Profit Optimization and Price Management: High-Tech Manufacturers' Fastest, Most-Effective Route to Higher Margins

Optimized price management can have a huge impact on your profitability. Get it right by working with a vendor that possesses specialized know-how about the subject – and your industry.

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EBOOK

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Introduction: What are price management and optimization and why are they important?

Price management is the process of setting prices for products or services based on factors such as production costs, competition, and market demand. It is also the ongoing process of controlling and monitoring prices to ensure that they align with business goals, market trends, and customer needs.

Price optimization involves determining the best market price for a product to maximize revenues and profits while ensuring that the product is competitive when compared to like items in the marketplace. It involves analyzing customer behavior, market trends, and the competitive landscape to determine the optimal price that can be charged for a product or service without losing customers or sacrificing profits.

In other words, price management is about ensuring that the price is reasonable and sustainable, while price optimization is about finding the price that will generate the highest revenue and profits.

Why pricing matters

Pricing has a direct impact on the bottom line. According to a landmark study published in the Harvard Business Review, a 1% price improvement can result in as much as an 11.1% margin increase.[1]

[1] Michael V. Marn and Robert L. Rosiello. "Managing Price, Gaining Profit." Harvard Business Review. September-October 1992. https://hbr.org/1992/09/managing-price-gaining-profit

Profit optimization and management are important to:

Achieve the highest possible profit: By setting the right price, businesses can ensure that they are making the most money possible from each unit or service sold.

Stay competitive: Frequently, numerous companies are vying for market share in the same space. By optimizing prices, businesses can ensure that their products are priced competitively and that they are not losing sales to their competitors due to price alone.

Manage costs: Profit optimization allows companies to balance their production costs with the price they charge for their products. By setting the right price, businesses make sure they cover their costs and make a profit while still offering prices attractive to customers.

Respond to market demand: Many markets – especially in the technology industry – experience rapid innovation and fluctuations in market demand. By deploying a price optimization solution, companies can respond quickly to changes in the market and adjust their pricing to reflect shifts in supply and demand.

Improve customer satisfaction: By offering competitive prices, businesses can improve customer satisfaction and loyalty, as customers – both B2C and B2B – are more likely to purchase from companies that offer fair and reasonable prices over the long term.

For high-tech companies like semiconductor and electronic component manufacturers, however, the basic definition of price optimization and these high-level benefits are overly simplistic. Getting high-tech goods to market involves mastering the intricacies of an exceedingly complex value chain, most of which travels through the channel.

This ebook walks you through the processes of setting list price, establishing distributor book cost, negotiating successfully with channel partners, and managing rebates more effectively, among other best practices. It also details what capabilities and expertise you should look for in a profit optimization vendor.

Why pricing is so difficult for high-tech manufacturers in particular

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Why pricing is so difficult for high-tech manufacturers in particular

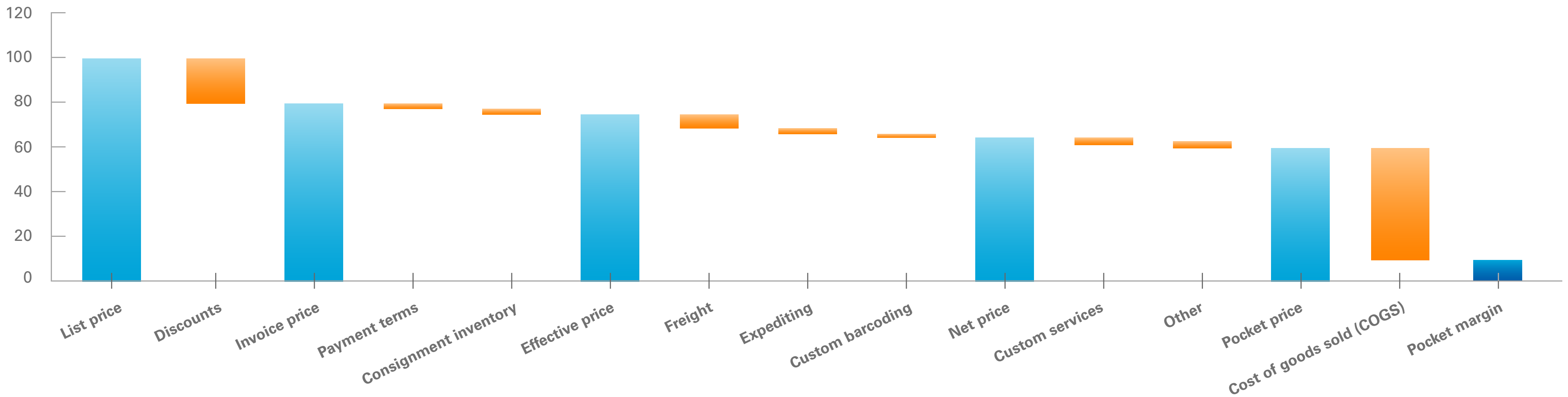
High-tech manufacturers like semiconductor firms or makers of electronic components are challenged to manage and optimize prices because of the complexity of their industry's market dynamics.

