Powerful pricing: The next frontier in apparel and fashion advanced analytics

Leading apparel retailers are embracing advanced analytics and blending intuition with science to price smarter.

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The competitive landscape in apparel is shifting rapidly as new price leaders capture market share. The battle for value has never been harder fought. The very definition of value is evolving quickly, pressured by Amazon's entry into apparel, fast-fashion retailers, flash sales, and the arrival of ultravalue players. Between 2012 and 2017, only the value sector of apparel retail, including off-price players, showed any growth as both the middle and premium tiers shrank. This environment has intensified the use of promotions and put strong downward pressure on prices.

The apparel sector is using historic levels of promotion to counter declining customer traffic. To claw back margins, many players have squeezed sourcing costs and their merchandise calendars to shorten products' lead times. Unfortunately, as a result of poor pricing discipline and reactive swings in business performance, these gains seldom reach the bottom line.

Apparel retailers also have difficulty keeping up with smarter, always-on shoppers. Today's consumers are more sophisticated and technologically savvy, making them harder to predict and even harder to satisfy. As their expectations and demands rise, they assume that prices will fall. Almost 90 percent of US consumers shop from discount retailers, including off-price, outlet, and dollar stores. More concerning is that nearly two-thirds of these value consumers are buying more on sale now than they were five years ago.[1]

A few apparel retailers are embracing advanced analytics and blending intuition with science to regain control and price smarter. Doing so has brought about a margin and sales lift of three to six percentage points for some companies. Pricing smarter requires understanding where customers perceive value and having the agility to respond to competitors' moves with full insight into the impact on financial performance.

Pressure on apparel pricing

Merchants typically consider many factors when setting the price for a new style: the right initial markup, recent performance of similar styles, the price required to move inventory, and competitors' prices for similar styles. But even the best merchants often fall into one of two traps.

First, merchants often pay disproportionate attention to one factor and miss the importance of others. For example, they might price to hit an internal margin target but check competitors' prices only a few times during the selling season (sometimes far less rigorously than an online shopper would).

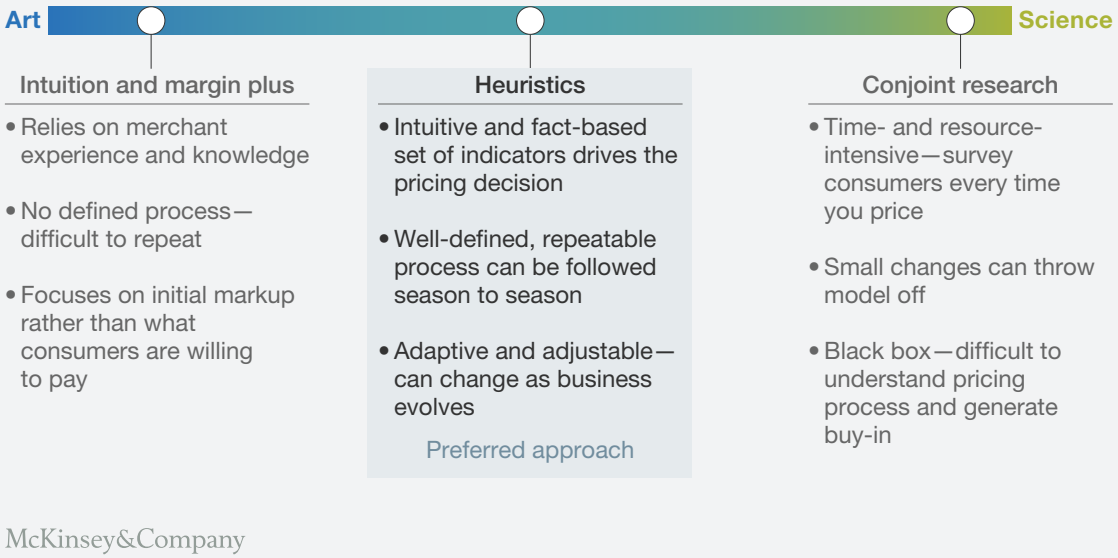
Second, merchants often have misconceptions about the factors that really generate sales. Misinterpreting the impact of a price change on sales is the most common problem—for example, attributing higher outerwear sales to a 10 percent price cut when a storewide marketing event and a cold spell had more to do with the sales lift.

