symson

The Ultimate Price Sensitivity Guide

Practical Tips to Implement Price Sensitivity in your pricing process

WHITEPAPER

Introduction

Hi there!

If you're involved in pricing decisions at your organisation, you've probably already recognised that the need for smart, data-driven pricing decisions has become more urgent in today's business environment.

This particular guidebook is packed with knowledge and offers a proven, actionable plan for implementing price sensitivity in your pricing process, thereby, improving profits through better pricing. This will also assists in advancing your organisation along the path of pricing maturity.

In this guidebook, you will learn:

- **Why your current pricing process isn't optimal - Challenges you could face with Price Elasticity**
- **SYMSON's 5-Step Approach to Assessing Price Sensitivity**
  - **Understanding Influencing Factors of Price Sensitivity Analysis and its Use Cases**
  - **What kind of data you need to implement Price Sensitivity?**
  - **Building the Sensitivity Model And interpreting Sensitivity Scores**
  - **Which products are suitable for Price Sensitivity?**
  - **How to implement the SYMSON Platform and Price Sensitivity Algorithms to find your optimal price.**
  - **Experimentation- How to set up good experiments?**

This pricing guide serves as your roadmap to better pricing and greater profits, with a practical plan that can be implemented today! By using the tips provided here, you can protect your profits and move forward with confidence in your pricing strategy. Let's journey together towards a brighter future in pricing.

Why Price Sensitivity could make sense for you?

Challenges you could face

What is the difference between price sensitivity and price elasticity?

In price elasticity, the main relation is between price and the quantity demanded. On the other hand, to calculate price sensitivity, one has to consider several specific drivers other than price and systematically compute the scores. Hence, their outcomes are different. This difference in their approach makes the accuracy of prediction much higher with price sensitivity than elasticity.

Implementing price elasticity algorithms to optimize pricing strategies can be fraught with several significant challenges, let's delve into these challenges in detail:

1. Historical Data that is not 'clean'

One of the primary hurdles in utilizing price elasticity algorithms is the reliance on historical data, which often isn't clean or consistent. Historical sales data can be riddled with inaccuracies due to various factors such as data entry errors, missing information, or inconsistencies in recording. This lack of clean, high-quality data can severely undermine the effectiveness of price elasticity models, leading to unreliable and skewed results. Without accurate data, the model's ability to predict future trends and optimal pricing points is compromised, resulting in suboptimal pricing strategies.

2. Lack of Competitive Data

A shortcoming of price elasticity is that these model don't include competitor responsiveness. This absence of competitive data leaves a significant gap in the analysis, making it difficult to accurately assess the impact of price changes in the context of market dynamics. Consequently, the model may fail to account for competitive actions that could influence demand, leading to ineffective pricing decisions.

Why Price Sensitivity could make sense for you?

Challenges you could face

3. Multi-Factor Demand Drivers

Another significant limitation of price elasticity algorithms is their tendency to oversimplify the factors influencing product demand. While price is a crucial component, demand is often driven by a multitude of factors beyond just pricing. Variables such as product quality, brand reputation, marketing efforts, seasonal trends, and customer preferences all play critical roles in shaping demand. Price elasticity models that focus predominantly on price may overlook these additional factors, resulting in a narrow and potentially misleading analysis. This complexity makes it challenging for such algorithms to capture the full spectrum of influences on consumer behavior accurately.

4. Lack of Trust from Sales Teams

For price elasticity models to be effective, they need to be trusted and utilized by the sales teams. However, gaining this trust can be a significant obstacle. Sales teams may be skeptical of algorithm-generated pricing recommendations, especially if they perceive these models as black boxes with little transparency. Without a clear understanding of how the recommendations are derived, sales teams might resist adopting these strategies, preferring to rely on their intuition and experience. This lack of buy-in from key stakeholders can undermine the implementation of price elasticity algorithms, rendering them ineffective in practice.

Why Price Sensitivity Can Be a More Appropriate Choice

Given these challenges, price sensitivity analysis emerges as a more practical and potentially accurate alternative. Price sensitivity focuses on understanding how different products respond to various price points. This approach can be more flexible and adaptive, incorporating a broader range of factors that influence buying decisions. By directly gauging consumer reactions to price changes, price sensitivity analysis can provide more nuanced insights that reflect real-world complexities.

