The power of advanced analytics in revenue management

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Advanced analytics and commercial-performance solutions can help consumer-goods manufacturers and retailers capture—and sustain—higher returns through better pricing, promotions, and assortment.

In recent years, a number of consumer-packaged-goods (CPG) companies and retailers have successfully used big data and advanced analytics to enhance revenue management. Sophisticated pricing algorithms, for instance, have helped some companies boost their return on sales (ROS) by several percentage points. However, many companies' advanced-analytics efforts falter after the first or second year. In our experience, this is often because their analytic tools don't strike the right balance between ease of use and depth of insight. Sometimes the tools are too difficult to understand, apply, or incorporate into daily work flows—and thus never gain traction with the employees who are meant to use them. In other instances, the tools are easy enough to use but perform only shallow analytics that yield generic insights.

Periscope, a McKinsey Solution, offers a proprietary suite of software-enabled, commercial-performance tools and services that combine user-friendly interfaces with advanced-analytic capabilities.[1] It can help retail and consumer-goods companies excel in revenue management in a number of ways—for instance, by gathering competitive intelligence online, facilitating "leakage" analytics, and improving performance management. In this article, we focus on the use of Periscope for three critical activities: setting and managing prices, analyzing promotions, and optimizing assortment. Companies that use Periscope typically realize a 2 to 7 percent ROS improvement.

Better pricing, better outcomes

With the Internet making it easy for consumers to compare prices, pricing excellence is more important than ever, yet many CPG companies and retailers still engage in suboptimal practices. For instance, they fail to monitor competitors' prices regularly, rely on manual and intuition-based price-setting methodologies, or don't differentiate prices by region, store, or customer segment.

Such was the case at the Brazilian division of a multinational consumer-products company. The division generated over $1 billion in sales, of which 70 percent was through small, local retailers—yet pricing guidelines for more than 10,000 products were set at the national level, with no consideration for regional or local variations in demand or customer preferences. Furthermore, the company had little information on competitors' pricing.

The company embarked on an effort to identify and capture pricing opportunities in Brazil. It began by assessing its pricing strategy in the soap and disinfectant categories—an analysis that required gathering a vast volume of data (including information on each product's sales growth, profitability, competitor pricing, and price elasticity) from wholesalers, retailers, and sales staff across the country. A manual data analysis would have taken months, but Price Advisor, a Periscope solution, provided insights into pricing effectiveness across all products, regions, and channels after only three weeks; it also allowed the company to create scenarios that showed how sales volume and profits would change at different price levels.

With this information, the company was able to recommend specific price changes in each price zone for each product size. For example, the company found that as a result of weak oversight and frequent repricing, it had been charging a higher price per unit for some of its multiunit packs, which was in conflict with consumer expectations of volume discounts. The company thus reduced prices on those packs. The various pricing adjustments yielded impact quickly, increasing ROS by 2.5 percent in just a few weeks.

Data-driven promotions

Many companies' promotional strategies are based on theories rather than data. It's therefore not surprising that despite CPG companies' aggressive spending on promotions (now generally between 15 to 25 percent of net sales), sales volume has grown at a lower rate than promotional spend. Using big data effectively, especially in promotion-driven categories, can help companies boost returns on their trade investment.

A leading beverage company historically launched intense promotions every holiday season, even though there was little evidence that they worked. The company couldn't accurately measure promotion effectiveness, in part because many of its promotional activities were conducted over a short time period or overlapped with one another, making it difficult to isolate the impact of any single activity.

[1]McKinsey Solutions are packages of data, analytics, tools, and services that channel McKinsey knowledge and provide a clear view of complex business problems. For more, visit solutions.mckinsey.com.

Seeking to optimize promotional spend, the beverage company decided to focus on finding fact-based answers to a straightforward question: which promotions are most effective and why? Accurately and comprehensively answering this question required different types of data—including consumer, distributor, retailer, and internal financial data—from disparate sources. Convinced that bad data lead to inaccurate insights, the company invested time and resources in a thorough data-cleaning exercise, making sure to build data-cleaning capabilities along the way. Using Periscope Promotion Advisor, the company was able to reconcile irregularities (for example, retailers using different start and end dates when reporting weekly sales volume) and integrate internal financial data with external information (such as weather data).

