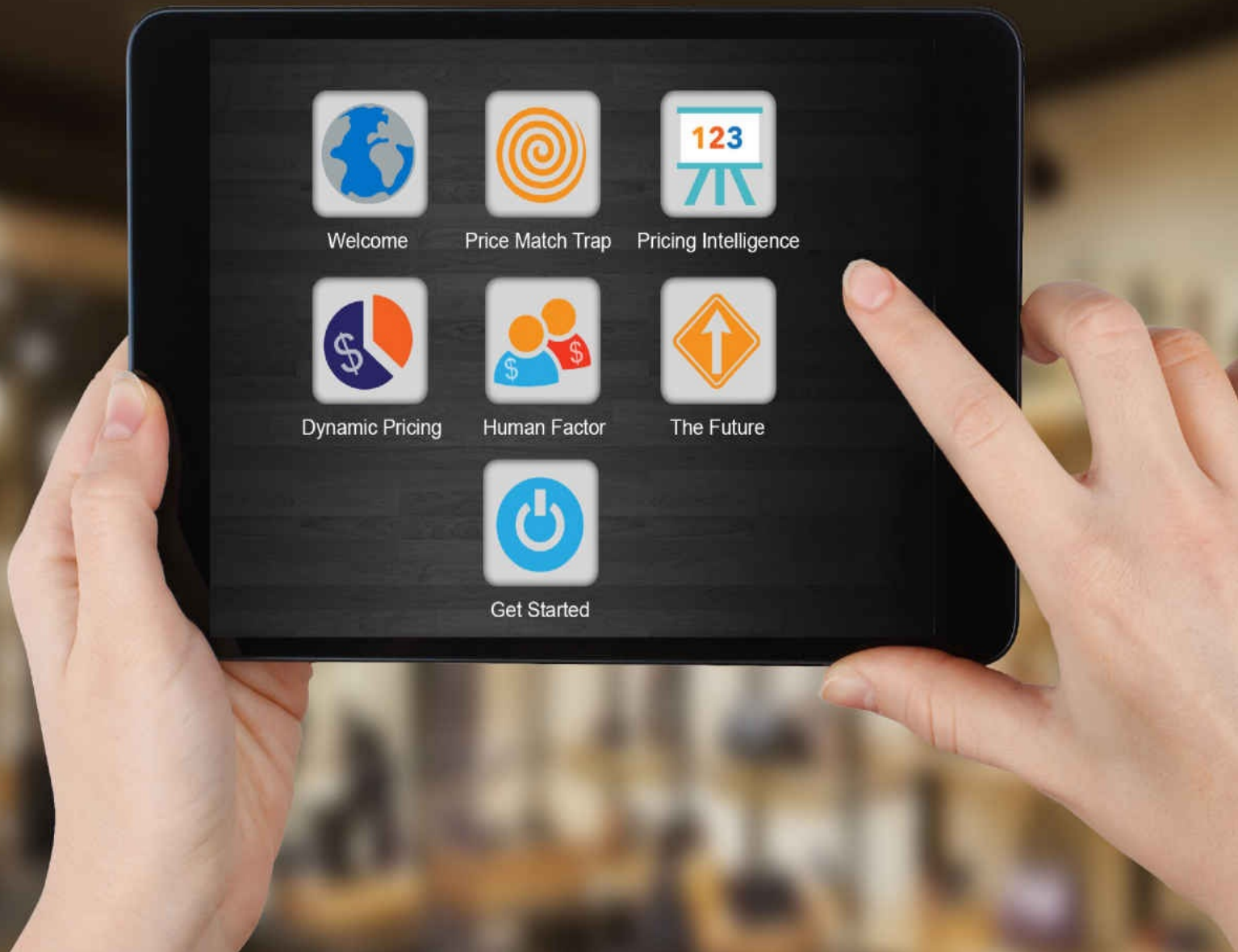


PRICING INTELLIGENCE 2.0

A Brief Guide to Price Intelligence and Dynamic Pricing



Welcome



Price Match Trap



Pricing Intelligence



Dynamic Pricing



Human Factor



The Future



Get Started

Pricing Intelligence 2.0

A Brief Guide to Price Intelligence and Dynamic Pricing

By Mihir Kittur

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The Author



Mihir Kittur is a Co-founder and Chief Innovation Officer at Ugam. He oversees sales, marketing and innovation and works with leading retailers and brands with insights and analytics solutions around their category decisions to improve overall business performance.

The Preface

With today's chaotic buying climate, we're all very aware of how much retailers are vying for consumers' limited attention span and the overabundance of choices available to them. The mobile, technology and social revolution have led to the rise of the super shopper who is armed, informed and vocal. Most consumers today begin their shopping journeys online and are looking for the best prices. They're also acclimatized to dynamically changing prices. Price wars occur in real time now, but some retailers and brands aren't ready for this new reality.

Price Intelligence and Dynamic Pricing are emerging as must-have capabilities that retailers need in order to stay relevant to their consumers and remain competitive and have an edge.

Knowing this climate, we're thankful that you picked this book and arrived at this page. This eBook was developed for Amazon and is an abbreviated version of a much more in-depth book on this topic called PRICING INTELLIGENCE 2.0: The Essential Guide to Price Intelligence and Dynamic Pricing that we encourage you to download [here](#).

We hope you find this book a useful read, and welcome your comments and feedback at ebookfeedback@ugamsolutions.com or (415) 320-8426.

Thank you,
Mihir Kittur

Chapter 1: Welcome to the New World of Pricing

Overview

Your customers are more empowered now than ever before. Armed with smartphones and comparison-shopping engines, even the most loyal ones will go elsewhere if you're not offering the "right price."

If you are just getting started trying to wrap your head around the new world of pricing, the good news is most of the retail world is still playing catch-up with the next generation of Pricing Intelligence.

Are You in the Middle of a Price War?

Retailers, as well as the analysts and journalists who cover them, are extremely fond of combat metaphors.



Describing an early 2014 discounting frenzy on high-end shampoo brands, *The Wall Street Journal* declared there was a “**Big Hair War**” between Procter & Gamble and Unilever over follicles in the United States and Western Europe.¹ The Journal also reported that P&G is now in Target’s “**cross hairs**” for making it cheaper for mega-rival Amazon.com to ship Pampers diapers and Bounty paper towels. Insiders say that the giant retailer has retaliated by devoting less endcap space to P&G brands.²

Is all this battleground talk a bit melodramatic? Perhaps. But the fight for market share is endless and relentless – and it pays to fully understand whom you are fighting for and against in order to build and protect your competitive edge.

The world of retail is not for the meek. In the Age of More Choice, you can't afford to sit on the sidelines while your competitors play the price-changing game. The American obsession with shopping for deals can easily tempt retailers to chase

customers at any cost, launching price wars that ultimately might not be in their best long-term interest. As the [*MIT Sloan Management Review*](#) has noted, there are usually no winners in a price war: “The losers are often forced out of business, and the survivors have been known to suffer a long-term squeeze in profitability. Price wars begin when competitors aggressively and repeatedly set prices below established levels.”³

In some cases, companies that initiate price wars engage in self-destructive behavior, which leads to downward pricing spirals that alter industry structures,” wrote Patrick Reinmoeller. “In studying price wars that took place between 1980 and 2013 in industries including airlines, telecoms and financial services, I saw that price wars were invariably linked with serious drops in financial performance. Indeed, when price wars erupted, most companies found themselves in commodity traps: Profits narrowed considerably, and weak competitors had difficulty staying in business.” In a war of attrition, both sides come out badly beaten and worse off than when they started.

