

Distinguishing Price Optimization from Rules-Based Pricing

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White Paper



Pricing is a complex and difficult process that can make the difference between profitability and insolvency.

Abstract

Retailers face consistently thin margins, competitive pressures, and many challenges in running their day-to-day operations. One of the most important strategic issues facing retailers is pricing. Pricing is a complex and difficult process that can make the difference between profitability and insolvency. Multiple software packages are available to assist retailers with their pricing. These systems fall into two categories: Rules-based pricing systems and science-based price optimization solutions. This paper compares the different pricing processes and various tools that assist with the pricing process.

Pricing in Retail: Current Practices

Pricing represents both tremendous opportunity and high-risk challenge for today's retailer. Retail price image can drive consumers to treat a retailer like a convenience stop or a reliable stock-up destination. Challenges mount when competition emerges in new forms, such as e-Commerce merchants, dollar stores, and cross-over convenience stores. Manufacturer cost increases create an even greater challenge of margin protection versus remaining competitive. The challenge of managing price image, maintaining margin, warding off competition, and more can make category managers feel like plate spinners.

Pricing is still a manual process for many retailers; pricing experts use their intuition and experience to determine the price for every product by zone. For most retailers, the pricing methodologies in place today are based on target margin, not on maximizing profit while maintaining customer loyalty. Retailers have not had the capability to determine which items they could raise the price on without decreasing unit sales, and on which items they could lower the price to increase unit sales – the key to higher profits. Lacking this information, retailers have been using simple decision rules. For most products, they established a price long ago, and adjusted that price based on cost increases or movement in their competitors' price.

Current pricing methods have left many retailers playing a game of “follow the leader” behind market competitors. This pattern of reflexive pricing leaves retailers with pricing that fails to steer consumer purchases to the most profitable items. Well-known national brands are often priced in such a way that they do not capture the value associated with their brand names, Private label products are haphazardly priced, often failing to encourage switching to more profitable alternatives.

Rule-based systems are useful, in that they automate a laborious and time-consuming process, but they lack sophisticated analytical capabilities.

When it comes to setting prices, retailers find themselves facing an increasingly important yet increasingly difficult and complex task. With competitive pressures increasing, pricing is more important than ever in order to maintain or grow slim profit margins and to retain customer loyalty. Using today's prevalent pricing methods, retailers have great difficulty finding the optimal mix of maximizing profit while retaining customer loyalty. The result is an entire industry with persistently low margins and inadequate time and resources to address the problem.

Rules-Based Systems vs. Optimization Systems: Efficiency vs. Effectiveness

Rules-Based Systems: Increased Efficiency

A number of price management systems are now available to retailers. Many of these systems include a component that allows the retailer to identify rules for pricing different products in different categories. Some of these systems are marketed as price optimization systems, but they actually don't perform the analytics necessary for optimization. They only implement static rules determined by the retailer. These rule-based systems are useful, in that they automate a laborious and time-consuming process, but they lack sophisticated analytical capabilities. Therefore, they do not take advantage of available consumer insight hidden within sales information to adjust prices for maximum profitability.

As Patrick A. McGuire writes in his article "The Analytics Divide":

*"Price optimization goes well beyond the standard rules of thumb; for example, a store should price some items low to get customers into the store and then make money on higher-margin items. Optimization programs look at all products, especially those in the middle, and recommend price tweaks, both up and down – sometimes as little as a nickel an item in a grocery store."*¹

Rules-based systems take the general pricing policies of a retailer and apply them across categories, generating prices in an automated fashion. For example, a rules-based system might contain rules like these:

- Mark up all products in SEASONAL by 35%
- If KEY VALUE ITEM, set price relative to competition
- Ensure my price-per-unit decreases with larger sizes in HOUSEHOLD CLEANING
- Price PRIVATE LABEL PRODUCTS in HABA at 25% below national brand
- Adjust all prices in LIGHTING to have a "9" as the last digit

Optimization solutions use the vast array of historical price, sales, cost, promotion, and competitive price data to generate prices that best achieve a retailer's goals and objectives.

