

w h i t e p a p e r

MANAGING MARKDOWNS: Why Prevention Is Better than the Optimization Cure

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Markdown Optimization has become all the rage of retailers and retail technologists, but what is a markdown and how should we optimize it? A simple definition is a reduction in price, or the amount by which a price is reduced. To mark down is to alter price in order to raise demand.

At one time retailers called this exercise 'clearance' and marked down the price of their goods just once a year, if ever. That was in the annual sale, a time when demand was low and the retailer wanted to clear excess stock in order to make way for new products. Today markdowns are a continuous process for the retailer. Clearance sales are seldom annual events. They may be seasonal, and in the fastest moving retailers – fashion in particular – the retailer may choose to mark down items literally every week.

For some retailers the process of marking down products has shifted from being an exercise designed to manage the end of the product's life to becoming a promotional tool in itself...and customers have noticed.

Whether actively promoted or not, if markdowns are near-continuous, regular shoppers become accustomed to the process. This not only increases off-price demand, but also can decrease full-price sales. As some retailers assume ever more aggressive markdown strategies, the net effect is a serious erosion of price and more importantly margin much earlier in the product's lifecycle. Promotions are one of the reasons commonly given for Kmart's near demise. It has been estimated that some retailers actually sell less than ten percent of their products at full price – their customers have been trained well.

If the retailer were to achieve perfect product planning, purchasing and allocation, throughout their stores, there would be no need for markdowns. In reality, we know this Holy Grail is unachievable and the need for markdowns will always exist.

What more can be done to minimize markdowns before the end of the product lifecycle? As product lifecycles become ever shorter, getting it right has never been more important in maintaining competitive advantage and profitability.

Most of the technology being deployed today to optimize the productivity of inventory is designed to operate at the end of the product lifecycle and is focused on price. Of course the end of the lifecycle is the time to execute markdown strategies, but in fact the most effective and profitable strategy is one based on the whole of the product life and also focuses on inventory.



There are three key points in the lifecycle of any product where the retailer needs to make the right decisions in order to control demand, price and profitability. These are the initial buy, the distribution of the product throughout its lifecycle, and the pricing of the product, including markdowns.

A holistic approach is recommended for managing the complete lifecycle of a product. There are a few key points that most people can agree upon:

- Understand Customer Demand
- Marry the Art of Merchandising with the Science of Execution
- Learn and Build Knowledge
- Track and React to Product Performance

The key is to understand customer demand at the micro or store/product level. Maximizing profitability depends upon knowing what customers wanted and when, not just what you sold.

Some stores are out of stock way too soon in the product lifecycle and others are left with far too much stock at the end which has to be marked down. These are fundamental errors in the fulfillment operation that retailers cannot afford to make, but they happen all too often. The key operation between the initial buying decision and the final end of line markdown is in inventory execution - managing the supply of goods to minimize out of stocks, lost sales and overstocking.

Inventory management systems have helped retailers to improve in this area of inventory imbalance, but the growing use of markdowns suggests that things are not getting any better for retailers. In fact, there are two separate areas where better decision making is required:

- The initial purchase stage - deciding how much product the retailer needs in total
- Distribution - how and when to allocate that quantity across stores and channels

Markdowns are a fix for things that did not go to plan earlier in the product lifecycle, so improvements in product planning and inventory execution to reduce excess inventory will have a marked impact in reducing the need for markdowns and maximizing profit. Many of the mistakes being made at the product planning and inventory execution stages are as the result of simplification - aggregation of data and assumptions across multiple stores - which rides roughshod over the variability of customer profiles and demand from one store to another.

A fashionable downtown store in a major city may need a stock richer in traffic generators and high value image items, whereas an out-of-town store in a low income area may need its mix of products to be higher in value items. Fashion retailers have the added complexity of garment size, which means that they need to have a different mix of sizes too, depending on the stores location.



One recent response to the problem of aggregating and averaging has been the practice of clustering. This groups together stores which perform in similar ways, helping to undo the errors that inevitably encroach when operating a system on the basis that all stores behave similarly. While a step in the right direction, clustering still perpetuates the problems of aggregated data. Instead of pretending you have, say, 1,000 stores that all perform alike, you now pretend that in each of maybe 10 different store groups you now have around 100 homogeneous stores. The reality we know is that every store performs differently.

While this approach may have had its initial advantages, now it is working against the retailer to produce imperfect planning predictions and poor inventory execution. If a store's allocation is based on the predicted performance of an average store, then inevitably some will have overstocks while others have stock-outs.

The problem is also linked to store size. Larger stores tend to have too much stock (and greater markdowns) while smaller stores suffer more stock-outs (and lost sales). Often this is because larger stores are routinely prioritized in the event of scarcity. This prioritization is seldom based on a detailed analysis of individual store performance and frequently exacerbates problem of stock misallocation.

Understanding the variability of store performance is critical to achieving effective assortment planning and inventory execution. Getting this right will deliver a dramatic reduction in markdowns.

Another common strategic mistake is to push most or all of the inventory straight out to stores before they had sold a single unit, which at a stroke makes it impossible to make inventory decisions later, when the retailer has learned something about the product's selling pattern.

It is not just the case that each store performs differently - each product performs differently in every store. Intuitively retailers know this and yet the assumption has been that in practice both operational and technological constraints make it impossible to manage the complexity of data processing and analysis. Overcoming and embracing that complexity, rather than attempting to gloss over it, provides the means to strategic control of markdowns.

A retailer's markdown strategy needs to be an integral part of the whole lifecycle of the product and not just a Band-Aid response. It is no good just covering up the real problem without addressing the root causes of inefficiencies in assortment planning and inventory execution. Proactively determining the role of the product within the overall assortment and having the power to determine at an individual store level the inventory allocation process necessary to meet that role are key components to minimizing markdowns.



A new holistic approach to retailing integrates merchandising and fulfillment processes while managing and reporting on inventory from the store-level up, in real-time. It provides merchandising plans, goals and strategies that directly drive product fulfillment. This allows the fulfillment process to be driven by a bottoms-up view of item behavior, fused with plans, goals and strategies. Real-time performance analysis enables a rapid response if a product or location is failing to achieve its goals or has the ability to exceed them.

This concept derives trends from relatively short and recent learning to make accurate predictions of future behavior and drive decisions that maximize inventory productivity. It is unlike traditional 'number-crunching' approaches that rely on interpreting trends and forecasts based on huge pools of historical data. As a result this method of analysis has the flexibility to respond in real time and at a much finer level of detail (store level) than would conventionally be possible.

This highly detailed, flexible and adaptive approach gives the retailer the power to actively manage the whole of the product lifecycle. It can also be used to optimize markdowns down to store level in a way that fully meets both the retailer's general goals and the product specific goals. If that means building promotional markdowns, then this can be planned, but this enhanced, detailed management of the whole process will minimize the markdowns that result from the inability of the retailer to identify and react to store level behavior.

The markdown is here to stay, but today's retailers now have the means to halt its seemingly inexorable rise and an accompanying erosion of margin, if they so desire.

The objective is clear: get the product in the right place to start with – then fulfil based on how products are really performing at each store – giving the product the best chance to sell at full price and identify when and where markdowns are truly necessary.

Knowing the objective is one thing, but today retailers now have the means to reach it - Q.

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As one of the leading practitioners of Retail Science in the United States, Linda Whitaker provides the research, innovation and advanced science for Quantum Retail's solutions. Prior to co-founding Quantum Retail Technology, Inc, Linda spent 11 years developing optimization and scientific solutions for complex retail problems in replenishment, logistics, pricing, promotion and consumer behavior at Retek Inc. and HNC.



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