There’s another way for prices to go, of course. And that’s up.

Selectively raising prices, if handled the right way, will not lead to customer insurrection. We promise. Think about your own consumer experience. When you are cruising down the supermarket aisles, you’ll likely find either Coke or Pepsi products on sale for 99 cents for a 2-liter bottle. Stop at a convenience store at midnight and you’ll have no issues forking over \$1.50 for a 16-ounce bottle. Want that same bottle at a ballgame or concert? It’s now \$4. At the movies, your 32-ounce fountain drink is \$6 in a souvenir plastic cup. If you’re a devoted soda drinker, you know the price of thirst varies based on where you are, the availability (or lack) of competition, and whether you are willing to wait for either of those factors to change. You won’t stop drinking soda because those are the accepted and universal rules of the game. Even if you’re not in the beverage business, these same pricing principles apply to your customers.

Chapter 2: The Price Match Trap

Overview

Amazon is making millions of price changes each day. Trying to match their every move is a fruitless (and impossible) exercise. You need to play your own game. If you take the price-matching trend to its logical conclusion – every retailer's prices eventually being the same – you need to give your customers a more compelling reason to keep buying from you and only you.

Avoiding the Price Match Trap: Q&A With Kevin Sternecker

In the current hyperactive pricing environment, many top retailers, like Best Buy, have adopted **price-matching guarantees** as their first line of defense. Customers in brick-and-mortar stores who find cheaper online prices can often get those prices honored by a store manager. Some retailers even offer a price match after the fact – if a customer shows up within a week with proof of a better deal.

Wanting to avoid being undercut by even a few pennies, many major retailers continue to expand their price matching policies and proudly announce each new revision in their advertising.

Price matching in any form is universally viewed as a victory for consumers, but for retailers, it's a race to the bottom. To explore why, we talked with retail analyst **Kevin Sternecker**, a former vice president of research for Gartner and an industry expert on Pricing Intelligence.



According to Sternecker, retailers who try to compete with Amazon on price “are showing up to a gun fight with a pixie stick.”

Q: How far ahead is Amazon in the area of Pricing Intelligence?

KS: Let's put technology aside for a minute. I would say that they are six to nine months ahead in strategic thinking. It's going to take education and pain for another six to nine months before leading retailers begin to say, “We've got to do something different.” Then it's going to take another six to 12 months to install the technology that's going to lead to a more competitive set of capabilities. I'm not talking about matching Amazon. I'm talking about going to a gunfight with a gun – and today, people are showing up to a gunfight with a pixie stick.

Q: Which retailers are aggressively trying to catch up?

KS: The largest companies with the most direct competitive impact are certainly working aggressively. Walmart, Staples, Target, Macy's and Tesco are among those working aggressively. They recognize the threat, but today they are taking more of a reactionary position than they are taking a strategic proactive position.

Most of these companies are still in very early stages. They are thinking rules-based, they are thinking looking at the competitor, looking at their volume, understanding elasticity and then matching prices on the elastic items. Instead of being a price leader – and that really is what Amazon has done.

Q: Which retailers are far behind?

KS: The bulk of other retailers are far behind. And it's not a technology race. It's a strategic-thinking race. Many retailers get and understand optimizing prices for brick and mortar, yet they have for some reason decided that the right strategy is to match their online price with their in-store price. If that's your strategy, it is a very flawed strategy.

The Solution: How Retailers Can Survive and Thrive

The trick, according to Sternecker, is understanding and influencing the customer through his or her shopping behavior.

“The customer cares about certain items [in terms of price sensitivity] and they don't care about others. You truly can tap into what the customer expects and you can steer the customer in very predictable ways to buy certain items – and to not buy other items,” he says.

“Let's say you have two different sizes of laundry detergent, the 128-ounce and the 96-ounce. If you have more profit on the 128-ounce, you can influence the customer to buy that item just by making the per-unit pricing more favorable. You can also reverse that and make the customer want to buy the 96-ounce item if that's where all your profit is. This elasticity methodology truly is the way that retailers can win.”

Sternecker used to be in charge of price optimization for H-E-B Grocery Stores, a regional supermarket chain in Texas and Northern Mexico that has achieved greater sales per square foot than Walmart.

“It's because H-E-B has said we're going to take price off the table,” the analyst reveals.

“We're going to understand our customers. We're going to study them. We're going to make sure they don't go to our competition because of price. We're not going to say that we're going to match, but we are going to be right on the items that the customer cares about. And we're going to offer the customer things they can't get anywhere else.”

“In my mind, the best quote of the century about being competitive comes from Sam Walton himself. And he said, ‘If you want to compete with me, do what I don't do.’”

Toys“R”Us and Target both offer store-exclusive Lego sets. Kmart lets you dress like former Charlie’s Angel actress Jaclyn Smith. Macy’s and Nordstrom have deals with Madonna on “Trust or Dare” shoes. When your store is the only place to buy an item, you are no longer competing just on price.

Differentiation does not have to be based on product choice or assortment. It can also involve a unique approach to customer service. Zappos CEO Tony Hsieh has adopted the unorthodox policy of having his call center representatives direct disappointed customers to three different competitor websites if Zappos is out of stock on a certain size or style of shoe.

“Yes, we lose that transaction,” [he explained to an audience at a South by Southwest Interactive conference](#). “But we’re not trying to maximize every single transaction. We’re trying to build a lifelong relationship with each of our customers – one call at a time.”⁴

When you are offering items that can be bought from several other competitors, using Dynamic Pricing, which is the act of pricing items based on variable market conditions, you can ensure that customers perceive your brand as being fair. With the right Pricing Intelligence solution, you’ll know which highly price-sensitive items need to be discounted, which ones can remain unchanged and which ones are ripe for increasing profits.

Yes, Amazon is far ahead of the retail pack. But there’s good news: According to a [January 2014 study by RIS News](#), most of that pack is sitting on the couch.⁵

Consider these findings about the current use of Retail Price Intelligence:

- Only 23% of surveyed retailers are using Price Intelligence software right now.
- An additional 29% of retailers plan to deploy Price Intelligence tools in 2014.
- A stunning 42% have no plans to use Price Intelligence software at all this year.

As mentioned earlier, even the most sophisticated technology is useless without the right strategic thinking. But if you want to stop being reactive and start being proactive with your pricing, there’s still time to get on board.

Acting on the right Pricing Intelligence will help you avoid the Price Match Trap.

Chapter 3: An Introduction to Pricing Intelligence

The Myth: Store-Based Retailers Only Need Store-Based Intelligence

As strange as it might seem in the computer age, the pencil-and-paper approach to intelligence gathering is hardly extinct.

Competitor Price Monitoring has been around in various forms almost as long as retail itself. This is primarily because whether you are running a consumer electronics store or a neighborhood lemonade stand, your customers will likely flock elsewhere if they can conveniently get the same products at a lower price.

Traditionally, brick-and-mortar retailers have sent employees into competing stores with a checklist of key products for price comparison and then decided if their pricing needed to be adjusted accordingly. Retailers can now outsource this cumbersome task to mystery shoppers or retail data collection companies; however, they still can't avoid putting people "on the ground" since not all stores put all their prices online.

Conventional wisdom among store-based retailers has been that only physical visits to competing stores will produce the most meaningful competitive data. Indeed, that method is still important, but brick-and-mortar retailers also need to include online price monitoring on their radar. With very few exceptions, online retail prices now reflect in-store prices.