For such businesses, it's not a question of setting and forgetting a price for a product. First, they must establish the list price, which is rather like drawing a line in the sand that determines a multitude of other prices for different channel partners at different points in the product lifecycle. The list price is typically published in product catalogs and on the manufacturer's website and is usually the highest price that the manufacturer hopes to get for the product.

But, realistically, the drop from the list price to the actual price paid by businesses purchasing in bulk – either directly or through distributors or other middlepersons – can be quite significant.

The trajectory of this price drop is frequently described as a "price waterfall."

Figure 1: Example price waterfall



In the semiconductor industry, a price waterfall is a graphical representation of the various components that contribute to the final price of a semiconductor product. It is a tool used by semiconductor companies to analyze the cost structure of their products and identify areas where they can reduce costs or improve margins.

The price waterfall covers several stages, each of which represents a different element of the cost structure. These stages can include subtracting discounts and rebates, the cost of raw materials, the cost of manufacturing, packaging and testing, and other expenses such as marketing and distribution.

Manufacturing capacity is key to pricing strategies

Manufacturing capacity is the biggest driver of semiconductor pricing because the cost of producing a semiconductor chip is largely fixed, and thus the cost per unit decreases as the number of units produced increases. The initial cost of building a semiconductor fabrication facility (fab) is very high, and the manufacturing process requires highly specialized equipment and expertise. However, once the fab is operational, the cost of producing each additional chip is relatively low. As a result, semiconductor manufacturers try to maximize the output of each fab to reduce the average cost per chip. This is achieved by producing chips in large quantities, which in turn requires a high level of capacity utilization. When chip manufacturers suffer from low capacity relative to demand, they are able to charge higher prices for their chips due to a strong negotiating position. Conversely, when they possess excess capacity, they may be forced to lower their prices to maintain market share. Therefore, capacity is a crucial factor in determining the price of semiconductor chips, and semiconductor manufacturers invest heavily in increasing their production capacity to remain competitive in the market.

By analyzing the price waterfall, high-tech companies can identify areas where costs are high and take steps to reduce them, such as improving manufacturing processes or negotiating better prices with suppliers or channel partners. They can also use the information to determine the most profitable products and markets and set prices that reflect the true value of their products.

Notice all the stages you must go through to get from the list price to the “net price” (see figure 2). This is why setting pricing often involves a “reverse engineering” exercise, starting with the desired margin or “floor” price below which you cannot go because you need to protect your profit margins, all the way up to the list price, which in high tech (almost) nobody pays.