Moreover, price sensitivity analysis can be more intuitive and transparent, fostering greater trust and acceptance among sales teams. By aligning pricing strategies more closely with actual customer behaviors and preferences, companies can achieve more effective and sustainable pricing outcomes.

Price Sensitivity Implementation

Understanding Price Sensitivity Analysis and its Influencing Factors

The process of identifying the price sensitivity level of your product is more than just looking at the demand shifts as a result of a price change. Unlike Price Elasticity where it determines the change in the product demand with the shift in price, understanding Price Sensitivity needs many more drivers than just the price itself.

What are Price Drivers and How to Define them?

The price drivers are the factors that influence customers to purchase your product. You will understand these factors better upon looking at a product from a customer's point of view. For example, when you are at a supermarket and want to buy a bottle of beer, which one would you choose and why? These questions help determine your drivers. Let's look at the following key factors that can impact your customer's willingness to pay and your product's price sensitivity:

- **Brand Value** gives a perception on customer's willingness to pay and hence drives the price of the beer. Consumers often associate higher prices with better quality, leading to decreased sensitivity for well-established brands and vice versa for lesser-known brands.

- **Competitors Offer** gives customers choices to find a good deal. You must consider your competitive field as other brands selling beers can either have a attractive price point, a bundle offer or some other factor that can make them choose another brand over your own.

- **Quality** is a crucial factor that allows you to position your product as a premium item with a higher price. Customers want quality products and mostly associate it with a premium price. This is when customers become willing to pay more for a better quality item compared to the low priced ones. This is also connected with the kind of audience your customer base is: value or price-conscious.

Price Sensitivity Implementation

Understanding Price Sensitivity Analysis and its Influencing Factors

- **Lifecycle Stage** of your product also determine the sensitivity level. It means the price you set for your product at various levels of its development stage. For example, Heineken is a mature brand has a different price point than a newly launched beer. The latter is at its initial stage of its lifecycle where depending on the market you can set a lower or higher price. Likewise, regular product lifecycle assessments and competitor analysis can show the correlation between product lifecycle and price sensitivity.

- **Price Level** refers to whether a price is categorised as cheap or expensive. This grouping is based on customer input and sales data. A higher price may increase sensitivity. Additionally, assessing the product's price sensitivity elasticity can provide insights into the price level's impact on purchasing decisions.

- **Frequency of Buying:** How frequently do they buy your product? The answer says a lot about the item and drives the price sensitivity level accordingly. People tend to choose brands they know or have tried before and enjoyed it. Of course, if the frequency of buying is high, price sensitivity would be lower and vice versa!

- **Location:** Where are you selling your products? Is it in a supermarket, an online store, or at a festival. Depending upon the location, you can play around with the prices to capture more revenue or margins.

- **Alternatives:** Is there a chance your customer can consider other alternatives to your product? Customers can opt for something similar to your product but not specifically that. In the beer's case, maybe your customer wants to consider a non-alcoholic beer.

- **Packaging** has the power to make buyers remember your product through proper branding. Besides style, you can also sell bundled products as a bigger package depending on people's needs and other price-influencing factors. Likewise, the price sensitivity changes based on the need for packaging.

  This is a practice that you must consider with your team to brainstorm the exact drivers that influence the price sensitivity level of your products.

Price Sensitivity Implementation

Conceptual Model

The next step is to identify the correlation between the drivers. Each driver, identified in the previous step, may have a relation with another driver(s). You must map out which drivers are correlated and understand the impact together.

For example, there's a correlation commonly between the drivers: lifecycle stage and competitive field. In the introductory stage of your product lifecycle, you may not have many competitors around. But as the product enters its growth phase and matures further to the next stages, competition is going to be higher. Likewise, mapping the correlations (Illustration 1) between drivers gives you a sense of the price sensitivity level of the product.

