

Price Optimization for Retailers

Pricing science redefines retail pricing options

By Todd P. Michaud

Table of Contents

I.	Abstract	2
II.	A Brief History of Pricing Technology	2
III.	What Is Price Optimization?	3
IV.	Four Best Practices	4
V.	Mission-Critical Challenges	5
VI.	Summary	6

Todd P. Michaud is a wholesale and retail technology expert with over 25 years experience in software development and advanced wholesale/retail technologies. Since 2006, Michaud has served as the President and CEO of Revionics, Inc. <www.GetRevionics.com>. Prior to Revionics, Michaud was the Executive Vice President of Sales and Marketing at Retalix USA, Inc., a publicly traded, global software company that develops enterprise resource planning, supply-chain execution and point-of-sale software for companies in the food industry. He also was the President of IDS, LLC a Food Industry ERP Software Company. Michaud started his career at IBM. He also worked 16 years as an executive in the Wholesale and Retail Industries at the IBM Corporation.



Abstract

Retailers of every stripe are facing similar challenges as new economic forces continue to threaten once-stable sales channels; rising commodity costs, inflation, threats of recession, a shrinking job market, increased competition, weak housing and credit markets, and increasing price sensitivity among customers are just a few of the factors creating pressure on retailers.

Pricing strategy has always been an important consideration for successful retailers; however, recent advances in the science and heuristics that drive price optimization are delivering significant benefit to sellers of fast-moving retail goods. This paper examines the emergence of price optimization, explores its relationship to fast-moving retail goods, suggests best-practices, and highlights the challenges organizations typically face during adoption of a price optimization program.

“Recent advances in the science and heuristics that drives price optimization are delivering significant benefit to sellers of fast-moving retail goods.”

A Brief History of Pricing Technology

Figuring out how to have the right products at the right price (at the right time) is a goal that retailers have shared for decades. The widespread availability of business computing systems in the early 1970s led to the first generation of pricing software, which provided retailers a simple but automated method of generating prices, usually by applying a standard markup to base cost. In the 1980s, second-generation software extended the retailer’s abilities to not just automate prices, but also generate prices based on simple correlations. In the 1990s, pricing software advanced to the point of integrating retailer pricing rules and other basic heuristics.

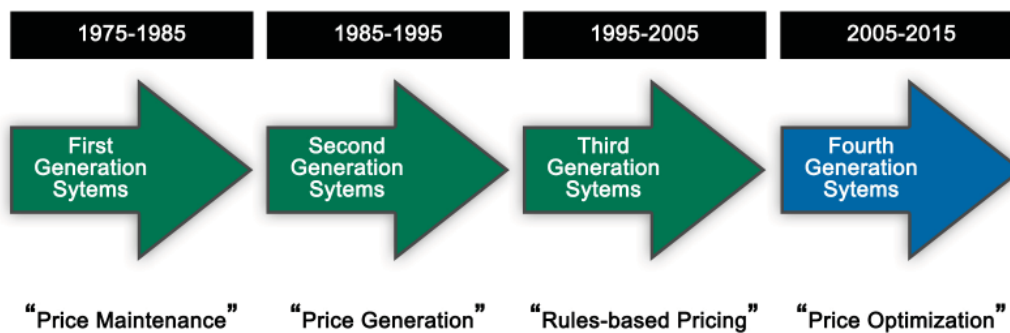


Figure 1. The most recent generation of pricing software emerged in 2005.

Today, most retailers still use third-generation “rules-based” software to steer their pricing decisions. But new, fourth-generation “price optimization” technology is quickly demonstrating that a new era in pricing is upon us. Unlike its predecessors, price optimization software delivers the best of both worlds—science and heuristics—bringing retailers a rich archive of traditional rules and “know-how” combined with cutting-edge science that can accurately predict and monitor consumer demand and price sensitivities. Early adopters, particularly among sellers of fast-moving retail goods, are reporting significant results.