Calculating the list price

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Calculating the list price

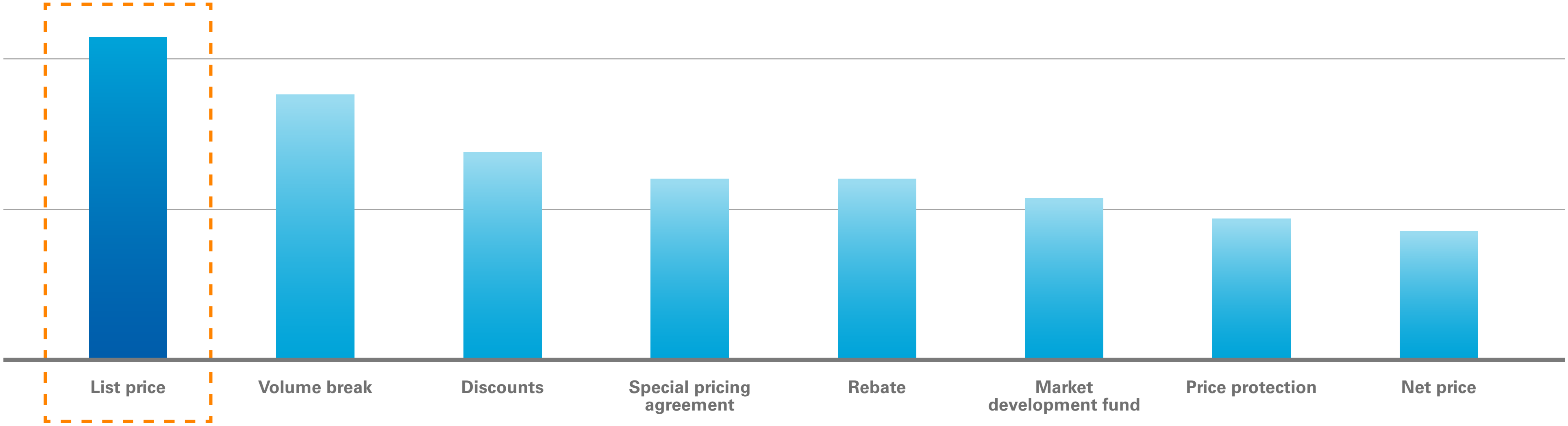

Figure 2: List price is the global reference price. Updating list prices impacts price points across the price waterfall.

What is the list price?

The list price is the “official” price that a high-tech company sets for its products. Typically published in a pricing catalog or on the company’s website, this price is the amount the company charges for a product if there aren’t any rebates, negotiated discounts, or special pricing agreements (SPA).

The list price is important because it helps high-tech firms establish a standard pricing structure for their products and maintain consistency across different markets and customers. However, it is almost certainly not the price that customers will actually pay, as discounts and SPAs are typically negotiated based on sales volume, customer loyalty, and competitive positioning.

What do you need to consider?

When setting a list price, you create a **pricing table**. This tool is used to set prices for different products or services you offer. It is typically a chart or spreadsheet that lists products or services along with their corresponding prices at different points in the supply chain – such as the distributor book cost. The pricing table also includes additional information such as discounts, minimum order quantities, lead times, and other terms and conditions.

The pricing table is updated regularly to reflect changes in market conditions, supply and demand, and other factors that may affect pricing. By using a pricing table, semiconductor companies can make better informed pricing decisions and optimize profitability.

PRO TIP

List price is important, so **make sure that your pricing solution vendor either helps you calculate, set, and update** it, or at the very least, allows you to ingest your list price into your revenue execution system for all deals.

How can the right vendor help?

A good profit optimization solution needs to be flexible enough to take any of your product or service SKUs and run them through key cost parameters, corporate objectives, and competitive economic data to produce a recommended list price almost instantaneously.

And the right solution should help you with all your price tables, not just your list price table. If you think about all the other price points that you have to update for every product if the list price changes, you also want a solution that you can configure using different algorithms, filtering, business rules, or processes to update those other price tables.

Most vendors offer the ability to set list prices, and indeed this is table stakes at this point in the market.

Negotiating the deal

Negotiating the deal

How is the deal negotiated?

A deal negotiation between a semiconductor or electronic components manufacturer and its channel partners involves discussions about pricing, sales volumes, inventory management, and other terms and conditions related to the sale and distribution of the manufacturer's products or services.

The channel partner will naturally try to get the best possible price and terms for itself. It may make commitments to sell a large volume of products, strive for favorable payment terms, attempt to gain rebates or discounts, and push for other factors that will enable it to sell the products or services most profitably.

After the agreement is signed, you need to monitor the relationship closely to ensure that the terms of the negotiated agreement are met. For example, it's not unusual for a distributor to commit to buying a certain volume to attain a generous discount, only to fall short of its commitment.