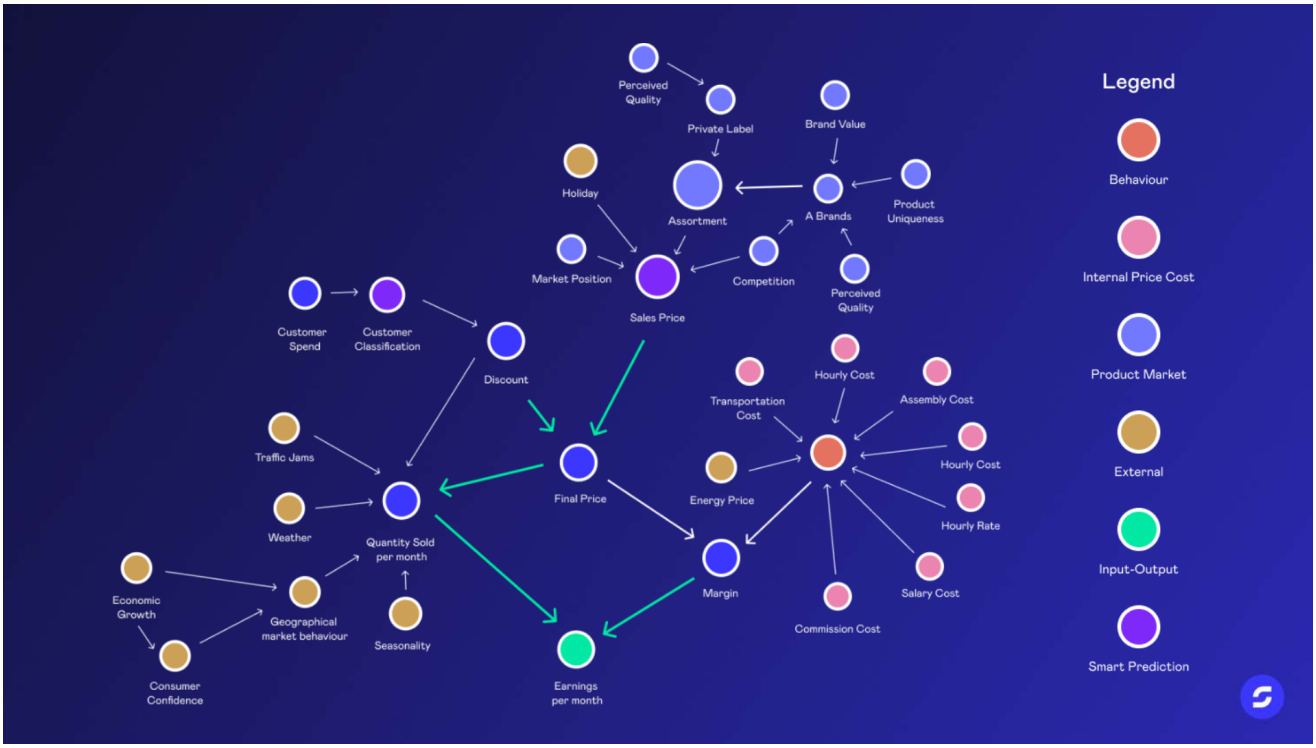


Illustration 1: A conceptual mindmap of price drivers

Price Sensitivity Implementation

Use Cases of Price Sensitivity Analysis

- **Execute price experiments for margin improvements based upon a sensitivity score**
  The sensitivity analysis generates a score that tells how sensitive your product is. Based on this score you can experiment with prices to improve profit margins. You will get a clear and data-driven pricing guidance with this analysis and eventually grow your margins. (Refer **How to Set Up Good Experiments** towards the end of this guide)

- **Redefine your product groups based on sensitivity for net price communication & discounting**
  The sensitivity analysis helps you set optimal discounts. In the B2B scenario, sometimes businesses give away a full product portfolio at a flat discount. Although it might be a great deal for the retailers or distributors they are selling to, it impacts their profitability. Using price sensitivity analysis helps you identify whether you're offering the right discount for the right product to the right customer group.

  It boils down to understanding the need of your customer- knowing their most price sensitive product. Then, you can make the right product selection and would need to offer the discount upon. Now, instead of offering the full portfolio at a discount, you can be more strategic to balance customer needs and profitability.

