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PART 1:

The Process Of Price Optimization

What's the perfect price?

Vistex for Manufacturing: Price Optimization

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Price optimization is many things to different people. In fact, there is both a science and an art to the process. When applied correctly, the process of pricing science will organize disparate sets of data and turn them into powerful, actionable insights. When applied incorrectly it can hinder accurate price setting and miss windows of opportunity.

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More than just a tool

My boss hates the term *Price Optimization* (PO). He says it's overused, and nobody really knows what it means. I say that's because folks define price optimization differently for different purposes.

For the sake of clarity, let's define it as: the process of applying data science algorithms and machine learning to determine the optimal price to charge a customer. This is more scientific than many manual processes, and more involved than playing out what-if scenarios using price elasticity curves. And, it isn't just tools and science, but a procedural way to apply it to business. It's a process; not just a tool.

High prices generate high margins but at lower volumes; low prices bring low margins but typically yield higher volumes. Since profit = margin x volume, you need to understand how different prices affect your bottom line.

It's a problem as old as commerce itself. But now, you have more data than ever about your company, your products and your customers—and you will need to process it at lightning speed to get value from it.

Big data requires big solutions

Competition is fierce—and staying profitable requires you to adjust prices in response to changing market conditions. Doing this effectively requires data-driven pricing tools, which analyze this tidal wave of data and, more importantly, detect patterns and predict customer behavior in response to price changes.

> Industry top performers are **more than 2X** as likely as their peers to price dynamically.

Price optimization tools can be "trained" to identify the relationship between price and volume by looking at customer behaviors in response to prior price changes and repeatedly modeling different prices until the maximum profit is achieved in simulation.

Pricing science and pricing methodologies play a key role in succeeding in the "final frontier" of profitability: setting the right price at the right time for each customer for each product or service.

Machine learning is a powerful tool in PO. Just as the name implies, computer algorithms "learn" patterns from data, rather than needing to be programmed to perform a specific function. Machine learning models continuously process new information and reveal emerging trends, so you can react to customer demand in real time.

> Amazon adjusts prices at a rate of approximately **2.5 million** price changes per day.

But PO isn't simply about introducing algorithms into your pricing. Price optimization should be thought of as a business process. So, let's talk about the process o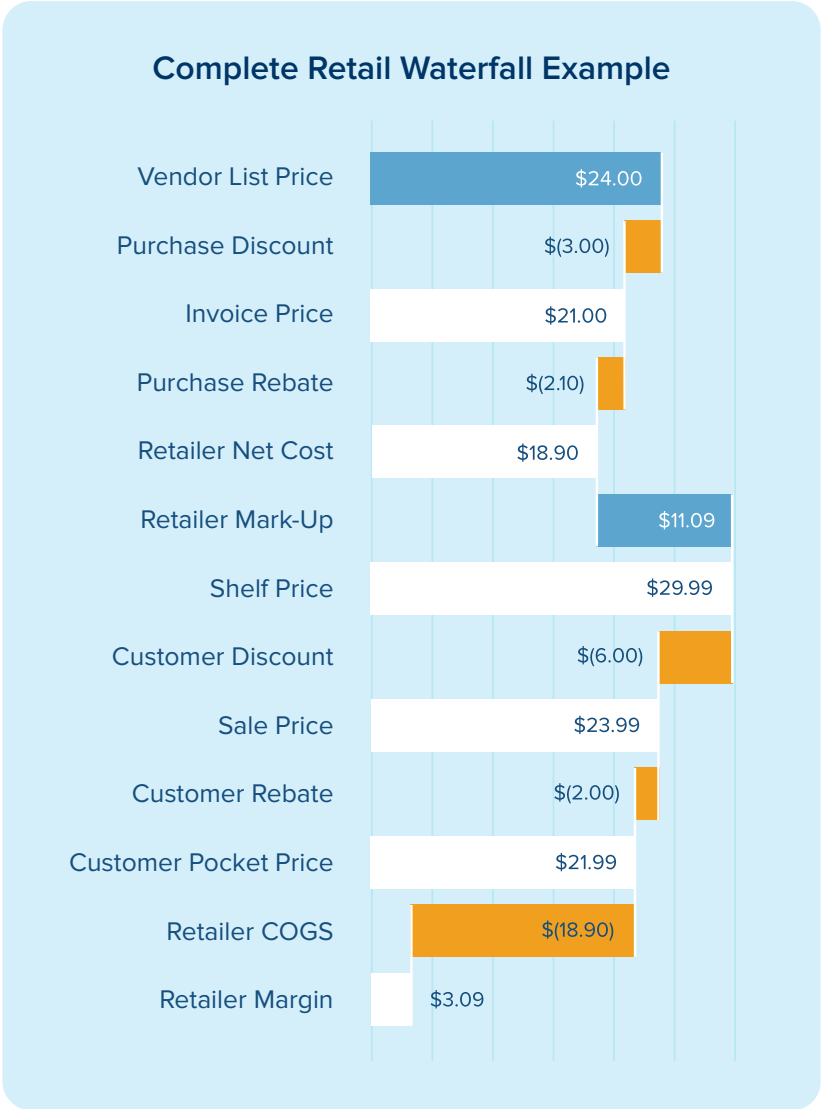f optimizing prices and, along the way, I'll show you where optimization algorithms play a part (and where they don't). Then we can all talk about price optimization in a smarter way—and stop annoying my boss!