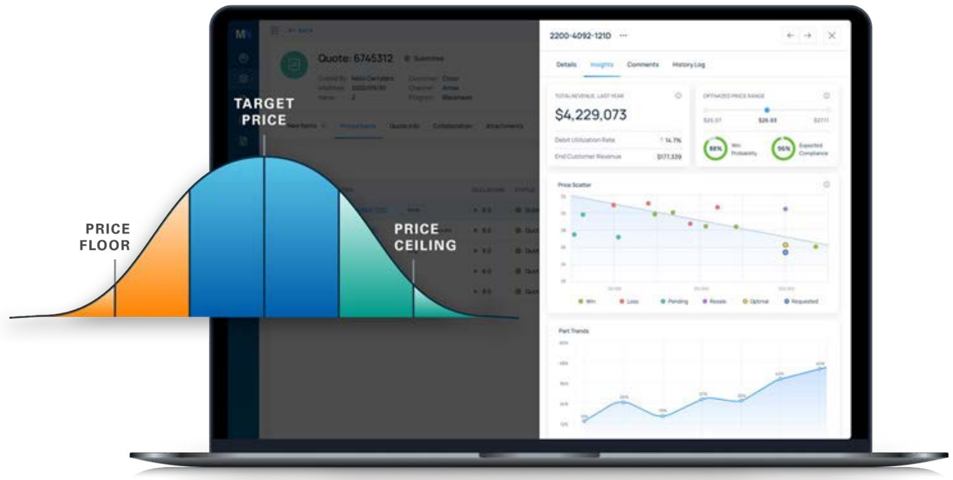

Figure 4: Pricing guidance with win-loss, volume compliance, and discount controls enable manufacturers to negotiate higher margins on every deal.

What do you need to consider?

Before starting negotiations, it is important to keep three numbers in mind: **floor, target, and ceiling**. The ceiling is typically the list price and is the highest price you can expect to get for your product or service. Your target price is your ideal price for maintaining your business's desired margins. And the floor price is the lowest price you will sell your products and services for. You should never go below the floor price or risk losing money on a sale.

You always start negotiations with the ceiling (list) price. Then, in just about every high-tech B2B sales situation, you can expect to be asked for special discounts, rebates, volume pricing, and other price-lowering considerations.

Typically, companies will get discounts based upon their relationships or histories with you. Are they a strategic partner for a target market? A high-volume OEM customer? In other words, why should they get a price break? You need to consider all the factors that they will throw at you:

- **Volume**: The higher the sales volume they commit to, the bigger the discount they expect.
- **History:** What was the price before? What was the previous discount? Channel partners and customers typically want a better price or discount than they had before, but you don't have to give that to them.
- **Willingness to pay:** Sometimes you will run into situations where a customer or channel partner will have a price point beyond which they will not move. You need to decide if such a price is above your "floor" and thus gives you an adequate margin.

How can the right vendor help?

Because of the massive volumes of deal quotes from channel partners and customers continually flowing in – most of which involve requests for discounts – most high-tech firms don't have time to approve quotes individually.

Leading profit optimization vendors will allow you to establish automatic approvals for deals that meet your minimum price

PRO TIP

To avoid the situation of giving a generous discount to a customer only to have them fail to sell or buy the agreed-upon volume, you might **consider instituting "step pricing" or "volume curve" pricing.** Under this practice, price breaks are given only when quantities purchased or sold exceed certain thresholds. For example, selling one to a 100 SKUs would gain an initial discount; 100 to 500 a greater discount; 1,000 or more an even bigger one, and so on. This way, you avoid losing money on unmet volume purchase discount terms.

PRO TIP

Some sales reps will try to game the system by routinely submitting bids at the floor price just to get deals done. They know the partner or customer will be pleased to get the highest discount possible, and they know the deal will probably be automatically approved. But just getting deals done is not revenue optimization. **Your vendor needs to provide deal intelligence in the form of complete transparency into all contracts** and display results in dashboards that help you identify the margins you're getting on each deal so you can take swift action if they are missing your business's targets.

thresholds – those above the so-called floor. They will also allow you to set approval workflows that trigger the need to have sign-off on deals from a sales manager, vice president of sales, or the CFO, depending on the size or price point of the deal.

Leading vendors will pull intelligence from any number of systems – sales systems, ERP systems, CRM software, third-party data, and more – that are needed to help you make good, real-time decisions on deals to accelerate closings.

A pricing software vendor can also help you negotiate direct deals with OEMs for customer-specific contract prices, which you can keep out of sight and out of mind of channel partners and other OEMs. With this you will have complete visibility into all your pricing contracts to make sure you're not selling the product or component at that price to those who haven't earned it.

PRO TIP

You might have a special low-price deal with an OEM. But the contract manufacturer responsible for buying and assembling your components will often try to get the same low price by bundling demand from multiple OEM accounts. In other words, they use that one customer price point to purchase low-cost inventory for other customers. **Your pricing software vendor should provide visibility into all your transactions to avoid this kind of channel conflict.**

Managing rebates

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Managing rebates

What are rebates?