Only caring about pricing data from physical stores is like pretending your customers don't know about the Internet. You need to be thinking about pricing the way your customers and competitors think about pricing. You need to be looking at the same numbers they are.

Amazon is making price changes more than a million times a day. Walmart and Target evaluate the pricing on their Key Value Items (KVIs) every two hours.

By gathering online prices, retailers can regularly and accurately monitor all targeted competitive products instead of focusing on a select few. Without the limitations of physical store price-checks, there is virtually no limit to the number of SKUs that can be monitored online across any number of relevant competitors. Online price monitoring gives retailers a holistic view of the marketplace – including comparisons of the original product price, the MSRP, the promotional price and the price with and without shipping.

According to a recent [online shopping study](#) by WorldPay, a global payment company that processes transactions in 120 different currencies, 56% of

customers will abandon their shopping carts when presented with “unexpected costs” like shipping or taxes at checkout.⁶

It is critical to make sure you always monitor competitor prices with shipping included. There is a wide variety of shipping policies online:

What Does “FREE” Shipping Mean? Minimum Purchases Required By Retailers

	\$35		\$99		\$50*
	\$99*		FREE ON ALL ORDERS		\$49
	\$50		\$49		\$25**
	\$45		\$99		\$50
	NO FREE SHIPPING		FREE ON ALL ORDERS		FREE ON ALL ORDERS

**Both Belk and Target offer free shipping for store-branded credit card holders*

***Order must be under 20 lbs.*

Source: Retailers websites

There are many other shipping factors to consider when trying to understand the psychology of your customers. Most free shipping policies do not include large or bulky items, such as furniture or lumber. Many retailers will also offer free delivery to any of their stores for customer pickup. Lastly, Amazon Prime offers “free” two-day shipping for \$99 per year.

For smaller purchases, a discount of a few dollars will be neutralized if the shopper needs to “give the money back” at checkout in shipping costs. Most people are even willing to absorb a minimal convenience fee – paying a small amount more – if it means getting their purchases now.

Customers who compare prices in physical stores (also known as showrooming) pay close attention to how shipping affects their bottom lines for online purchases. Make sure you’re paying close attention, too.

The Four Stages of Pricing Intelligence: Turning Numbers into Action

This may sound obvious, but when you’re making a salad, it’s optimal to use the freshest lettuce, tomatoes and cucumbers available. No matter how good of a chef you may be, using wilted vegetables will result in a rotten salad.

The same principle applies to Pricing Intelligence data. You need to refine your raw data so it’s ready for your analysts to turn it into real intelligence – inaccurate data

will lead to faulty pricing recommendations.

Here are the steps that are needed to turn your numbers into action:

- 1. Gathering Prices** – Web crawlers continuously scrape competitor sites for products, model numbers, prices and other characteristics.
- 2. Enriching the Data** – Using automated tools and retail category manager expertise, your products are matched or “mapped” to the same or similar products sold by competitors. Price comparisons are only valid if you are making apples-to-apples comparisons.
- 3. Analysis & Recommendations** – Using historical sales data, retail analysts build pricing models that explain past performance and predict future trends. The pricing formulas determine the optimal price where sales and profits will be highest.
- 4. Taking Action** - Analysts recommend that prices be raised, lowered or kept the same based on competitor price changes and your own consumer demand and expectations.

Unfortunately, most pricing data is not ready to use when it's first delivered by web crawlers. For example, computers can instantly compare the prices of every iPod in the universe as long as the UPC codes are listed. But given that Apple seldom discounts their products, the more significant question is: Which competing MP3 players are most comparable – which ones will be most likely attached to your customers' earbuds if they go with Plan B?

Making matters even more complicated is that shopping for consumer electronics (and many other categories) often involves three sets of prices: Manufacturer's Suggested Retail Price (MSRP), sale price and the secret “click here” price.

Many product pages on e-commerce sites show you their list price and then invite you to move your mouse over the item or click on a shopping cart to “See Price at Checkout.” The reason retailers do this is to avoid Minimum Advertised Price (MAP) violations. Some of the more premium brands forbid stores from advertising their products below a certain price threshold – to avoid cheapening their brand equity.

Many retailers have been happily using automated web crawlers to gather competitor prices, but most of these tools are rapidly becoming antiques. Your technology now needs to “see” these hidden prices. It needs to capture this deep data by replicating the behavior of the online shopper.

Once you've refined your data with the right automated tools and analyst expertise, you can then act on your intelligence.

Pricing Intelligence tools identify the best opportunities for increasing margins, giving you a snapshot of which products are the most price sensitive at any given moment.

Taking Action: What Can Be Learned From Pricing Intelligence?

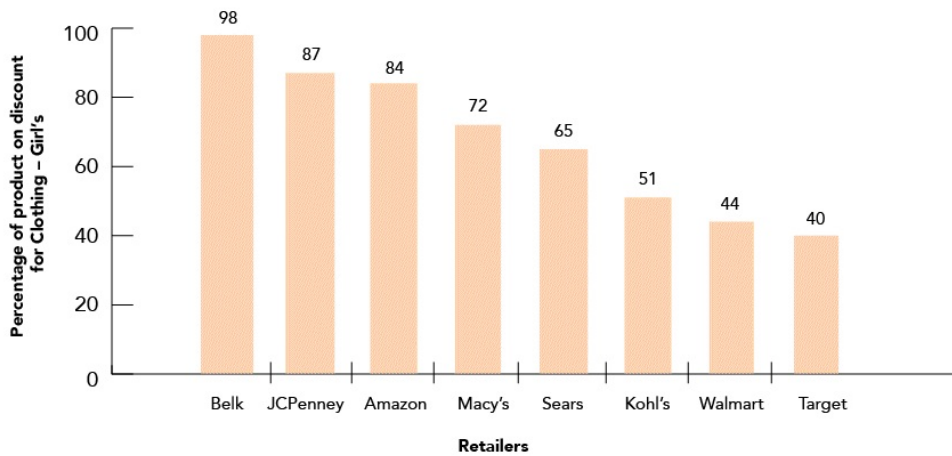
During the 2013 holiday shopping season, we took an extensive look at pricing data from 15 major U.S. retailers across 13 categories, including clothing, toys, consumer electronics, fragrances, cameras, kitchen appliances and vacuum cleaners. (You can read the full report, "Revealed: Retail Strategies of the 2013 Holiday Season," [here](#).)

November and December of 2014 was a banner time to be purchasing clothes for girls.

Ugam's seven-week pricing analysis revealed that girls' clothing was the most frequently and heavily discounted holiday product category, with Belk department stores lowering prices on a whopping 98 percent of their items. Target, on the other hand, ran sales on only 40 percent of its girls' clothing – still a sizable selection for bargain hunters.