Even when merchants balance all the right factors and assess them accurately for a particular style, they cannot consistently replicate that success across thousands of styles. They need at-scale analytical capabilities to make this level of rigor part of their merchandising routine.

Winners in apparel have found a scalable way to employ a responsive, intelligent pricing discipline that aligns their pricing strategy with their customers' willingness to pay. These merchants are investing carefully in price and promotion, as well as leveraging insights from advanced analytics to make smarter decisions.

This does not mean that merchants should abandon the art of pricing. While automated pricing solutions have succeeded in some hardlines categories, the seasonality and ever-changing trends of fashion

Exhibit 1 Pricing and promotions in apparel require a mix of art and science.



require a pricing approach that marries intuition with science (Exhibit 1).

This combined approach to pricing addresses head-on the following complexities we have seen in the apparel space:

- Styles change from year to year, making it difficult to create a selling history.
- Promotions have substantially increased in the past several years.
- Long manufacturing lead times do not match rapidly changing trends and the move to dynamic pricing.
- New value competitors have lowered the opening price point in many categories.
- Omnichannel pricing and fulfillment have increased the complexity of end-of-season markdown optimization.

New approach to apparel pricing

The future of apparel pricing is grounded in the factors that merchants typically consider in pricing but adds repeatable analytics to supplement their intuition. Retailers can translate several dozen inputs into a price recommendation for each style, which merchants can use early in their line planning (Exhibit 2).

This approach gives merchants a clear, analytics-informed price for a style before they plan sales volumes and make inventory commitments. Such foresight can spell the difference between strong sell-through and piles of excess inventory later in the season.

Much of this information is often accessible to buyers, merchants, and planners. But apparel retailing has long struggled with the complexities of a highly varied product assortment and seasonal shopping patterns. The new approach addresses five of the thorniest challenges, bringing a new level of precision and insight to pricing.

Exhibit 2 Merchants often consider several factors when developing a price recommendation.

Consumer

- Price elasticity
- Value for money score vs competitors

Internal economics

- Forward-looking cost and margin vs targets
- Cost pass-through

Competitor

- Gap to competitors' like items
- Brand and category value perception
- Share/volume evolution (eg, price up with strong growth momentum)

Market

- Overall consumer trends in segment

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Frequent introduction of new styles

New styles appear every season, often with little connection to products sold previously. As a result, products do not have a long sales history to analyze.

Merchants often address this challenge by basing product groups on a business-defined sales hierarchy—for example, grouping all graphic tees and analyzing in aggregate. But this approach can mask product details that can be critical to understanding sales behavior. For example, sales of a graphic tee with embellishments are probably less elastic than sales of a regular graphic tee, given the novelty of the embellished one.

Artificial intelligence can address these style-matching challenges more accurately and efficiently than merchants ever could. Integrating techniques such as computer vision, text mining, and machine learning can identify groups of styles that are likely to respond similarly to changes in price and promotions.

Frequent promotions

Promotions have become so frequent that assessing their incrementality or establishing a reasonable sales baseline is very difficult.

In a world where "30 percent off your purchase" and "extra 40 percent off sale styles" have become the day-to-day norms in some sectors of apparel,

> In a world where promotions have become the norm in some sectors of apparel, merchants must understand the returns on investment.

merchants must understand the returns on investment of those promotions. But measuring the incremental impact of each promotion over the sales baseline is increasingly difficult. This challenge is even greater in omnichannel pricing, which limits the ability to turn A/B testing into a partial answer.