Rebates are a common tool used by high-tech manufacturers to incentivize their channel partners to sell more products. A discount given to a customer or channel partner based on performance, a rebate is typically in the form of a percentage of the total sales made during a specified period. The size of that percentage is determined by things such as the volume of sales, type of products sold, and the profitability of the relationship.

Rebates may be offered to encourage customers to buy more and/or for partners to sell a particular product; meet sales targets; or incentivize growth in specific product lines, markets, or regions. High-tech companies may also use different rebate levels to incentivize different behaviors, such as offering higher rebates for new customer acquisition or for sales of higher-margin products. Rebates are usually paid at the end of a specified period, such as a financial quarter.

The calculation of the rebate amount can be complex, as it involves multiple factors such as the partner's cost of goods sold and additional discounts it enjoys.

What do you need to consider?

Rebates are actually one of the most creative ways that pricing professionals at high-tech manufacturers can provide value through incentives. But there are a lot of things to consider when offering them.

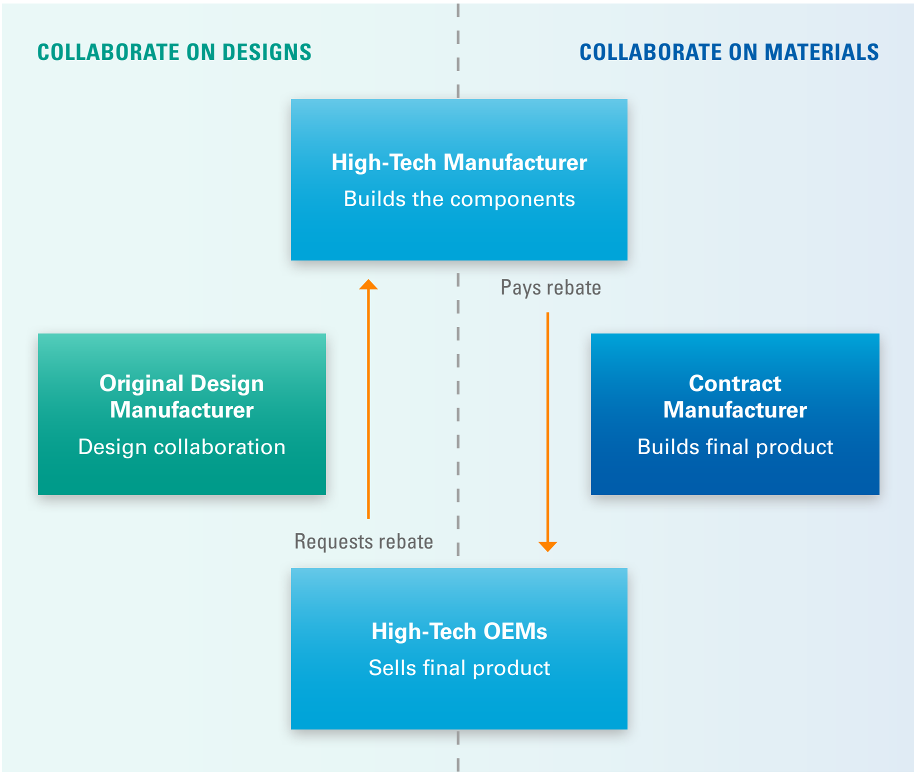

Figure 5: Price masking rebates for manufacturers conceals end-customer price points from channel intermediaries.

Because the manufacturer is effectively refunding a portion of a sale after the fact, this means a sale has been recorded that is too high – and a portion of those sales proceeds will eventually be refunded.

Another challenge is that rebates can represent huge financial losses because of overpayment and double dipping by partners and customers.

Say a company seemingly has sales of $10 million. But they're also running 2,000 different rebate programs. They must pay their partners and customers for those rebates. This takes away from their overall revenues and creates an accounting problem.

But they now also need to validate every single one of those $10 million sales lines against 2,000 rebate programs, each of which has its own terms and conditions. How do they do this without error? What, exactly, was sold? How many rebates did each account accrue? What size discount did they already enjoy? How much in the end should you pay out?

As a result, rebates add up to a huge area of revenue leakage for high-tech firms.

How can the right vendor help?

The right vendor helps provide complete transparency into all deals.

A good vendor can help you cross-reference all the details of the rebate so that you pay out accurately. You'll know whether to give a discount and how much through a robust calculation engine by looking at the millions of sales being transacted and validating against all the rebate programs. This essential functionality will help you retain the most money.