- **Defining which products are sensitive for revenue increase (promo's)**

  Doing the analysis helps you identify the products that bring customers to your store or webshop. The items that drive traffic to your website or store footfalls. Putting a promo on those items helps bring even more people in. Along with buying that lucratively-priced product, customers mostly purchase other undiscounted or highly-priced goods as well. Thereby, you can balance revenue growth and margin.

- **Defining the optimal price positioning of your product portfolio (for manufacturers)**
  For Manufacturers, who deal with fixed prices and only change their contract prices once or twice a year, it's crucial to be accurate when they set new prices. In these scenarios, it's important to include key competitors, quality of your products, innovation scores, product attributes and other value drivers. The sum of these drivers can be used to calculate an optimal price using a sensitivity model. These values can change every year as the product becomes more mature in its lifecycle (for eg. more competitors may emerge as time goes on). Manufacturers, especially can use the sensitivity model to better predict price positioning using these price drivers or other macro factors as well.

SYMSON's 5-Step Approach to Assess Price Sensitivity

What kind of data do you need to assess price sensitivity?

At Symson we have designed a 5-step approach to assess the price sensitivity level of your products. This approach will take you from the basics to help you identify the sensitivity of each product and finally act upon the sensitivity insights.

Illustration 2: SYMSON's 5-Step Approach to Assessing Price Sensitivity

Step 1: Identifying Key Drivers for Price Sensitivity

Let's understand what kind of data would you need to get started with your assessment. **To assess price sensitivity, first you must understand the potential key drivers that influences customers to buy your product.** You can do this through market research or engaging in customer surveys. This practice assists in understanding customer preferences, perceptions, and purchasing decisions.

At SYMSON, we will map these drivers with different stakeholders in the organisation to get a full scope of factors that could be included in the model.

SYMSON's 5-Step Approach to Assess Price Sensitivity

What kind of data do you need to assess price sensitivity?

We will narrow down the list to **key price drivers.** Then we ask the stakeholders to assign their expert opinion on the relative weight and relavance for driver with regards to how sensitive a product is. We call this metric, expert judgement. While this is a qualitative approach, it gives us key insights from human experience and intuition that can be used to better accurately identify price sensitivity using the model.

In the beginning, we have discussed the price drivers that influence price sensitivity. Here are a few key drivers that, as discussed earlier, could be of help to most businesses:

Parameter	Expert Judgement (in%)
Brand Value	25
Delivery Time	5
Product Lifecycle	11
Order of basket placement	10
Price Level	10
Favourite List	5
Buying Frequency	8
Purchase Price Changes	12
Competitive Intensity	20

Table 1: Expert judgement input from stakeholders for each driver.

SYMSON's 5-Step Approach to Assess Price Sensitivity

What kind of data do you need to assess price sensitivity?

At SYMSON we require a specific format for data to be analysed by our algorithm.

Let's take a look at a few example drivers that may affect your product's price sensitivity as well:

- **Brand Value:** In terms of sensitivity we can categorize the brand value parameters as follows:
  - A-Brand
  - B-Brand
  - Private Label or White Label

  The model will find out which brand type will affect the price sensitivity.

- **Competitors Offer:** In terms of sensitivity, we can categorize competitor intentions by the number of competitors offering this product in the market.

- **Lifecycle Stage:** In terms of sensitivity we can categorize the product lifecycle into a number of categories. For example:
  - Introduction
  - Growth
  - Mature
  - Decline

- **Location:** City or non-city, or any region where this product is sold.

SYMSON's 5-Step Approach to Assess Price Sensitivity

What kind of data do you need to assess price sensitivity?

- **Alternatives:** Consider the number of alternatives active in the market.
- **Packaging:** Different type of packages: can, bottle or cup.
- **Price Level:** We take a price range depending on the assortment of the company. For eg, 5$ to 8$ is a price range for a product.
- **Frequency of Buying:** The number of purchases in a period of time.
- **Basket size:** The average ranking of this product in the basket size.
- **Stock Levels:** In terms of sensitivity we can categorize the stock level into if it's on stock Yes or No or if it's a fast or slow mover.