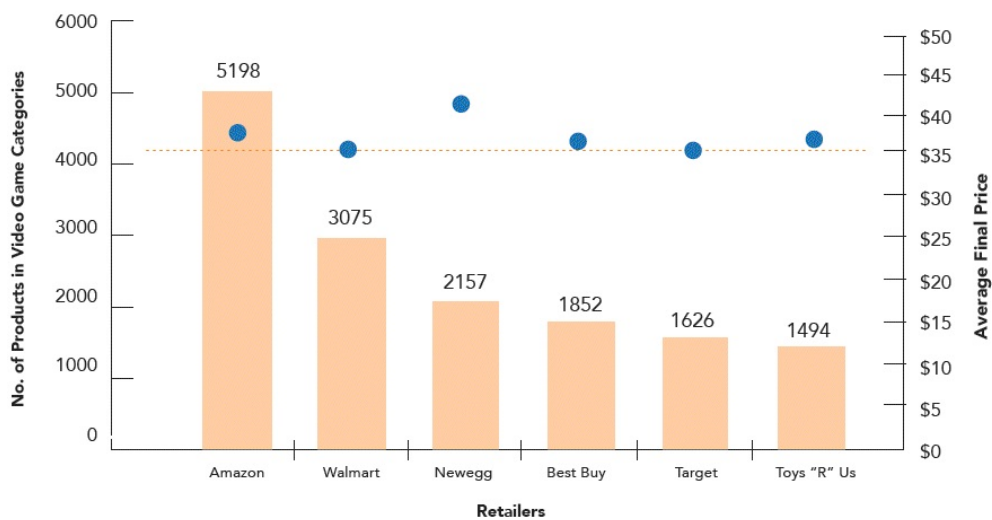
From a brick-and-mortar perspective, the aggressive Belk strategy might seem most relevant to national retailers with locations throughout the Southern states, where the regional chain is based. However, Belk.com would have popped up for shoppers searching for clothes on the Web – and their free shipping for orders of \$99 or more should be factored in by retailers planning their own apparel strategies.

Percentage of Girl's Clothing on Sale – 2013 Holiday Season



On the stingier side of the spectrum, the product category with the least amount of price volatility was video games. 2013 was an exceptionally brisk year for video game sales with the release of the next generation Xbox and PlayStation consoles.

Video Game Assortment & Prices – 2013 Holiday Season



The yellow bars in the graph above show great fluctuation in video game assortment and prices for retailers from Amazon to Toys“R”Us. Amazon, not hindered by shelf space, boasted nearly 70% more choices than Walmart. But the blue dots say it all.

The blue dots mark the average video game title price over the busiest seven shopping weeks of the year. Note the almost negligible \$5 differentiation in price between these retailers, who are usually not bashful about slugging it out over low prices.

Video game enthusiasts are not known for their patience. They put their names on waiting lists and stand in lines at midnight for the privilege of being the first to play

the newest consoles and games. In general, video gamers are like iPhone fans in that they are willing to pay the “going price” for what they want – whatever that price may be.

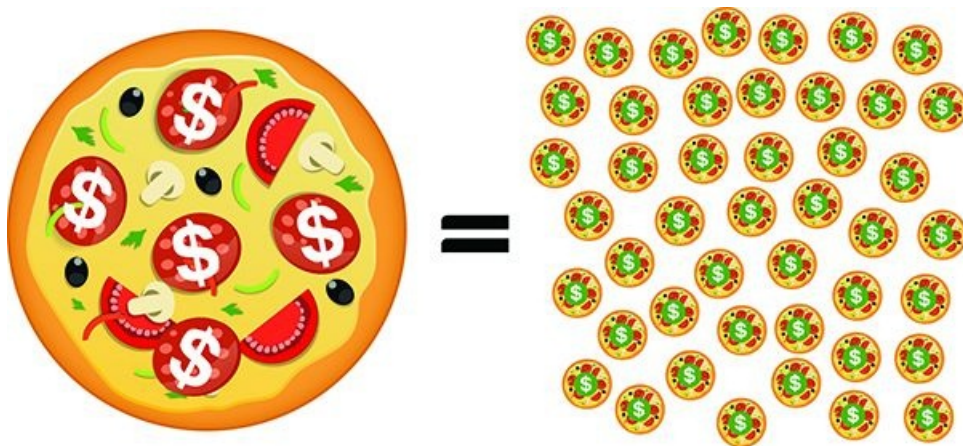
Strategic competitive intelligence can also help you determine when significantly lowering prices will increase profits.

Chapter 4: An Introduction to Dynamic Pricing

Overview

Dynamic Pricing is NOT the same as price matching. Based on supply and demand, consumer social signals (e.g. product reviews, Facebook likes), the weather, and even the time of day, there are also opportunities to raise your prices without getting your customers upset. Many retailers have already become extinct in this harsh competitive environment. Dynamic Pricing helps you stay nimble in a constantly changing digital world.

Slice of Reality: What Are Your Customers Willing to Pay?



How many pieces of pizza do you usually eat in one sitting? Does price impact how hungry you are?

At [Steveston Pizza](#) in Vancouver, British Columbia, their special C6 gourmet pie costs a whopping \$450 – that’s \$56.25 per slice – for heaping portions of lobster, black Alaskan cod and Russian Osetra caviar topping the mozzarella.⁷ Canadian newsmagazine Maclean’s called it the “[World’s Most Expensive Pizza](#).”⁸

In contrast, Domino’s Pizza recently advertised an online special for a large three-topping pizza for \$10 (caviar was not a topping option). At this price, you could buy 45 Domino’s pizzas for the cost of one Steveston C6.

Why can Steveston’s charge so much for lunch? Because customers who order a C6 know they can’t get one anywhere else. Perhaps they have the disposable income to order \$450 pizzas every day or it may be a one-time indulgence to knock off a bucket list. Either way, this price point exists because people are willing to pay it.

That’s the philosophy behind Dynamic Pricing. Retailers who know their

customers' preferences, spending history, tastes and desires can establish the right price for them instead of reflexively matching the price of their competitors.

Sterneckert puts it more simply: "If you have a thousand units that move a month on an item, and your competition lowers the price, but you are still selling a thousand units, why do you need to lower the price? You don't."

Dynamic Pricing is based on supply and demand, customer expectations and even the time of the day or weather conditions. Sports fans now accept that many of their favorite teams fluctuate ticket prices based on the popularity of opponents, whether the home team is competitive enough to make the playoffs, and of course, whether or not it's going to be sunny and warm.

Based on gathering accurate and timely Pricing Intelligence from your own stores and competing retailers, there are constant opportunities to raise, lower or keep prices the same.

"It's okay if somebody is beating you on price if your customers don't care," says Sterneckert, noting that the price sensitivity of items varies by product category, time of year, customer demographics, store location and numerous other factors.

Consumers are not stingy about sharing what they like and what they don't like – and whether they think their purchases are worth the price. There's an ever-growing supply of consumer product reviews and social media sentiment to determine buying trends and what products might become tomorrow's hot sellers.

Here are some of the factors that determine customers' expectations at checkout:

- **Product Availability** – Does a competitor carry the same item, and if so, at what price? Is it out of stock?
- **Location** – Buying a pack of gum in New York City will be more expensive than the same gum in the suburbs.
- **Consumer Segment** – What is their discretionary income and spending history?
- **Instant Gratification** – Nobody cares about free shipping when they "need" the item right now.
- **Product Popularity** – Is this item flying off the shelves? Or is the size, style or color in low demand?

Forget about price matching, despite all the hype. You just need to meet your customers' expectations for what they perceive to be fair – and when possible, offer them something they cannot easily get elsewhere.

That's a lesson that Steveston Pizza took to heart. Encouraged by the positive

buzz generated by the C6, they recently added the pricier C7, a “Best of Seas” concoction covered in tiger prawns, lobster ratatouille, smoked steelhead trout, Russian caviar and Italian white truffles.

Yes, there is even a market for a \$725 pizza, although no word why the white truffles – a rare gourmet mushroom unearthed by sniffing pigs – belong on an ocean-themed dish!