Say a reseller tells you they have a really large deal pending but need a 10% discount to get it over the line. Because you have a leading profit optimization solution deployed, you can see that you already have a 5% rebate in place for that particular reseller. If you also granted a 10% discount, in reality you would be giving a 15% discount to this customer – and you might not figure this out until a quarter later. But because of your profit optimization solution, you understand this immediately, in real time. With this knowledge, you would instead offer only a 5% discount, which with the 5% rebate adds up to 10% and gets the deal over the line for said reseller.

Leading vendors will not only help with rebate validation and accurate pay-out data, they will also help you establish whether you are invested in the right partners because the solution tells you which incentive programs are working and which aren't. Since a huge point of friction is that rebate tracking and sales deals are in different systems, a good solution will integrate the data from them to reconcile the numbers.

PRO TIP

Look for a solution that enables transparency across the entire channel to make sure everybody is telling you the truth. Incur transparency across the board to make sure you don't overpay and build loyalty and trust to protect the relationships.

Calculating distributor book cost

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Calculating distributor book cost

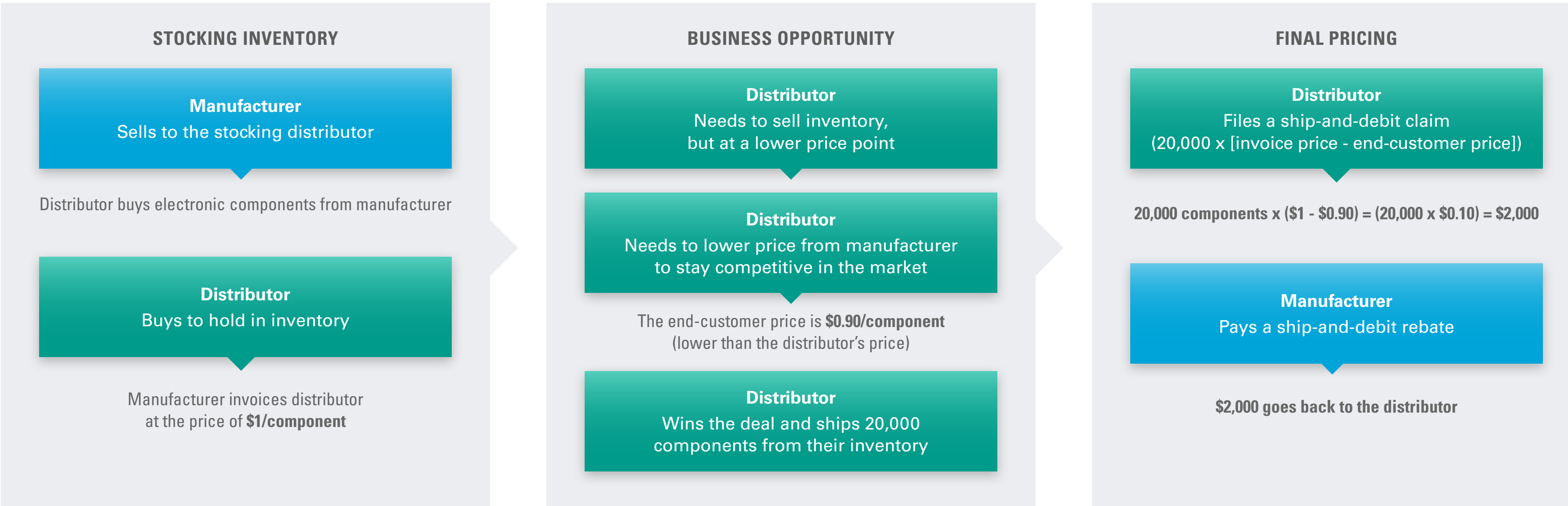

Figure 6: Example of a ship-and-debit scenario. Ship-and-debit programs result in phantom inventory and require accruals and validation for debits, credits, and payments.

What is the distributor book cost?

The distributor book cost is the price at which a high-tech manufacturer sells its products to its distributors. This price is typically set at a discount to the list price.

The distributor book cost is important because it is the price at which the distributor will sell the product to its customers down the road – with a markup, of course.

Manufacturers use different pricing strategies when setting their distributor book cost, depending on their goals and competitive positioning. For example, a manufacturer may offer a lower distributor book cost to distributors who commit to buying larger volumes or to distributors located in specific geographic regions or markets.