After gathering the expert judgement inputs for each of these drivers, we then test their relevance. We check the relation between different drivers. For example, product lifecycle may have a strong correlation with competition. Meaning if the product is at its initial lifecycle stage with low competition, the prices may be higher. But as it matures, there will be growing competition thereby reducing prices.

SYMSON's 5-Step Approach to Assess Price Sensitivity

Step 2: Build a Regression Model including Price, Quantity and Drivers

In this step, we narrow down to the number of key drivers to build a regression model. The purpose of this step is to get an input for each driver using the regression model that we can assess along with the expert judgement inputs.

In this formula, each driver gets assigned a coefficient. This coefficient is based on the regression. Each coefficient gets a beta and an input. The total sensitivity score is based on the input of each driver multiplied by the coefficient.

Studying these datasets allows businesses to quantify the impact of each driver on price sensitivity and sales volume. Using a regression analysis helped us gain a more nuanced view of how customers respond to changes in price.

Variables	Coefficient
Price Per Unit	-0.5734
C(PriceLevel)[T.1]	-0.1373
C(PriceLevel)[T.2]	-0.0824
C(PriceLevel)[T.3]	0.3898
C(NofC)[T.1.0]	-0.5029
C(NofC)[T.2.0]	-0.1792
C(NofC)[T.3.0]	-0.3494
C(A_brand)[T.1]	0.1062
C(FastMover)[T.1]	0.1069
BasketSize	0.2302
Price Change Frequency	-0.1367

Table 2: Coefficients assigned to each driver.

Step 3: Aggregate Relevant Coefficients from the Regression Model to Predict Price Sensitivity

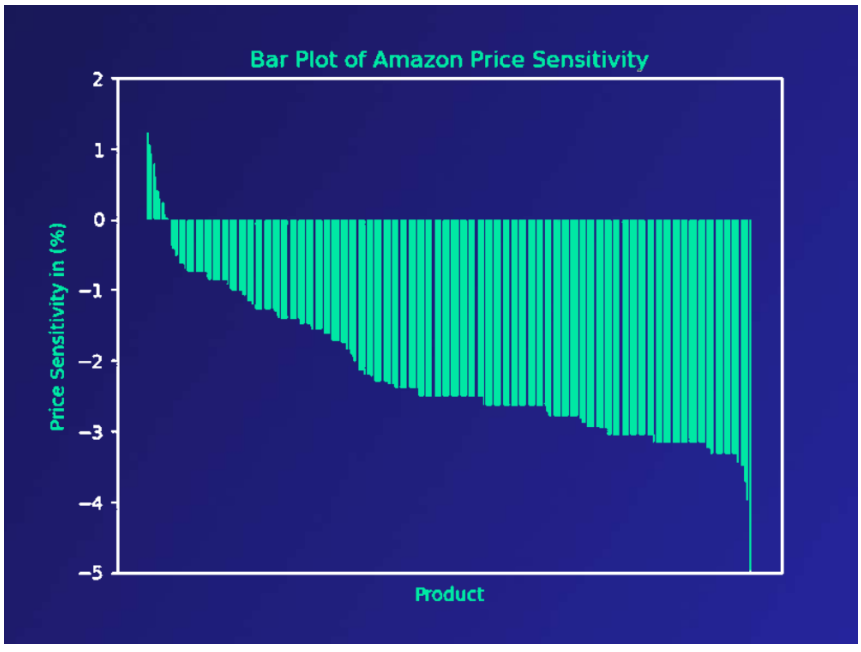
In this step, our vision of Hyperlearning™ comes in play. Here, we combine Machine Learning coefficients with the expert human judgement. This combination would generate the total sensitivity impact score. This also works great for products we have less data for. The table on the next page shows the input from both judgment and calculation and the resultant Total Sensitivity Impact.