By linking a rules-based system with the retailer's master item file, the retailer's pricing process can be made more efficient in terms of speed, but because the pricing method hasn't changed, the pricing can actually be less effective. For example, a retailer may have a rule to follow the competition, but another rule to follow 35% mark-up for a category. If the rules conflict, a subjective decision will be made that lacks insight into consumer reaction. Lack of consumer insight in rules-based pricing software can foster poor pricing decisions, merely automating a general methodology across a category, without specific knowledge of the gain or loss that will result.

Price Optimization Systems: Increased Efficiency and Effectiveness

Rules-based systems automate the application of retailer-supplied pricing rules. In contrast, price optimization systems listen to and interpret shopper behavior, predicting the best price for retailers to appeal to consumer demand. Optimization solutions use the vast array of historical price, sales, cost, promotion, and competitive price data to generate prices that best achieve a retailer's goals and objectives. These solutions dramatically increase sales, profits, and customer loyalty. Price optimization systems identify opportunities for adjusting prices to both increase individual product profits and encourage the migration of consumer purchases from low margin products to high margin products.

For example, consider a rules-based system versus an optimization system, both working on the PEANUT BUTTER subcategory. The rules-based system is set up to price products within the subcategory so the margin is at least 35%, and the final digit of the price must be "9." The price optimization system uses available data to recommend prices, on a category-by-category basis, that best achieve the retailer's objectives, including profit, traffic generation, price image relative to competition, and category-specific margin goals. The retailer uses these recommendations as a basis for setting prices, while leaving the final decisions to the pricing analyst.

According to Mike Griswold, analyst for AMR Research:

*"Once deployed, retailers have seen benefits as a result of price optimization exercises as follows: Sales improvements of 1-3% of base price, and 1-12% improvements of promoted items. Gross margin improvements of 2-5% of base price, and 5-20% of promoted products."*²

Retailers using Revionics to optimize base prices see:

- Return on investment 7-16X
- Profit improvements of 1-4%
- Gross margin gains of 2-4%

The rules-based system simply looks at the cost of each item, applies the 35% margin at the direction of the retailer, and sets the last digit of the price to “9.” The optimization system goes back through sales history and competitive price data, identifies the relationship of price to sales volume, checks several product attributes against other products in the category, and determines a price mix for the category designed to maximize profit without sacrificing sales volume or customer loyalty.

The rules-based system provides a margin of greater than 35% for each product in the category, but at the expense of significant sales and margin dollars across the subcategory. The price optimization system identifies the relative price inelasticity of national brand A, as well as the relative elasticity of national brand B, and the opportunity to move the price of the private label peanut butter up from the 35% margin level. This results in significantly greater revenue, margin percentage, and margin dollars from the subcategory as a whole. The optimization is performed based on the sales history for the individual store or zone. How do the customers respond to price changes for a product or subcategory? Is a product or subcategory particularly dependent on brand names? Is this a seasonal product with a pending demand forecasted? These calculations and hundreds of others go into the recommended prices for each product and subcategory. In contrast, the rules-based system is unable to take advantage of the unique nature of a store’s loyal clientele.

The example provided here demonstrates the gains that a price optimization system can capture, and how it differs from a rules-based pricing management system. Price optimization solutions help retailers to be “customer-centric” in their price delivery, pricing in such a way that pricing adjusts as consumers react, favorably or unfavorably. This agility allows retailers to proactively price to meet consumer expectations. As a result, implementations of price optimization systems have typically shown improvements on the order of 2-3% increase in revenue, with an additional 1% increase in profits.

For a retailer with gross revenue of \$300 million annually with a 1% profit margin, that means a typical gain of approximately \$3,000,000 per year. For one Revionics retailer, they were able to experience a 1% improvement in gross margin dollars while closing a 3 point gap in their indexing against their lead competitor.