Lessons From a “Smart” Vending Machine: When is it OK to Raise Prices?

It's summer time and many of us are heading to the beach. After a few hours of lounging in the sun, how badly do you usually want an ice cold drink? How much more are you willing to pay for that drink over the regular supermarket price?

In 1999, the Coca-Cola Company tested vending machines that would automatically charge higher prices for cold beverages when the temperature got hotter. According to [*The New York Times*](#), the variable pricing vending machines were outfitted with a heat-sensor and a computer chip.⁹



Even though consumers often pay more for cold soft drinks at the beach, there was a backlash against a “smart” vending machine doing the same thing. “What’s next?” sniffed one beverage industry executive, “A machine that X-rays people’s pockets to find out how much change they have and raises prices accordingly?”

Archrival PepsiCo also ripped into the plan, eager to portray their brand as fighting to keep prices low. “We believe that machines that raise prices in hot weather exploit consumers who live in warm climates,” a spokesperson said. “At Pepsi, we are focused on innovations that make it easier for consumers to buy a soft drink, not harder.”

Coca-Cola abandoned the experiment because many customers felt they were being taken advantage of.

Unlike in the Coke story, retailers do not have to come across as the bad guy when raising (or simply not lowering) prices. The key is knowing when customers won’t notice or care. For example, when people pay twice as much for soda at the movies, there are no protests.

Customers already have the expectation that concession prices will be higher in the theater, where a popcorn and drink can easily double the cost of a ticket.

The trick for retailers is meeting customer expectations and figuring out what they believe is a reasonable price to pay.

Dynamic Pricing – raising, lowering or keeping prices the same based on changing conditions – is not the same thing as price matching.

So how can retailers raise prices and still be perceived as offering value?

A common promotional tactic during back-to-school season or Thanksgiving week is lowering prices on Key Value Items (KVIs) – usually about 10% of the items in the store – while modestly increasing prices on everything else. Shoppers are attracted by the deals on the hottest products and inevitably buy other things on impulse while they're in the store. The lower margins on those KVIs are more than balanced out by higher prices on the remaining 80-90% of products in the store.

Psychologically, a customer feels good about getting their special item at a bargain price and will likely not notice the slightly higher prices on everything else in her cart.

Here are four unconventional ways you can use Dynamic Pricing to increase your profit margins by up to 3%:

1. **Know The Sources of Your Website Traffic** – Did a customer arrive on your site after a random search or did she or he return as a repeat customer? Traffic from comparison-shopping engines is believed to be far more price-sensitive – that is, these shoppers will quickly search elsewhere if they don't immediately like what they see. Customers who click a link on a blog or act on a referral or product recommendation are more motivated to shop with you because of reputation, selection, service or other reasons.
2. **React Only to Competitors Who Impact Your Sales** –Somewhere in Kansas, someone is selling the same exact item as you out of their garage, but has only three of them. Don't worry about that guy. Only monitor and respond to the prices of retailers who pose a statistically significant competitive threat. A large company that you perceive to be a competitor may not be in a certain product category. Analyzing traffic on competitors' product pages can narrow down who you really need to keep on your radar.
3. **Learn Which Products You're Really Competing Against** – When you are comparing prices, consider looking beyond exact brand or product matches. Think about functionality. For example, a beach enthusiast looking for flip-flops may also be considering rugged sandals or water socks. It's more effective to look at best-selling items in a category as a reference.
4. **Understand the Purchase Path for Your Products** – Consumers are leaving behind plenty of clues why they visit a product page and what seals the deal for them. You may choose to reward your most loyal and profitable customers with exclusive offers only for them – increasing the likelihood they'll be back.

Dynamic Pricing is implemented by using an analytics-driven Rules Engine. Analysts or category managers can create a set of conditional rules that dictate how your prices will change in response to competitor's price changes or other market conditions.

Chapter 5: The Human Factor

Six Steps to Immediately Improve Your Product Matching Accuracy

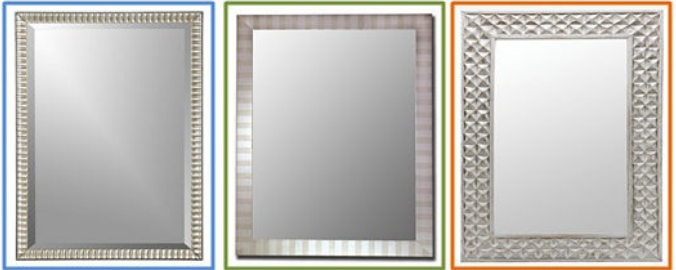
Before you can compare prices with your competitors, you need to make sure that you're comparing the same or similar products. This is called "product matching" or "product mapping."

Automated mapping is relatively simple in some categories, such as electronics, where software can easily compare the model numbers on a TV or tablet – although a few retailers may make price matching difficult by stocking lots of exclusive products.

This exercise is far trickier when it comes to clothing or home furnishings, where there are more variations in styles and colors.

Take a look at the different mirrors pictured below. Because the model numbers are not universal, you need to choose the most relevant product characteristics as your basis of comparison.

Mirrors - Matching Examples [Similar Matches]















Attributes	Crate & Barrel	Wayfair	Wayfair
Product Id	s641197	IY1010	CO2012
Product name	Silver Ripple Wall Mirror	Hitchcock Butterfield Company Marquee Mirror in Parma Silver	Sanford Mirror in Distressed Aged Gray
Price	\$299.00	\$168.00	\$348.00
Defining			
Shape	Rectangle	Rectangle	Rectangle
Material	Wood	Wood	Wood
Dimension in Volume	1554	1512	1457
Validating			
Style	Contemporary	Contemporary	Contemporary
Material Type	Hardwood	wood	wood
Frame Design	Beveled	Beveled	Beveled
Mounting Hardware	Yes	n/a	n/a
Multiple hanging option	Yes	n/a	Yes
Finish	Silver finish	Silver	Aged Gray

Which mirror styles should be grouped together as similar products? How thick can the frame be? Which materials? Should a square mirror be compared with a rectangular mirror or are there a significant number of shoppers who are rectangle purists?

Category managers with experience in home décor will know a lot more than a computer about how customers think when comparing similar, but not quite the same, mirrors.

Without any human intervention, the accuracy rate of automated product matching is generally low – dipping below 50% in several categories. With the applied knowledge of a category manager or category researcher, product-mapping systems can deliver up to 98% accuracy.

Below is a look at the industry averages for automated mapping accuracy before analysts fine-tune the results:

AUTOMATED PRODUCT MAPPING ACCURACY	
Category	Accuracy
 Consumer Electronics	85-90%
 Health & Beauty	75-80%
 Sporting Goods	60-65%
 Toys & Hobbies	60-65%
 Footwear	45-50%
 Home Improvement	45-50%
 Housewares	45-50%
 Auto Parts	45-50%
 Office Supplies	45-50%
 Apparel	35-40%
 Grocery	35-40%
 Jewelry	20-25%

As the expression goes, “Almost only counts in horseshoes and hand grenades.” Even when a retailer hits the 90th percentile, he or she continues to shoot for 100 percent.

As is the challenge with refining any computer search, automated product mapping includes numerous irrelevant and redundant listings that dilute the value of your Pricing Intelligence. A quick search for coffee makers on Amazon produces 31,109 listings alone. Best Buy serves up 1,185 and Walmart has 1,043.

How many do you really need to care about? Before your pricing or assortment analysts determine which suggested matches are ones that matter to your bottom line, the raw data needs some human filtering.