SYMSON's 5-Step Approach to Assess Price Sensitivity

Parameter	Expert Judgement (in%)	Machine Learning (in%)	Total Sensitivity Impact (in%)
Brand Value	25	23	24
Delivery Time	5	8	6,5
Product Lifecycle	11	8.5	9.75
Order of basket placement	10	25	17,5
Price Level	10	13	11,5
Favourite List	5	-	2.5
Buying Frequency	8	7	7,5
Purchase Price Changes	12	9	10,5
Competitive Intensity	20	17	18,5

Table 3: Combining expert judgement with machine learning to get the best of both worlds

Then, we run the model across all the products selected for the sensitivity pricing assessment. It checks the sensitivity score of the selected product assortment. Products with higher sensitivity will have a negative score while items with lower sensitvity will have a positive score. In the graph below you can see the Amazon price sensitivity.



Graph 1: Price Sensitivity level on Amazon.

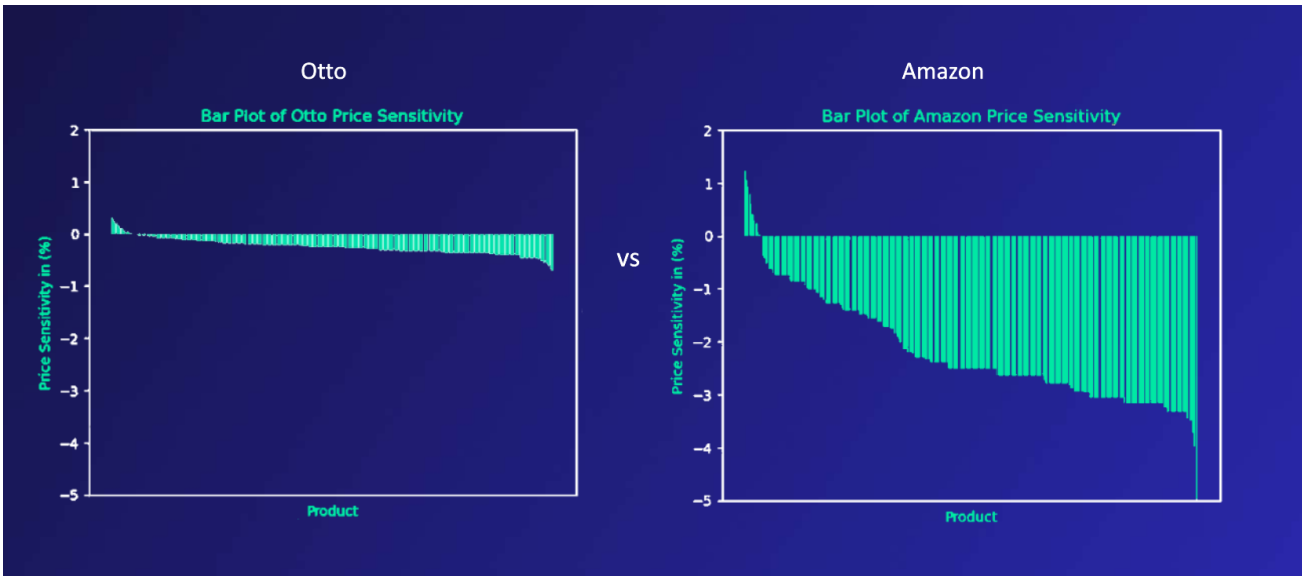
SYMSON's 5-Step Approach to Assess Price Sensitivity

Building the Sensitivity Model and Interpreting Sensitivity Scores

Step 4: Interpret Price Sensitivity Scores

It helps managers to interpret the scores if we visualize the products based on sensitivity. You can visually highlight the top sensitive and insensitive items. This helps you get a quicker grasp on these varied items.

In general, your pricing process can have different customer behaviour, sell to different markets and channels and in different countries. If this is your case, you can plot the model on those different dimensions to get further clarity of the product's sensitivity. In this case, we see the level of sensitivity varies on different channels or marketplaces.



Graph 2: The different price sensitivity levels on different marketplaces for the same assortment. The graph shows a higher sensitivity in Amazon.