Optimize with Confidence: Pricing Essentials

Retailers who migrate from rules-based pricing systems to use of price optimization solutions are also on a continuum of adoption and value realization. Those retailers who have high rates of adoption and experience speed-to-value with their technology investment often have similar comments about why their experience has been a success. It often boils down to confidence in both price recommendations, and the ability to have facts at the point of decision in the price planning process. Notable differentiators for price optimization solutions include:

- Usable Science: Integrates and balances retailer's business rules, strategies and operational policies into the optimization model.
- Transparency: Insight as to "why" the price is recommended.
- Speed: Optimization results at the point of decision for merchants.
- Real time what-if simulation: Compare performance of different strategies and pricing to make informed, fact-based choices.
- Intuitive, User Friendly: Interface that is use case oriented and abstracts away the complexities of the underlying technology which leads to adoption, which is the key for retail speed-to-value.

For retailers wary of making a wholesale change from rules to optimization, "test and control" scenarios are recommended to track the performance of optimized versus non-optimized stores or categories over a period of time. In addition to the points above, this practice can generate solid numbers that can easily justify the investment.

Summary

The process of pricing several thousand products across multiple stores is difficult, complex, and time consuming. Retailers can employ a technology to assist them in handling their pricing decisions. Such pricing systems fall into two categories: rules-based price management systems, and life cycle price optimization solutions. Price optimization solutions have the greatest potential for improving profitability because they base price recommendations on shopper insight. Table 1 summarizes many of the key differences in the features and capabilities of these two types of technology.

Rules-based price management systems, though often marketed as price optimization systems, provide most of their benefit to the retailer through the automation of an otherwise lengthy and error-laden process. They do not actually optimize prices, but only implement the retailer's pricing policies at a general level across a category.

Price optimization systems provide the automation benefits of a rules-based system, while also recommending prices that result in significantly higher profits, without sacrificing customer loyalty. They do this through a combination of elasticity determination and attribute evaluation and analysis, selecting the best products for price increases and decreases. By using a price optimization system, retailers can typically expect a gross revenue increase of approximately 2% and a bottom-line improvement of approximately 1%.

Function/Attribute	Price Optimization	Rules-Based
Automates Pricing Process & Reduces Pricing Errors	√	√
Identifies Factors that Affect Sales	√	
Allows Retailer to Specify Decision Rules	√	√
Allows Retailer to Optimize Across Multiple Objectives	√	
Prevents Propagation of Ineffective Pricing Rules	√	
Planning environment to Specify Goals (Profit/Traffic/Price Image, etc)	√	
Recommends Variable Margins for Products Within Subcategory	√	
Updates Price Recommendations Based on Consumer Response	√	
Store/SKU Elasticity Calculation	√	
Seasonal Trend Calculation	√	
Optimal Private Label Gap Determination	√	
'What If' Pricing Scenario Capability	√	
Maintenance of Retailer's Price Image	√	
Provides Competitive Price Index and Item Level Information	√	

Table 1. Key Differences

Sources

1. McGuire, Patrick A. "The Analytics Divide." National Retail Federation, (date unknown). <http://www.nrf.com>
2. Griswold, Mike. "Five Food-Retailing Technologies That Will Drive Value in 2008," AMR Research white paper: 3 March, 2008).
http://www.reflexisinc.com/REFLEXIS/images/Five_Food-Retailing_Technologies_That_Will_Drive_Value_in_2008.pdf>

Price Revolution, LLC is a retail price revenue solutions company, enriching the customer's shopping experience through focused pricing. Price Revolution provides retail price strategy and price management services. Visit Price Revolution at www.price-revolution.com

Revionics delivers innovative life cycle price optimization solutions to retailers, including base, promotion, and markdown pricing. The Revionics technology leverages an integrated forecast, enabling a coherent view of customer demand across all decision areas. Our proprietary approach, Revenue Bionics applies advanced analytics and science to predict customer behavior, empowering retailers to achieve their financial objectives, improve customer loyalty, and make better, faster decisions. Our solutions are delivered on a modern, fully scalable, pay-as-you-go, software-as-a-service platform. Over 20,000 retail locations across grocery, automotive, drug, building materials, convenience, general merchandise, and discount stores are priced using Revionics solutions. For more information, please visit www.revionics.com.