By integrating consumer behavioral data, new price optimization systems remove much the traditional guesswork associated with pricing. Point-of-sale systems can generate reams of consumer behavior data for retailers. But without any way to intelligently and systematically analyze the behavioral data, retailers are left hanging in the wind; gleaning the trends they can see in the behavioral data (to the extent they examine it at all), and manually adapting their pricing rules to follow.

Price optimization enables retailers to develop a comprehensive pricing strategy, harnessing all the data available within their retail environments. It then applies scientific principles based on actual consumer behavior and sensitivity — but not to the exclusion of the traditional heuristics (industry best-practices and pricing rules) that have traditionally guided retailers.

What Is Price Optimization?

Combining the best practices of traditional heuristics with advanced science, price optimization affords retailers a comprehensive system for evaluating cost, competition, assortment, margin targets & promotions through a lens of demand intelligence and proven mathematical models. The result is the creation of a robust and reliable method for determining base retail, promotion, markdown and TPR (temporary price reduction) prices. The best new systems integrate easily with existing point-of-sale, back-office, and headquarter information technology platforms.

The concept of demand intelligence is fundamental to new-era price optimization software. Using POS data more effectively is one of the hallmarks of modern pricing systems. But in addition to analyzing consumer demand signals, new-era price optimization software allows retailers to actually predict it. This predictive ability is the latest addition to the system of retail pricing science that now includes mechanisms for not only generating prices, but also monitoring the effectiveness of price changes, learning from those results and then adapting the underlying mathematical models that drive the science. Indeed, retail pricing software is now capable of teaching itself.

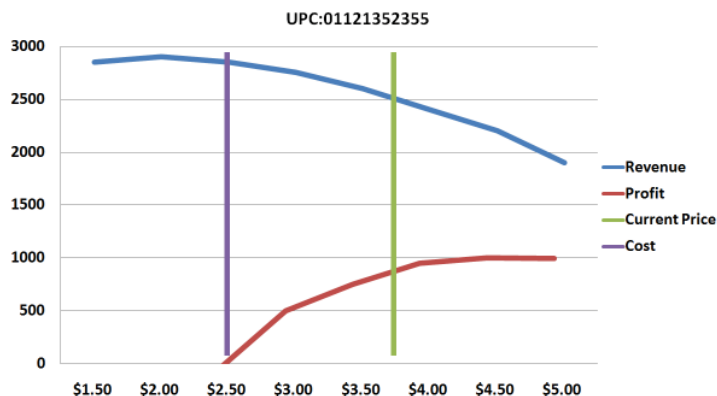


Figure 2. Retailers can dial up unit sales and/or revenue based on price elasticity.

Demand intelligence is derived in part by monitoring price elasticity. Elasticity refers to the relationship between the price of a particular item and its unit sales. Predicting consumer sensitivity to price changes is a fundamental part of modern price optimization, and how well your system does it may be the best measure of its value.

The new science gives us the ability to conduct elasticity and sensitivity analysis, and leverage demand history to predict how many units of a particular product will sell at a particular price. Being able to target with precision the SKUs (stock-keeping units) that are most sensitive, and then predict how price changes will affect those specific SKUs, can become a powerful dial that allows retailers to adjust prices according to margin or profit goals. By controlling the most elastic (price-sensitive) items, retailers can dial up or down to affect desired category or subcategory margin results because they will know how consumers will behave to these specific price changes.

“ In addition to analyzing consumer demand signals, new-era price optimization software allows retailers to actually predict it. ”

But price elasticity is just one of the components your price optimization software should address. The most robust systems will recommend prices taking into consideration advanced demand forecasting, competitor analysis, group/KVI (key value item) analysis, brand analysis, relational pricing analysis, promotions/TPR analysis, price-per-unit analysis, as well as targets for volume margin and category margin. Naturally, every retail environment is different, and the pricing objectives of retailers can vary from one store to another. This raises the importance of having a highly configurable system with the right up-front support to determine the best mix of demand intelligence (science) and heuristics (strategies, rules, and best-practices) in the creation and executing of your pricing strategy.