1. **Remove duplicates and irrelevant items from the results stream.** Sometimes items are inadvertently labeled with the wrong model number and are miscategorized. A rice maker, for example, may wind up with the blenders.
2. **Establish which attributes or features are most important.** Your search can be narrowed by brand, size, shape, material, color, etc.
3. **Normalize units of measurement.** A King size bed is 76" x 80" and is also known as an Eastern King bed. A California King bed, marketed toward taller people, is 72" x 84". Make sure your measurements are uniform with your descriptions.



4. **Identify which private label product features matter most.** Tracking down non-branded product matches can be like herding cats. If you are selling refrigerators, choose which features your customers care about most: freezer space, ice makers, slide out shelves, etc.
5. **Knock off the accessories.** If you search for consumer electronics, your potential matches will have lots of false positives that are battery chargers, protective cases, cords, etc.
6. **Identify possible overlooked categories.** Sometimes your product may be categorized in two different areas. For example, a folding fabric chair might be listed under lawn furniture or beach furniture. A hammock might be with camping gear or with patio furniture.

Why does this matter? You cannot make smart data-driven decisions unless you are confident in the accuracy of your matches.

The Analyst Factor: Turning Your Pricing Data Into Insights

As mentioned above, you can't make smart data-driven decisions if your data is questionable. Previously, we explored why product matching – also called product mapping – can make all the difference in giving you an accurate snapshot of how you compare to the competition.

If you're not sure that you're selling the same exact product (or a similar enough

product) as your competitor, then you may as well toss your price comparisons in the trash.

However, once you are confident that your Pricing Intelligence data is accurate, you need to figure out how and when you should act on it. So how do analysts turn data into insights and pricing recommendations – and ultimately – better sales results?

There are two main approaches for turning numbers into action:

1. **Setting Up Automated Rules** – Deploying simple Strategy Rules (e.g., *If Competitor A lowers the price on Product A to X, we lower our price to Y; If Competitor B is out of stock on Product A, we increase our price to Z.*) Strategy Rules are ideal if you want to keep tabs on price changes for KVIs at specific competitors and want to always be within a certain range.
2. **Building a Pricing Model** – Developing a sophisticated mathematical model to optimize pricing enables retailers to take the many factors that contribute to the buying process beyond price into account. The equation may incorporate a range of inputs, including a retailer's historic sales data, historical competitor pricing, inventory, product page content, Web traffic and promotions data. The model may also consider customer reviews, product ratings, social likes, etc., using consumer sentiment analysis to translate ratings into pricing insights.

The retail experience and expertise of analysts are invaluable for pursuing the second approach. An analyst first walks through the buying process in the customer's mind and then creates a hypothesis that attempts to explain sales trends.

Let's say that you are selling luggage, for example. Here are some of the questions that may immediately come to mind:

- Do luggage sales historically peak just before summer vacation?
- Do duffle bag sales spike before college begins in the fall?
- What color suitcases are most popular with men vs. women?
- Do child-sized rolling bags fly off the shelves before February and April school vacations?
- What is the most highly rated luggage based on product reviews on travel websites or the best value listed in *Consumer Reports*?

All of these questions can be answered by creating variables – such as color, time, gender, age, peak demand, quality of reviews – and independently comparing those variables to prices over time. Through trial and error, the analyst can determine which variables have the greatest influence on sales and

incorporate those factors into a regression equation. This graph shows the output of a logarithmic equation calculating which price points result in maximum luggage revenue, based on a department store chain's most influential variables.

Luggage Sales vs. Price



**This graph is a simulation of the Sales-Price relationship. It is a statistical model that does not reflect actual luggage prices or annual sales.*

Here is the pricing model expressed as an equation:

Every store is different and will have a different equation and different sets of variables.

$$\text{Log(Luggage Sales)} = 0.29 - 0.66(\text{Log})(A) + 0.01(B - A) + 0.25(C) + 0.02(D) + 0.06(E)$$

KEY

A = Retailer Price

B = Competitor Price

C = Number of Images on Product Page

D = Number of Amazon Reviews in Last Two Months

E = Newness of Product (Number of Weeks)

Don't worry about the math – that's why you hire analysts!

The important thing to know is that as your Pricing Intelligence gathering and processing becomes more sophisticated, you will be able to better understand and have a greater influence over your sales results. Depending on what you want to learn, analysts can help you determine the “Why,” the “What If,” and the “What's Next?”

Chapter 6: The Future of Pricing Intelligence

Howling Success: The Value of Product Reviews for Dynamic Pricing

In 2009, an innocuous t-shirt graphic of three wolves howling at the moon attracted the attention of online shopper Brian Govern, a Rutgers University law student browsing on Amazon.

In a whimsical mood, Govern tapped out a satirical product review, claiming the “Three Wolf Moon” shirt was magic and made him irresistible to women.

Other Amazon reviewers picked up on the theme and wrote their own [funny reviews](#) praising the mysterious life-changing powers of the wolves. Within days, the joke went viral – and although Govern himself never bought a shirt, it soon became a bestseller on Amazon.



According to *The New York Times*, the [Mountain t-shirt company](#) in Keene, New Hampshire, went from selling two to three shirts per day to selling 100 every hour. The wolves wound up spending nearly 200 days on Amazon.com’s Top 100 list.¹⁰

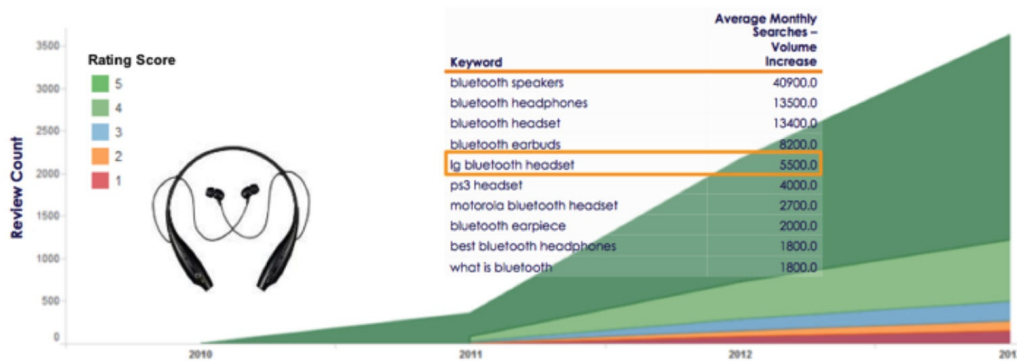
Not every customer review is going to launch a product into the retail stratosphere, but online comments – those of the non-facetious kind – contain valuable insights about the extremes of the shopping experience. Think about it: people only bother to share their thoughts with a company if they are either very pleased or very unhappy. Few reviewers bother to write about an average experience.

Smart Dynamic Pricing involves extracting consumer demand signals – valuable customer data from reviews as well as social media messages – and factoring them into pricing decisions for both personal offers and forecasting future purchasing trends. It is an extra layer of intelligence applied to Dynamic Pricing, which uses a Rules Engine to automatically raise, lower or keep prices the same based on supply and demand, the weather and even the time of day.

Despite the concern about fake Amazon reviews – not the silly kind like the wolves but [when companies shamelessly review their own products](#) – the numbers don’t lie. A huge amount of consumer reviews across the Web indicates an organic demand for that item.

Below is a graph showing the increase in search engine traffic for the [LG Electronics HBS-730 Bluetooth Headset](#) in relationship to the growing number of

positive reviews. People innately trust what their fellow consumers think more than a company's official marketing materials.