Source: Bain & Company

Value at what price?

At what point is the customer considering value? The purchase price is apparent and immediate, but lagging rebates and other reimbursements can subsequently reduce the net cost. Does the customer consider these after-the-fact reductions when making a purchasing decision? When your software says the ideal price is $5, does that mean the purchase price should be $5 or should the purchase price ($6) minus the rebate ($1) equal $5?

Like beauty, value is in the eye of the beholder, and you need to understand your customer when deciding to discount prices and/or offer a rebate. Rebates and reimbursements after-the-fact can be of tremendous value to the buyer, but it can be difficult for them to analyze the true impact of those subsequent, lagging, and often variable payments without analytical tools.

Complete Retail Waterfall Example

Vendor List Price	$24.00
Purchase Discount	$(3.00)
Invoice Price	$21.00
Purchase Rebate	$(2.10)
Retailer Net Cost	$18.90
Retailer Mark-Up	$11.09
Shelf Price	$29.99
Customer Discount	$(6.00)
Sale Price	$23.99
Customer Rebate	$(2.00)
Customer Pocket Price	$21.99
Retailer COGS	$(18.90)
Retailer Margin	$3.09

LIST PRICE can't be optimized in the scientific sense. The traditional PO algorithm evaluates the effect of price on sales. Nobody buys at list price, so how can you optimize this using PO? You can't, but you can set an ideal list price based on a number of strategies. Setting a list price involves reverse-engineering a starting price by looking at a desired selling price, then adding back in the discounting and rebates. There is still much art here, but a good modeling solution can help you understand what a typical price waterfall will look like for a product.

SELLING PRICE is where price optimization is most commonly applied and is the correct major use case. If there are no rebates or reimbursements after-the-fact, then the selling price is the buyer's actual cost. When the value of your product or service is judged using selling price, in this simple scenario, the buyer can quickly and accurately understand their true cost, and their behavioral response to price changes is clear.

POCKET (OR NET) PRICE is where the smart money is spent by smart purchasing people. They analyze the selling price and the rebates and reimbursements to understand their net purchase price (actual out-of-pocket cost). But you can't ignore the important first impression given by your selling price before the rebate value sinks in, so you must consider both selling price and pocket price.

What's the difference between selling price and pocket price?
If you are a consumer, pocket price typically takes into account
mail-in rebates, coupons and loyalty program rewards. If you are a
retailer or distributor, this is predominantly rebates, claim paybacks,
marketing or co-op funds, and shelf fees. Some of these elements
are fixed amounts or flat rates, and therefore might be expressed as
a constant delta between selling price and net price.

NET PRICE = **SELLING PRICE** − **REIMBURSEMENTS**

Unfortunately, most of these elements can be highly variable with payout
amounts tied to performance targets, tier achievements, customer or
channel mixtures, and many other factors.

NET PRICE = **SELLING PRICE** − **SOME CONSTANTS** + **LOTS OF WILDCARDS**

Can a monkey do it?

Not yet. There isn't a singular approach you can use to optimize all these prices. Price science and machine learning have evolved significantly in the past years, but we aren't yet at the point where a monkey can press a button and optimal prices are set throughout the commerce cosmos. When applied correctly, pricing science tools can take your mountains of data and turn them into powerful, actionable insights and predictions.

Take a deeper dive into price optimization. Check out Part 2 of this eBook series,

What's The Perfect Price?

Part 2: The power and pitfalls
of price optimization

How technology can make a difference

Manufacturers supported by software that manages the full lifecycle of their pricing optimization programs will have a strategic advantage in the marketplace. By capturing detailed supply chain performance data in a structured repository with machine learning capabilities, manufacturers (and their supply chain partners) can get instantaneous answers, rather than enduring hours of searching for data, doubting its integrity and manually studying its secrets. In the end, data leads to insights, and insights lead to profits.

How Vistex adds value in Manufacturing

Industrial manufacturers face increasing costs, price pressures, margin erosion from discounting and promotions, automation costs and complexities, reduced revenue from loss of market exclusivity and outright intellectual property theft. Vistex helps manufacturers better respond to supply chain challenges through revenue growth programs including pricing, sales rebates, contracts, co-op and MDFs, rewards, commissions, bids and quotes, claims, loyalty programs and royalties. Manufacturers benefit from a clearer picture of margins, returns on promotional investments, growth opportunities, and improved revenue management for sustained business growth.

About the author | Matthew Hays, Director of Product Management at Vistex

Matthew Hays has experience in many roles over 25 years, including developer, team lead, business and technical consultant, project manager, and product/solution/portfolio manager. His comfort level with architects, programmers, business analysts, and executives—both customers and vendors—makes him an interesting presenter at SAP TechEd, ASUG, and various industry trade conferences for revenue management topics.

About Vistex®

Vistex solutions help businesses take control of their mission-critical processes. With a multitude of programs covering pricing, trade, royalties and incentives, it can be complicated to see where all the money is flowing, let alone how much difference it makes to the topline and the bottomline. With Vistex, business stakeholders can see the numbers, see what really works, and see what to do next–so they can make sure every dollar spent or earned is really driving growth, and not just additional costs. The world's leading enterprises across a spectrum of industries rely on Vistex every day to propel their businesses.

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