Another noteworthy advancement delivered by modern price optimization systems pertains to the analysis of “pricing cross effects,” which include the positive or negative consequences that the price of one item can have on other items. These relationships are very difficult to manage without software, and generally fall into two types:

- **Halo Effect** – a Halo effect occurs when the price of a given item positively influences the sale of other items. For example, would an aggressive promotion on automotive tires create increased sales for shocks, brakes, or oil changes?
- **Cannibalization** – a Cannibalization effect occurs when the price of a given item negatively impacts the sale of other items. For example, if you reduced the price on a national brand would you cannibalize sales of your private label brand?

Done right, price optimization takes the guesswork out of pricing – at every stage of a product’s life. The science is capable of providing specific pricing answers in response to the art of how a retailer wants their store to be positioned in the marketplace. Retailers grappling with price-image issues, for example, can focus on product mix, promotions, brand and marketing – all the other components of running a business – and use their pricing technology to achieve category and product pricing that addresses the price-image goal in line with demand signals from customers.

Four Best Practices

Creating a solid strategy with disciplined execution is the way to win with price optimization software. Personal consultation with pricing specialists, preferably from the company who best understands your software, is where the ultimate value of any price optimization system resides. The retailers getting the best results are unified by at least three best practices:

1. Use demand information to help set strategies. If a category is price sensitive, use it as a traffic building category. If it is not sensitive, use it as a profit-builder. If an item is highly price sensitive, price it competitively. If an item is not highly price sensitive, then base it based on margin targets or consumer demand. Store-level demand characteristics should be used to assist in grouping stores together into groups that are priced the same.
2. Use competitive pricing selectively. Identify Key Value Items (KVI) that are most price sensitive to follow the competition – versus following / matching a competitor’s pricing on all items. Allow the price optimization technology to adjust and segregate pricing, a “smart-choice” enabler, as opposed to blindly following competition.

“The science is capable of providing specific pricing answers in response to the art of how a retailer wants their store to be positioned in the marketplace.”

3. On any given item, allow the optimization engine to recommend the 'optimal price. For any given item in a store, there are many factors considered within an analysis engine that have a bearing on the ultimate recommendation: margin targets, competitive position, item sensitivity, other items that are priced the same, private label or good-better-best relationships or multiple sizes of the same product. Most retailers who make the move to new-era price optimization software report a brief period where they question the validity of the system's recommended price changes. But virtually every retailer eventually learns that the recommendations work, and do not require adjustment or intervention.
4. Designate a single point of authority for your pricing policy. Proper implementation and execution of your price optimization strategy requires aligning all levels of your organization. Its particularly important in large organizations, where product categories are often managed by different individuals or systems, to ensure a global integration of the price optimization system.

Mission-Critical Challenges

The on-going job of accurately setting optimal prices should be a priority function of every retailer's long-term operational strategy. Proper implementation and integration of a price optimization platform can result in significant increases to the bottom line, often in the range of 1% - 4% in net profit immediately. But capable as the new software is, technology alone is not the answer to the problems faced by retailers today. The right technology – used the right way – is what makes the difference. In addition to the best practices outlined above, retailers must also adopt an organization-wide price optimization mentality. Successfully imparting a price optimization mentality requires three inter-related commitments:

1. Choose the right business strategy. All retailers need to make a profit, but many lack a clearly defined strategy. It all starts with goals. Beyond profit, other long-term business goals should influence pricing strategy. Margin, top-line revenue, sales volume, inventory, market share, assortment, competitive positioning, and price-image should top the long-term goals list. Retailers must choose a goal and set their price strategy accordingly. Establishing a pricing policy in the absence of a long-term, strategic goal is impractical and probably impossible to execute.
2. Choose the right technology. Various forms of pricing software, with varying degrees of sophistication and usability, have been available to retailers for quite some time. Many retailers who use pricing software today face a number of barriers related to the age or implementation of their system:
 - Untrained/unwilling staff
 - No change management process that reflects the importance of price optimization
 - Previous generation software that is outmoded and/or misaligned with current operational structure
 - Under-utilized software that is capable of doing more but is stalled due to usability
 - Improperly deployed software never corrected by untrained and/or unwilling staff
 - Unused software, which was purchased and never implemented

“Proper implementation and integration of a price optimization platform can result in significant increases to the bottom line, often in the range of 1% - 4% in net profit immediately.”