Personalized Pricing: A Conversation with Retail Analyst Kevin Sternecker

GPS is most commonly associated with driving or navigation, but it could soon become an even more valuable shopper marketing tool. Earlier this year, Apple introduced its [iBeacon](#) technology to give retailers the ability to share customized messages about special deals and product information based on where customers are walking in the store.¹¹

The iBeacon is currently being tested at the Apple Store in Manhattan as well as a limited number of Duane Reade drug stores in New York. The device uses [geofencing](#) and Bluetooth signals emitted from specific shelves for a new level of “micro-location” targeting. At Duane Reade, the iBeacon can woo shoppers with impulse purchase incentives – such as 25% off new nail polish colors or offering umbrella sales on a rainy day.¹²

When a pharmacy detects that a customer has entered the store, and “knows” from loyalty card data that she has a sweet tooth, offering her a coupon on Dove Chocolate makes sense. But sending her an alert as she is walking down the candy aisle is the optimal personalized offer.

Could retailers soon be making similar real-time offers to every customer? To explore this brave new world of personalized pricing, we sat down for another chat with retail analyst Kevin Sternecker, a former vice president of research for Gartner.

Q: How advanced are retailers now with personal pricing and where are things headed?

KS: We're seeing retailers today beginning to offer coupons or discounts to

consumer classes – so for example, to my best customers who are female ages 39-45, I'm going to offer them 20% off all fragrances. Or I'm going to give 15% off all Dr. Dre Beats headphones to men ages 18-24.

Where I believe we're headed is offering specific promotions to individual consumers. We see this already beginning to occur. For example, CVS Pharmacy uses a very sophisticated CRM approach and has been sending tailored custom coupon books to households. They are beginning to eliminate the printed coupon books and beginning to directly communicate with consumers relative to the individual household.

So these profiling systems begin to understand not just that you're a college student, but you're a wealthy college student and you prefer the school supplies that are in our location, but you also don't use our over-the-counter drug section. So we're going to encourage that over-the-counter deal during appropriate times for allergy, cold and flu or pain relief medicine. We're going to probe to understand exactly what it will take to get you to buy in another category.

Q: Does a personalized pricing offer need to be done through an app or rewards card or is there another way?

KS: Retailers are using lots of ways, but there has to be some kind of engagement with the consumer to begin to learn consumer behaviors. Some are using an app, some are tying that app to a loyalty card, but it's always an opt-in proposition. When you're close to one of those stores, a message will pop up and say, "Hey, here's an offer for you right now!"

Q: Do you think iBeacons will be successful at shopping malls?

KS: We're just starting to see stores experiment with the beacons. Again, the real test of this will be: "How relevant will the retailer be with the consumer?" If you're only doing generic offers, then this is not really going to be popular. But if they apply some very intelligent listening solutions and truly personalize the offers, then the iBeacon has an opportunity to really take off.

The technology of the beacon isn't what's going to make it happen – it's going to be the intelligence behind it that understands and extends relevance to the consumer in an engaging way.

The widespread adoption of personalized pricing would be a game changer: The luxury of always knowing what your competition is charging may eventually disappear. There will be a public price and then perhaps the real price for you – a customized calculation based on your demographic, spending history, brand loyalty, your competitive options on the market and a slew of other demand signals.

Right now, gathering Pricing Intelligence is relatively easy. It's like being a gas station owner at a busy intersection. All he has to do to keep tabs on the competition is look out his window at the giant sign above the pumps. But what would the gas station owner do if those prices weren't posted – if the customers were privately given the price beforehand on their smartphones?

The service station owner would need to figure out what his customers were willing to pay per gallon, based on the customer's needs, desires and resources instead of just automatically matching the price across the street. Like any retailer, he would need to develop his own pricing demand model – beyond setting up rules responding to the other guy.

How these challenges will all shake out is uncertain. What is clear is that staying ahead of the competition requires alignment with the needs of the customer. Standing still is not an option.

Chapter 7: How to Get Started

4 Questions to Consider When Getting Started with a Pricing Intelligence Solution

Whether you are trying Pricing Intelligence for the first time, have experienced it but are trying Dynamic Pricing for the first time or have experienced both but are looking to switch vendors, here are some helpful questions to ask yourself as you get started.

1. **Which Categories And SKUs Should I Monitor?**
2. **Which Competitors Should Be On My Radar - And How Many?**
3. **How Frequently Should I Monitor/Change Prices?**
4. **What Are My Matching Rules to Compare My Products With My Competitors' Products?**

Which Categories And SKUs Should I Monitor?

Knowing which categories and SKUs you should focus on depends on how you define your business. When customers think of your store, which items do they instantly associate with you? In which categories are you expected to attack and in which ones should you merely play defense?

Which Competitors Should Be On My Radar – And How Many?

There is no one-size-fits-all answer to this question. The number of competitors to monitor will depend on the categories and this list will keep changing as retailers add and remove new items to and from their assortments. The only competitors you should care about, however, are the ones your customers would likely turn to for price-sensitive Key Value Items (KVIs).

For a department store, the multiple lists of competitors to monitor will be different for shoes, electronics, apparel, etc. It's also important to note that there is no universal list of KVIs – this also varies by individual store and can only be determined by studying your customers. A good rule of thumb is focusing on the six to eight competitors most similar to you.

How Frequently Should I Monitor/Change Prices?

Some major retailers using Dynamic Pricing are regularly checking competitors' prices on every single item they offer. Frequency depends on the item's importance and price sensitivity. KVIs are typically reviewed every two hours, while other products are reassessed every week or every month. Ultimately, the decision keeps coming back to how dependent sales are on the price of a given item and how often competitors are changing their prices.

What Are My Matching Rules to Compare My Products with My Competitors' Products?

When comparing your prices to the competition, it is essential that you make sure you are comparing the same products. This is called product mapping.

But appearances can be deceiving. Take a look at the food scales below.

Comparison of two products with the same UPC



On first glance, with the exception of the silver tray, they appear to be the same scale: Same UPC code, same size, same digital screen and same base. So why does Wasserstrom.com's version cost 60% more than the model on Amazon? When there is a large price differential between the same item at different retailers, an automated mapping system can alert pricing analysts to investigate further.

It turns out that the chrome food tray on the right is approved by the National Sanitation Foundation (NSF) for meeting the public health standards for schools and hospitals. The plastic one on the left does not share that designation.

Within your chosen category, there will be many discrepancies like this when comparing similar products. You can't always depend on UPC codes or model numbers for product mapping. Sometimes there are no universal numbers, which is the case for generic or private label products.

Regardless of the category, you need to define which product features or attributes your customers care about most. For example, if you are selling furniture – a notoriously difficult category to match – you may decide that the kind of material (fabric, wood, metal, glass, leather) is the most important attribute when comparing items. Or it may be the number of drawers or the dimensions.

Big Picture: What Do You Want to Achieve?

It can't be stated enough that gathering business intelligence is worthless if you can't act on that intelligence. Here are some of the big picture retail questions you can answer by closely keeping tabs on your competitors' prices:

- How can I take advantage of competitor inventory?
- How competitive are my prices?
- When are competitors changing their prices?

- How can I increase my margins?
- Am I marking the price down too soon or too much?

Would learning the answers to the above questions be enough to achieve your current business goals or do you need to implement Dynamic Pricing as well?