What do you need to consider?

Most high-tech products are sold through distributors, who then hold those products in warehouses. The distributor book cost must therefore consider both distributors' product carrying costs and sales quotas.

But because the rate of innovation is so fast in the high-tech industry – with new products continually being introduced – the value of existing product stock is constantly eroding. While unavoidable, you can manage it by adjusting your distributor book costs.

The way it works: You and each distributor agree on the distributor book cost, with the condition that you will provide a debit as the market price goes down. You do this because even though a product has lost value in the market, you still want partners to sell it. And, of course, you want them to continue to buy from you in the future.

How can the right vendor help?

A leading profit optimization solution will take all this into account. It will even recognize "phantom inventory" for your accounting system. After all, you've recorded $1 million in revenue when you sold product to a distributor six months ago. But today they are selling them at 50 cents on the dollar, so you can only recognize $500,000 on the books. And this becomes an issue for finance that you must rectify, similar to the one you had with rebates.

The right vendor will help you manage this "phantom inventory," which allows you to better regulate cash flow – a huge issue for high-tech manufacturers. Managing phantom inventory is also critical because the International Financial Standards Board (IFSB), which is the equivalent of the United States' Generally Accepted Accounting Principles (GAAP) for most international markets, will issue fines if you overstate your earnings because of it.

A leading vendor will also help you look at demand for your product over time, so you can identify when and how to adjust the distributor book cost – either up or down. You need to automate this process because if you are selling millions of units and you have multiple distributors with different price points, it's almost impossible to do everything with a spreadsheet.

Additionally, a leading vendor will help you understand end-customer willingness to pay based on channel data to help you adjust distributor book costs, which impacts revenue and margin.

Choosing a profit optimization and management vendor

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Choosing a profit optimization and management vendor

Most high-tech organizations have attempted to optimize pricing using an automated solution, but many have unfortunately failed or achieved mixed results at best.

The reasons for failure are largely due to lack of data, insights, an inability to respond to dynamic market changes, and a lack of understanding of the high-tech manufacturing industry's norms and needs.

Experience in the high-tech industry: The solution provider should have deep insight into the high-tech industry, including its unique challenges, such as long sales cycles, complex supply chains, and volatile demand.

Ability to handle complex pricing models: High-tech firms often have complex pricing models that take into account factors such as volume discounts, rebates, contract terms, and pricing tiers. The solution should handle these complex pricing models and provide recommendations that align with the company's pricing strategy.

Integration with semiconductor-specific data sources: The solution should integrate with high-tech-specific data sources, such as industry data on pricing trends, market share, and competitor pricing.

Real-time pricing updates: High-tech firms often operate in fast-paced markets with constantly changing prices. The solution should provide real-time pricing updates and recommendations based on the latest market information.

Collaboration and approval workflows: High-tech firms often have complex approval workflows for pricing decisions, involving multiple stakeholders and decision-makers. The solution should facilitate collaboration and provide workflows for approval and decision-making.

Losing revenue stifles innovation. Model N's purpose-built revenue optimization and compliance products and services empower manufacturers to optimize revenue for growth and manage compliance for value – all while gaining actionable insights and process enhancements for their business along the way.

Model N customers transact data from list price through pricing business rules, contracts, quotes, rebates, orders, opportunities, registrations, and point of sale. They can relate point-of-sale data back to contracts and quotes within the same system, giving them an enormous advantage because this can cross-functionally break silos when making revenue and margin decisions.

Accelerate digital transformation with the cloud-integrated revenue optimization and compliance technology, data and analytics, and expert services of Model N, so you can respond with agility to market and regulatory changes while mitigating risk and growing revenues.

Learn more about how you can define and execute the right price.

Check out **modeln.com/price-management** and ask for a demonstration.

About Model N

Model N is the leader in revenue optimization and compliance for pharmaceutical, medtech, and high-tech innovators. Our intelligent platform powers your digital transformation with integrated technology, data, analytics, and expert services that deliver deep insight and control.

Our integrated cloud solution is proven to automate pricing, incentive, and contract decisions to scale business profitably and grow revenue. Model N is trusted across more than 120 countries by the world's leading pharmaceutical, medical technology, semiconductor, and high-tech companies, including AstraZeneca, Stryker, Seagate Technology, Broadcom, and Microchip Technology. For more information, visit **modeln.com**

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