Taking the Guesswork Out of Markdowns

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hether you consider markdowns a damage control policy, a necessary evil of retail, a day saver against soft demand or a long-time end-of-season practice, rest assured that some truth lies in each one of those interpretations. In fact, a large part of the philosophical debate about markdowns revolves around the relative truth of each of these interpretations. But no matter how one arrives at a markdown, it's important to get the best outcome.

To begin with, markdowns are a direct consequence of the inherent asymmetry of the price lever at the retailer's disposal: when sales for a product come in below expectations, the price can be adjusted downward to stimulate demand and achieve better ROI for that item. This is really a repricing disguised as an early markdown. However,

when demand is much stronger than expected and more product can't be procured within the season because of long lead times, the retailer rarely has the option to raise prices and capitalize on the product's strength. What happens most of the time is inventory depletion at a price that—in hindsight—is too low.

These two examples show how the price lever can generally only be operated in one direction once the season is under way. To protect against that asymmetry, the retailer often chooses to start with a relatively higher price and then exercises the prerogative to take a markdown (i.e., "re-price") if and when necessary.

From a slightly different perspective, markdowns provide the retail industry the capability to execute risk-adjusted purchasing strategies. Without a crystal ball, markdowns provide retailers a mechanism to hedge their bets in such a way that over the course of a season, and over a portfolio of items, the overall ROI is maximized within a given open-to-budget constraint.

ROI maximization is achieved in two steps: first, a purchasing decision that takes into consideration the variability of demand as well as the inherent economics of the game (IMU, margin erosion due to markdowns, vendor funds, disposition cost, etc.) and second, once the inventory is acquired and it represents a fixed investment, a fine balance of managing demand using the price lever (marking down).

It is in the course of this demand management that markdowns become a primary instrument of profit generation. In a sense, markdowns represent a partial insurance policy against uncertainty whose value depends on how skillfully it is executed.

In certain industries, the provider of the product or service manages to exploit the varying degrees of willingness-to-pay of the customers by introducing barriers or fences in order to differentiate similar or even identical products, and price them accordingly to the different customer segments.

A well-known example is the airline industry, where two seats on the same flight on the same day can be marketed as different products by the introduction of fences that help segment customers into value-driven leisure travelers, and schedule-driven business travelers.

By using Saturday-night stay requirements, non-

refundable fares and advanced purchase rules, the airline effectively establishes a hard barrier between price-sensitive, timeinsensitive customers who plan ahead of time and shop for cheap flights and price-insensitive, time-sensitive customers who are willing to pay for the convenience of being able to

reserve a seat much closer to the departure date.

Similar examples abound in everyday life: hardcover books are followed after a few months by cheaper paperback editions; big-screen films are made available at your local video-rental store once their Hollywood sizzle fades; etc. The common theme for all these examples is differentiation; what changes is either an attribute of the product, the vehicle of delivery or a combination of both,



catering to different groups of customers with different willingness-to-pay.

In the retail industry, such differentiation is often impractical (if not outright illegal). Hence, a firm tends to extract maximum value from its inventory investment by selling its products at full retail price early on, and taking markdowns later in the season. This practice of differential timing of pricing is more than an intuitive exit strategy to maximize sell-through—it is also an effective partition of customers in price-sensitive, time-insensitive and price-insensitive, time-sensitive segments.

The key to this segmentation is uncertainty; the consumer's choice to postpone purchase in anticipation of a price reduction may or may not pay off. In other words, the uncertainty of demand poses this dilemma to the consumer—buy now at full price, or wait and face one of these eventualities:

- buy later at a lower price if retailer decides to take a markdown,
- buy later at full price or walk away if retailer decides not to take a markdown, or
- miss out altogether because the product may sell out.

This dichotomy is indeed a continuum defined by varying degrees of price- and time-sensitivity. Therefore, there is some unavoidable amount of overlap, resulting in "spoilage," leading to either revenue dilution (markdown sales to customers that would have paid full retail) or lost sales (price-sensitive customers walking away from a full-retail sale). Minimizing this spoilage leads to gross margin maximization, and requires analytical insight into the effect of timing of pricing on demand. That is why the most profitable markdowns are often referred to as "optimal price trajectory."

So, whatever your perspective on markdowns may be, what matters to your bottom line is the execution of the optimal price trajectory. Other non-quantifiable elements need to be considered as well, such as the risk of brand dilution and the negative impact of "training" the customer to expect end-of-season markdowns. However, a company-wide optimal decision has to rely primarily on the strength that the combined power of data-driven analytical methods and advanced algorithms bring to the industry.

Stefano Alberti is Vice President of Analytics for 4R Systems, Inc., a leading technology solution provider helping retailers and their suppliers increase profits by optimizing their inventory and related supply chain decisions. He has several years of experience in analytics and retail technology, most recently serving as a Lead Analyst with Manugistics. Mr. Alberti holds a B.S. in Electrical Engineering from the University of Rome, Italy, an M.S. in Industrial Engineering from Texas A&M, and an M.S. ABD in Operations Research from Cornell University.

