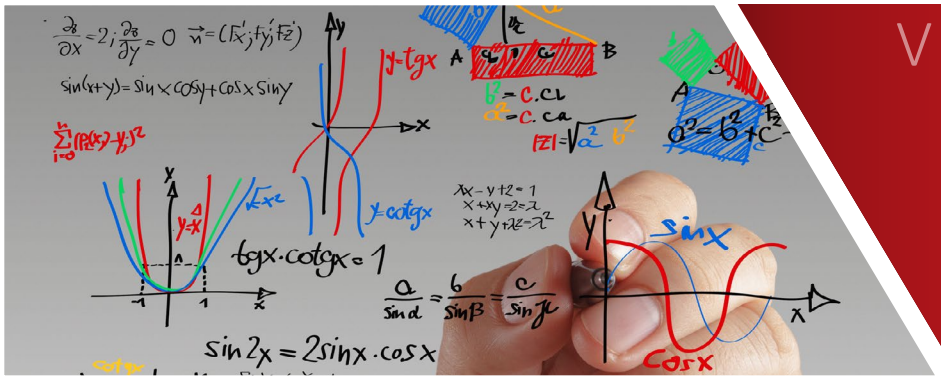

VIEWPOINT

The Science of Retail: How to Counterbalance Instinct with Data-Driven Insight

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ORACLE RETAIL

Injecting innovation and science improves customer satisfaction and margins

When we began applying optimization technology to retail, the industry had lots of data, but only a little science. Retailers collected massive amounts of data, about products, customers, prices, promotions and a host of other measurable things and events. But as a rule, retailers are still in the early stages of using their data in truly scientific ways—ways that will make pricing more effective and assortments more appealing. There remains a significant opportunity to turn rich troves of data into dollars by better demand measurement and management.

Why is the need for applying science to retail decision-making so urgent? Because traditional brick-and-mortar multi-channel retailers have online competitors ruled by data scientists who define retail as a data mining and optimization problem. Internet-only companies are data-driven in ways that traditional retailers simply haven't experienced.

The Science of Pricing

In the area of pricing, for example, the sheer number and range of price changes performed every day by Amazon.com are clearly automated responses to predicted customer demand patterns. For example, if more people are shopping during their lunch hours, it can make sense to raise prices for just those middle two hours of the day.

Today's optimization solutions aim to address this imbalance by injecting innovation and true productized science into the array of mission-critical retail solutions. Key tools delivering proven value include:

- Customer analytics and market basket analysis
- Price optimization
- Enterprise-level clustering
- Demand forecasting
- Category planning and assortment optimization
- Size profile and pre-pack optimization
- Promotion management and optimization, supported by forecasting, customer segmentation, pricing and promotion effects

Removing Emotional Bias from Pricing Decisions

One of the clearest illustrations of the value that applying science brings to retail is in the area of pricing. Many retailers have already made important strides in this area, deploying sophisticated markdown optimization and pricing solutions designed

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to maximize margins throughout a product's entire lifecycle. In fact, lifecycle pricing, which takes a pre-planned, holistic approach to products with limited lifecycles, such as fashion apparel, has proven far more valuable than a more piecemeal approach.

How the Science Works

Price optimization tools are also useful in removing the emotional component of pricing decisions and revealing the biases of those making those decisions. If a buyer has "bet" on the sales prospects of a sweater in a particular style, and those prospects remain unfulfilled at the end of the sales season, that buyer might be embarrassed for having advocated for a product that didn't perform. The buyer would be likely to resist marking down the item's price, even though that is clearly the optimal decision to make.

The need for art and a "gut feel" will never go away in retail, but science-based solutions provide a ruthless (but necessary) counterbalance. And because these solutions' algorithms are based on data mining multiple years of the retailer's own sales and customer history, they can confidently recommend that a 50% price cut will be needed, given the current inventory position and projected demand derived from sophisticated causal models.

The granular data mining capabilities of these solutions allows them to explore every facet of price elasticity, taking into account every aspect of the merchandise hierarchy, and the product's attributes, along with regional and geographic variations. Even with new products that have no history, the algorithms can examine the performance of similar products to discover the patterns needed to support initial pricing decisions and to chart a likely model for lifecycle pricing.

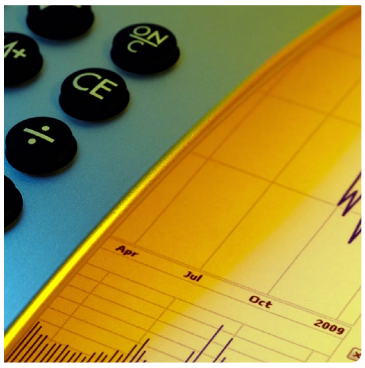
Price is just one critical lever for stimulating demand that retailers can use in today's hyper-competitive marketplace. By embedding optimization technology in retail processes, retailers can use levers to turn the data they already gather into the demand they desperately need.

The Opportunity

Retail leaders in the next five years will be those who make the best use of the exploding resource of data. In five years, we predict that our suite of data and science-driven solutions and services will benefit retailers in the following ways:

- 50% increase in inventory turns through better predictive models and inventory flow optimization across all stores, warehouses and channels
- 25% increase in average item forecast accuracy by incorporating new data sources including web, social and mobile
- 10% increase in revenue with smarter pricing, promotions, localized assortments and placements based on advances in machine learning and intelligent cross-decision optimization platforms

Retail data science is no longer optional.



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