In many other industries, and even in some retail sectors, off-the-shelf models of price elasticity and responses to promotions describe consumer behavior accurately. But the nuances of apparel—not least of which are seasonality and trends—require a more tailored approach.

To isolate the impact of each promotion, leading retailers have integrated cutting-edge approaches to elasticity modeling, controlling for factors that might dampen or amplify sales results. This solution enables planners and merchants to assess the impact of their promotional plan and in-season tactics on both the top and bottom lines of the business.

Early investment and inventory-purchasing decisions

Key decisions often occur six to 12 months before a season starts. In the era of real-time, dynamic, and individualized pricing, it's even more challenging to make investment, costing, and pricing decisions months before a product hits the floor and consumers react to it.

Many retailers address this challenge with concept testing, online or in stores. Yet concept testing is often costly and difficult to manage at scale, so retailers are left testing a handful of key products before the season and relying on intuition and historical data for the rest of the portfolio.

Retailers can apply analytical approaches to better inform preseason buying and pricing decisions. Instead of relying solely on trends or intuition to plan each style, they can use analysis to deconstruct style-level performance into discrete drivers, such as underlying category trends, changes in prices, and inventory levels by store. When combined with the smarter approach to mapping new styles with prior-year comparable styles, this preseason analysis can help set the right initial ticket prices and inventory levels.

Consumer unwillingness to pay

Consumers have grown to expect dramatically lower apparel prices as competition has increased from new business models and channels. But it's hard for most apparel players to compete on price in every category and style.

Retailers can apply a two-step approach that combines primary research with competitive price data to better understand where to invest in lower prices. First, identify the categories in which price matters most to key customer segments. Second, determine the prices that those customers consider fair for styles in such categories.

The consumer-based view focuses merchants, who might otherwise be tempted to match competitors across the assortment, on the categories in which price really matters.

Complex optimization of markdowns

Shifts to omnichannel pricing and fulfillment models have made optimizing the timing and depth of markdowns increasingly complex.

Retailers must now take into account the logistics costs of shipping inventory between stores and between channels (from a store to a fulfillment center, for example). This requires understanding consumer demand at much more granular levels to determine not only appropriate markdown timing and depth but also optimal channel and location.

Our work with apparel retailers over the past five years has shown that the greatest obstacle to new markdown approaches is not the complexity of the

optimization algorithm but rather planners adopting new behaviors. Of course, leading retailers use a combination of algorithms helpful for optimizing markdown options, including a number of trade-offs inherent in the omnichannel model. The best rank and prioritize scenarios to make it easy for planners to manage by exception rather than by reviewing every potential consideration.

Analytical solution for pricing apparel

Accessing the key facts needed to make smart pricing decisions—price elasticity, competitors' prices, and the role of a category in creating value perceptions, to name a few—requires a year-round commitment to pricing analytics. Leading-edge retailers employ specialized tools that apply science to pricing and distill advanced analytics into simple insights and recommendations that buyers can reference as they set pricing strategy.

We have found merchants and planners much more likely to adopt pricing solutions that have not only a user-friendly interface but also a transparent underlying logic. For example, during the planning phase, apparel merchants find it helpful to see and toggle the effects of elasticity, internal margin targets, and competitors' prices in setting the initial ticket price. When studying competitors' prices, leading retailers offer an interactive option for merchants to select competitors' comparable items and adjust the desired price gap via a visual interface.

When analytical pricing solutions are integrated with core merchandising processes, and accompanied by a robust change-management program, we have seen high adoption and mid-single-digit sales and margin increases.

The stakes in the game of price changes will only increase as industry forces intensify, with off-price and value retailers expected to capture the bulk of apparel growth and consumers increasingly able to compare prices. Promotions will continue to tempt merchants, but apparel retailers who apply science to their historically art-based pricing decisions will develop a powerful capability that can restore full-price selling. ■

[1] "Consumer view: A quarterly look at what shapes retail today," National Retail Federation, Fall 2018, nrf.com.

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