or “store of the neighborhood” is one definitive trend for brick-and-mortar retail. The natural outcomes of this phenomenon are store specific assortments, promotions and planograms. Amidst these developments, the inventory management function – ensuring that the right product is at the right location and when the customer wants it - is assuming greater importance.
However, most retailers find that despite leveraging the latest technology tools, inventory bottlenecks continue to persist. According to a GMA study, worldwide OOS levels for fast moving consumer goods average at 8% and result in losses of up to 4% of retail sales. During promotions and holidays, these losses are much higher. In the long term, OOS impacts not just revenues but also customer satisfaction and brand equity. In-spite of the industry initiating multiple supply chain improvements programs, such as CPFR and RFID, the OOS averages have sustained at these levels over the past decade.

**Key Challenges in Managing OOS**

**Data Management**

Data management is a crucial problem for retailers. Quality of item data and data synchronization are of paramount importance in the retail business as they directly affect ordering and forecasting. Frequently, product addition and deletion updates do not show on the company’s systems thanks to multiple entry points and siloed systems. Low levels of inventory accuracy also pose a challenge, phantom inventory often leading to OOS.

**Item Availability**

Inaccurate demand forecasts lead to problems with product availability. Ideally, forecast of demand and sales should match, but this is in reality a rare occurrence due to sales variances caused by OOS. The GMA research shows that on average, 47% of OOS events occur due to erroneous forecasts. Even when accurate predictions are made, replenishment issues arise. Supplier shipment problems, inefficient delivery cycles, improper shelf facings and non-optimal use of shelf capacity all result in inefficient store and shelf replenishment.

**Assortment and Space Planning**

In addition, there are challenges linked to shelf space allocation. Instead of using demand and performance as criteria, retailers allocate shelf space based on case pack size for most products. Besides, low planogram compliance due to lack of localization and the long time taken to adopt to planogram changes serve as merchandizing hurdles.

**Proposed Approach – Operational Alignment to Organization Goals**

In order to address the above issues, we propose a KPI-driven process approach towards management and execution of merchandizing functions-master data management, in-stock and availability management, assortment and space planning. The three-step approach is focused on answering the question “How can I improve alignment to a desired goal?” This is enabled by establishing a cause-and-effect relationship and validating the same through analysis of transaction-level process data.

**Step 1 - Identify Key Performance Measures and Set Targets**

OOS level is a primary measure of category merchandizing effectiveness. But treated in isolation, this can lead to high inventory holding and logistics costs. An MIT research found that the OOS rate improved steadily as safety stock increased from 0 to 20 weeks (in the test sample) but remained fairly constant after that. Yet it is not rare for category managers to keep excessively high service levels to hedge against supply chain contingencies. Days/weeks of stock holding and overall logistics costs could be used as KPI counterweights to OOS.

Once the KPIs are identified, it is important to develop consistent mechanisms for measurements and target setting. The targets could be derived using industry benchmarks or through analysis of the firm’s historical data. While some KPI targets might be category specific – for instance the acceptable levels for OOS in a “destination” category are different from those in a “convenience” category – it is worthwhile to have overall corporate level targets as well.

**Step 2 - Focus on Root Causes**

The dip in performance of a key measure is a symptom for underlying inefficiencies in the inventory management process. Multiple studies have been conducted to identify the possible root causes of over-stocks and stock outs. The list of root causes includes data accuracy, order cycle, planogram compliance and forecast-sales variance.
A framework that quantifies these root causes and ties them to the appropriate KPIs should be developed. This would enable an inventory analyst to prioritize his/her efforts on a particular process issue that is causing the most severe impact on a KPI.

Step 3 - Drive Action Plans at the Lowest Transaction Level

Eventually, the rigor in analysis should be reflected through a view of the process that throws up actionable insights at transaction level; such as ‘a specific SKU’ that has high forecast errors or ‘a specific supplier’ with poor delivery metrics. With these inputs targeted process interventions can be driven.

To put it all together with, let us take the example of supplier on-time delivery. Lead time variability is a key performance driver (or root cause) for stock-outs and even overstocks. It is difficult to plan replenishment cycles when the delivery date is not certain and these items often suffer with high OOS. At the same time, the supply chain analysts over order these items to compensate for delays – resulting in alternating periods of high stocks and stock-outs. With reduction of lead time variability as the objective, interventions like vendor segmentation, score-carding, and changes in delivery schedules can be introduced for the erring suppliers. The framework can also be used to track supplier chargebacks for service level compliance. Moreover, supplier minimums can be regularly reviewed to avoid batching delays.

What is the Benefit Potential for Retailers?

Revenue Impact

OOS level improvements can have a significant impact on revenue - a 5% reduction in stock-outs can boost revenues by about $20 million on a base of $10 billion. Stock availability for localized assortments results in satisfied customers and is likely to lead to additional business in the future.

Cost Reduction

Improvement in shipment service levels drive down safety stock requirements. Inventory data mining enables case size optimization based on sell through and provides markdown/clearance recommendation for ageing stock. Overall, it leads to reduced inventory holding for the retailer, which in turn lowers costs and improves cash flow.

Productivity Improvement

Replenishment lead times are reduced by implementing SLA-driven standardized processes for order entry and maintenance which eventually results in better in-stock levels. The approach also facilitates tracking of open orders and monitoring of delivery SLAs. The framework doubles up as an early alert mechanism allowing timely detection of unanticipated trends and prompting immediate remedial measures. Further, this model supports Management by Exception, wherein thresholds for exceptions and alerts are set.

Conclusion

Retailers need to manage availability of hundreds of thousands of SKUs across numerous stores and multiple channels. With customers getting more demanding than ever and product lifecycles shortening, inventory management will remain one of the top retail priorities.

This paper proposes a framework that will enable retailers to identify areas of value leakage in the inventory management process, and will recommend possible process interventions with improvement to end outcomes and KPIs as the primary objective.

While it is impossible to attain zero stock-outs without prohibitive inventory investments, the lack of any perceptible improvement in average OOS levels suggest that lot remains to be done in this area. At the same time, this challenge presents an exciting opportunity to retailers to improve profitability & customer satisfaction, and drive growth in difficult times.
References

1. A Comprehensive Guide To Retail Out-of-Stock Reduction In the Fast-Moving Consumer Goods Industry: A research study conducted by Thomas W. Gruen, Ph.D., University of Colorado at Colorado Springs, USA and Dr. Daniel Consten, IE Business School Madrid (funded by P&G with GMA, FMI and NACDS as partners)

2. Inventory Optimization: Retail Strategies for Eliminating Stock-Outs and Over-Stocks, Aberdeen Group, Sahir Anand, Chris Cunnane - May 2009

3. A Diagnostic Analysis of Retail Out-of-Stocks, Yong Ning Foo at MIT, September 2007
About the Author

**Rajat Kaul** is a practice lead for Retail BPO at Wipro. He develops business solutions that leverage process and technology to drive value for Retail clients. He has over 13 years experience in Merchandising and Supply Chain functions with retailers in US and UK.

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