Using a Rules Engine, Dynamic Pricing allows you to raise, lower or keep prices the same based on the constantly changing circumstances of the moment. Price recommendations can vary based on supply and demand, how customers find you (direct traffic, comparison shopping engines, organic search or search engine marketing), consumer social signals (product reviews, Facebook likes, etc.) and even the weather.

How Would You Like to Consume Your Data?

Every company has its own culture and preferred way of doing things. Regardless of which Pricing Intelligence vendor you choose, they should be able to deliver your data and insights in the most user-friendly format customized for your needs. Your options should include:

- Data feeds
- API integration into your Business Intelligence or Point of Sale systems
- Dashboards
- Excel outputs
- Alert feeds
- Price recommendation feeds

What Should Be Covered in Your Service-Level Agreement?

Your SLA for any Pricing Intelligence or Dynamic Pricing systems need to cover how to verify the accuracy of your data, what to expect from the onboarding process, and the timeline for setting up the system and deploying it.

1. Confirming the Accuracy of Your Data

When hundreds of thousands of SKUs are mapped and crawled each day, the opportunity for errors can be significant. Critical errors can creep into your data and then into your actionable insights. Your competitors' ever-changing category pages and the complex structure of marketplace websites add to this challenge.

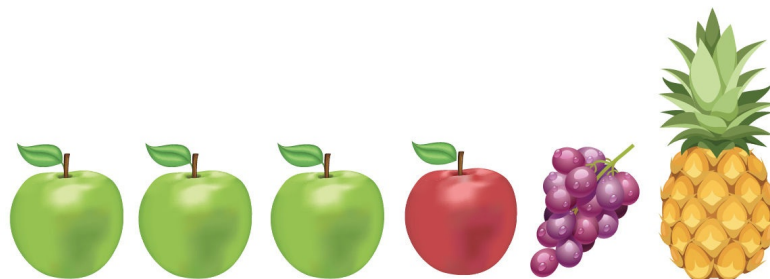
Insights and critical pricing decisions based on faulty data could expose you to great risk. When researching a solution provider, look into the strength of their Quality Assurance (QA) algorithms and processes to manage data. Often providers have a parallel process that only samples crawling and mapping accuracy, which may be grossly inadequate.

Mature providers offer a comprehensive, rule-based data integrity check system that does format, factual, timing, and logical checks on each data point. Make sure to thoroughly investigate the QA process and have your solution provider demo sample runs using their systems.

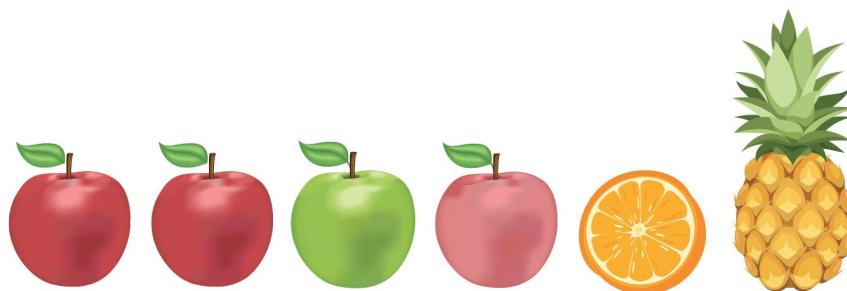
Don't forget to ask vendors how they identify and map similar competing products, and ask them to explain their ongoing process for mapping new products. You need to know your coverage, which is the percentage of your products that match a competitor's products. Unless your competitors stock a significant number of exclusive products or private label products, your coverage percentage generally should be very high.

There will be situations when a competing retailer carries the same products as you, but in different pack sizes. A sophisticated product matching system should be able to identify these cases and translate the prices per unit. Be aware that there are now several product matching systems on the market that cannot handle different pack sizes.

If you initially do not see high coverage for exact product matches, you should then determine your number of similar product matches. For example, let's say that your store carries the following fruit:

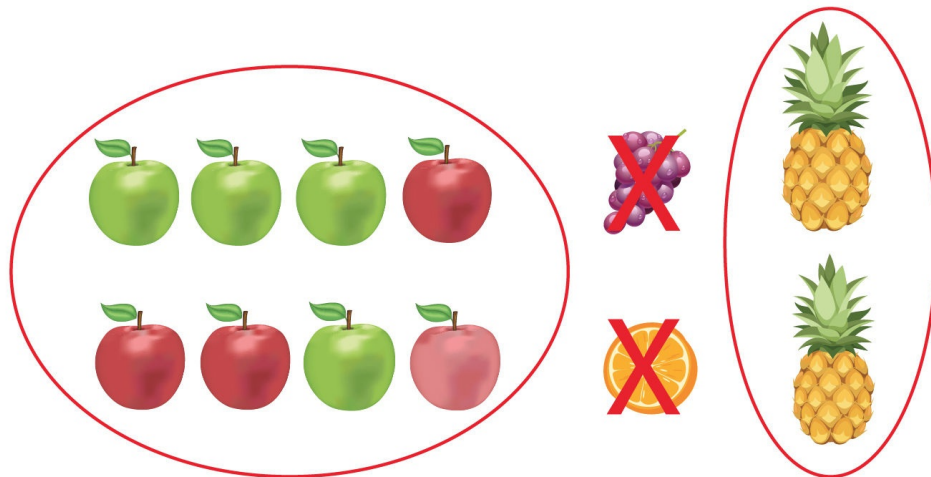


And your competitor carries these fruits:



On your first attempt to measure coverage, you would find only two exact matches: one red apple and one pineapple. However, if you redefine your matching rules to look for similar products, you would learn that both you and your

competitor share a heavy focus on apples.



You cannot make smart data-driven decisions unless you are confident in the accuracy of your matches.

2. Assessing the Onboarding Process

A well-managed onboarding process sets you up for success while providing a standard for ongoing changes in products and competitors. Some solutions are do-it-yourself with all sorts of user configurable options, while other platforms that offer exciting features may not be helpful at all if they are not easily understood by nontechnical users.

A well-planned onboarding program offers different levels of hand holding for various user types. For example, one-to-one sessions with on-call guidance in the first few weeks can help ensure success. Make sure that the vendor's program manager understands merchandising and pricing and is not simply a high-tech tool user. Your training and onboarding need to be more application-oriented and relevant to solve your business needs.

Be sure to check:

- What is the onboarding timeline?
- What is required of you?
- What will the solution provider take care of?
- Will the solution provider be on site?
- If so, who will be on site and for how long? Will they be returning regularly?
- What happens when the retailer brings on new personnel? How will they be trained?
- Who will be heading up the onboarding process? What is their experience?

This is a brief guide to Pricing Intelligence. We encourage you to [download](#) the full eBook – PRICING INTELLIGENCE 2.0: The Essential Guide to Price Intelligence and Dynamic Pricing for more examples and an in-depth look at how you can get smarter about pricing.

About Ugam

Ugam is a global leader in managed analytics. Combining a proprietary big data platform with a global team of insights and analytics experts, Ugam's unique offering empowers clients with the confidence necessary to take action that impacts their business. Clients trust Ugam because they deliver unmatched customer experience and specific results. That trust is also based on deep domain expertise, end-to-end service, innovation and the highest quality of insights and analytics, which enable Ugam to transform big data into big insight and direct action. As a result, nine of the largest 25 retailers, many of the world's largest brands and online marketplaces, and 12 of the top 25 market research firms turn to Ugam today to help improve their business performance.

www.ugamsolutions.com



Footnotes

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