Then, using proven analytic algorithms, the commercial team disaggregated the major drivers of promotional performance. Post-event promotion analyses have traditionally revolved around price, but Promotion Advisor takes into account up to ten other important factors including seasonality, competitor promotions, and in-store execution (for example, the number and prominence of promotional displays)—thus shedding light on the most important performance drivers (and combination of drivers) by product, customer, and week. The company could determine, for instance, which combinations of discounts were most effective during specific periods, such as holiday weeks.

Such insights helped the beverage company devise a new promotional strategy. Early results show that the company is on track to improve trade-spend effectiveness by 5 to 10 percent, representing hundreds of millions of dollars, once it rolls out the new strategy and implements a capability-building program—initiatives that will yield the added benefit of standardizing the entire organization's formerly haphazard processes for executing and evaluating promotions. Companies that use this advanced approach to promotion optimization typically see bottom-line improvement of two to five percentage points, mainly through reallocation of promotional spending toward more effective promotions.

Assortment optimization: Going beyond the basics

Many retailers and CPG manufacturers take a simple approach to assortment optimization: they give the most shelf space to top sellers. Leading companies, however, use criteria other than unit sales volume or profits to make assortment decisions. They analyze the effects of changes in the product mix—for example, by quantifying "transferable demand," defined as the sales volume that would be transferred to other items if a particular item were discontinued. This more nuanced approach helps companies discern which products are redundant from the consumer perspective and which products are truly essential to a category. These insights also allow companies to optimize facings and listings, taking into account space elasticity and shelf size; localize assortments based on the shopper mix and item preferences at each store; and account for the effects of service frequency on out-of-stock rates.

A global beauty-products manufacturer used Periscope Assortment Advisor to perform such analytics. The manufacturer first used the solution during a single-country pilot, with the goal of becoming category captain at a major retailer. By mining several years' worth of data on consumers' purchasing behavior and product usage, the commercial team obtained a detailed view of growth opportunities and optimal assortment strategies. For example, if a particular SKU were to be discontinued, Assortment Advisor could predict how much volume would be lost to another SKU in the same brand, lost to another brand, or lost entirely (because the consumer decides to walk out of the store without buying anything—a metric we call "walk rate").

The manufacturer's commercial team also generated insights that would benefit the retailer. During negotiations, for instance, the team shared with the retailer a simulation that revealed that certain hair-care products drove higher sales of related beauty products and thus should be given more shelf prominence. Similarly, the team found that certain SKUs, although not best-selling, had a high walk rate and should therefore remain in the assortment. The new approach helped the retailer look beyond sales results and detect unexpected patterns. For example, the retailer had expected a new hairstyling product to be a category leader. While initial sales were strong, analysis revealed that few customers made repeat purchases and that the product had little impact on sales of other goods in the category. Without these insights, the retailer would have continued to give the product more shelf space than it deserved.

The beauty-products category grew by more than 7 percent at the pilot retailer, while sales of the manufacturer's products at that retailer increased by more than 10 percent in the six months after the stores were reset. In addition, the manufacturer's decision to share valuable insights with retailers has helped strengthen its relationships with its most important customers, consequently improving its market position. The company has since deployed the new approach and software solution to more countries and categories. It has made contextual adjustments—for instance, some markets have more data available than others—but has been able to replicate about 90 percent of the approach used in the pilot.

As with any major initiative, companies using advanced analytics and commercial-performance solutions must ensure that they have support from top management, a clear vision and objectives, and a disciplined rollout process. Perhaps most important, companies should establish capability-building programs to embed solutions such as Periscope into their business processes. In our experience, a field-and-forum architecture—one in which trainees get coached while applying newly acquired skills in their daily work—is most effective. By combining advanced analytics and commercial-performance tools with a commitment to capability building, companies can bring about lasting impact, even as the retail and CPG landscape becomes more competitive. ■

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