Today's "fourth-generation" pricing systems are far more sophisticated in both design and implementation than the rules-based and "black box" systems popular in the 1990s and early 2000s. In terms of product design, the newer systems generally eschew rules-based functions in favor of demand intelligence, although both factors are integrated in the most robust systems. At a minimum, true price optimization systems offer the following features:

- Automatically determines optimal pricing on individual products and product lines
 - Course corrects on its own as prices are implemented and more data is available
 - Offers scenario planning to evaluate alternative strategies before implementation
 - Continually tracks and measure performance to ensure strategies are optimally implemented
 - Generates prices based on both data analysis and business objectives
 - Provides easy access for price review, system management, and reporting of performance and financials
3. Put the right processes in place. The entire retail organization needs to be willing and able to capitalize on the capabilities of the technology and the power of automated lifecycle pricing strategies. Organizational barriers often prevent successful integration of new technology.
- Identify untrained/unwilling staff and old technology
 - Employ change management that reflects the importance of price optimization for the entire organization
 - Give the system the data it needs, in terms of a clean item file with categories and sub-categories
 - Determine the optimal number of weekly price changes for your organization

“ In terms of product design, the newer systems generally eschew rules-based functions in favor of demand intelligence, although both factors are integrated in the most robust systems.”

Summary

Retailing today is more challenging than ever. While pricing tools have been available to retailers since the 1970's, only recently has technology enabled retailers to create and execute holistic pricing strategies based on the principles of optimization. Retailers who have adopted the optimization mindset, integrated cutting-edge pricing technology, and adapted their organizations to effectively implement their new pricing policies enjoy significant competitive advantages and marketplace benefits, including more loyal customers and better financial returns.

Retailers who have not adopted a price optimization platform should ask themselves some critical questions:

- Do I have a current pricing strategy?
- Do I rely on old pricing rules or historical margin targets to set prices?
- How do I test my current pricing strategy against alternatives?
- How can I determine if my pricing strategy is working?
- How can I determine if I am pricing to achieve my priority business goals?
- Is my organization aligned to support my pricing strategy?

Smart retailers know, in times of uncertainty, winners separate themselves from the pack by adapting and evolving. Especially given the rapid advances in pricing science, “the way we’ve always done it” just isn’t good enough anymore. As negative economic trends continue pressuring retailers, the importance of leveraging every competitive advantage is more important than ever. Modern pricing software is now in its fourth generation, but many retailers still set their prices using third-generation software; and many of those rules-based systems were never fully implemented owing to a lack of support from the companies who designed the software products and/or a lack of will among the companies who adopted them. In the end, winning retailers will take a proactive stance in aligning their organization and technology to the new standards of excellence, including adoption of modern price optimization technology.

“Smart retailers know, in times of uncertainty, winners separate themselves from the pack by adapting and evolving.”

Revionics is a leading provider of full-lifecycle price and promotion optimization technology for retailers and distributors in the Fast Moving Consumer Goods Industry. The Revionics Advanced Pricing System (RAPS) generates increased sales and profits through sophisticated demand intelligence and proprietary pricing science. The system optimally determines base pricing, promotional and ad pricing, temporary price reductions and markdowns. The Revionics offering is available as a Software-as-a-Service (SaaS) subscription offering over the Internet. The service includes advanced price modeling, optimization on-demand, scenario forecasting, and advanced category analytics.