We conducted this project for one of our customers and we found a clear difference between two marketplaces. We used the same product assortment but on two separate channels. In the graphs above, you can see a distinct difference between the price sensitivity levels on Amazon and Otto. This shows us that the same products can have different price sensitivity scores on such different dimensions. This insight is crucial to consider because you cannot use the same pricing strategy if there's such a difference.

SYMSON's 5-Step Approach to Assess Price Sensitivity

Step 5: Act upon Price Sensitivity to Increase Margin or Sales

So, now when you have identified all the price sensitivity scores from the selected product assortment, the next step is to execute a pricing strategy. But before that, we categorise the products based on their sensitivity level into different buckets. As we now know that the negative sensitivity scores indicate a high sensitivity level and a positive score means insensitivity. We now group them into the following buckets:

- Very sensitive,
- Sensitive,
- Not very sensitive,
- Moderately sensitive,
- Moderate insensitive,
- Not very insensitive,
- Insensitive, and
- Very insensitive.

Then, your stakeholders must decide the level of price change they would like to experiment with. For the most sensitive, we suggest a discount of around 4% or 2%. This may depend upon how aggressive you want to be with setting new prices based on the sensitivity scores. Similarly, for the insensitive products, we would choose a markup decided by our client.

SYMSON's 5-Step Approach to Assess Price Sensitivity

Building the Sensitivity Model and Interpreting Sensitivity Scores

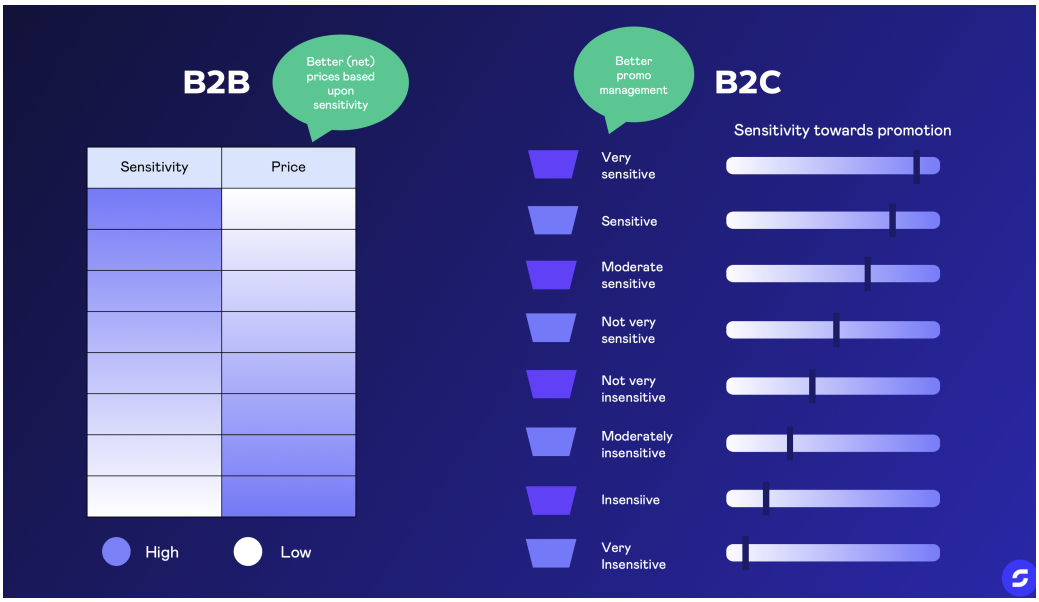


Illustration 3: In SYMSON, you can apply discounts or markups based on the sensitivity scores.

After the experiment, you must measure the change in volume and sensitivity score. Then, continue to optimise based on any new data and build up from there. Continuously testing the price sensitivity scores and optimising the assessment based on new information enables you to set optimal strategies for a product group and balance sales growth/ revenue generation and profit margin.

Price Sensitivity Implementation

Which Products are Suitable for Price Sensitivity?

You must note that **not all of your products are suitable for price sensitivity**. In fact, not all products are suitable for competitive pricing, cost-based plus, or price elasticity strategy either. We recommend implementing a mix of relevant strategies to get the optimal results. However, let's take a look at 5 core products groups to understand their optimal pricing methods to determine list prices:

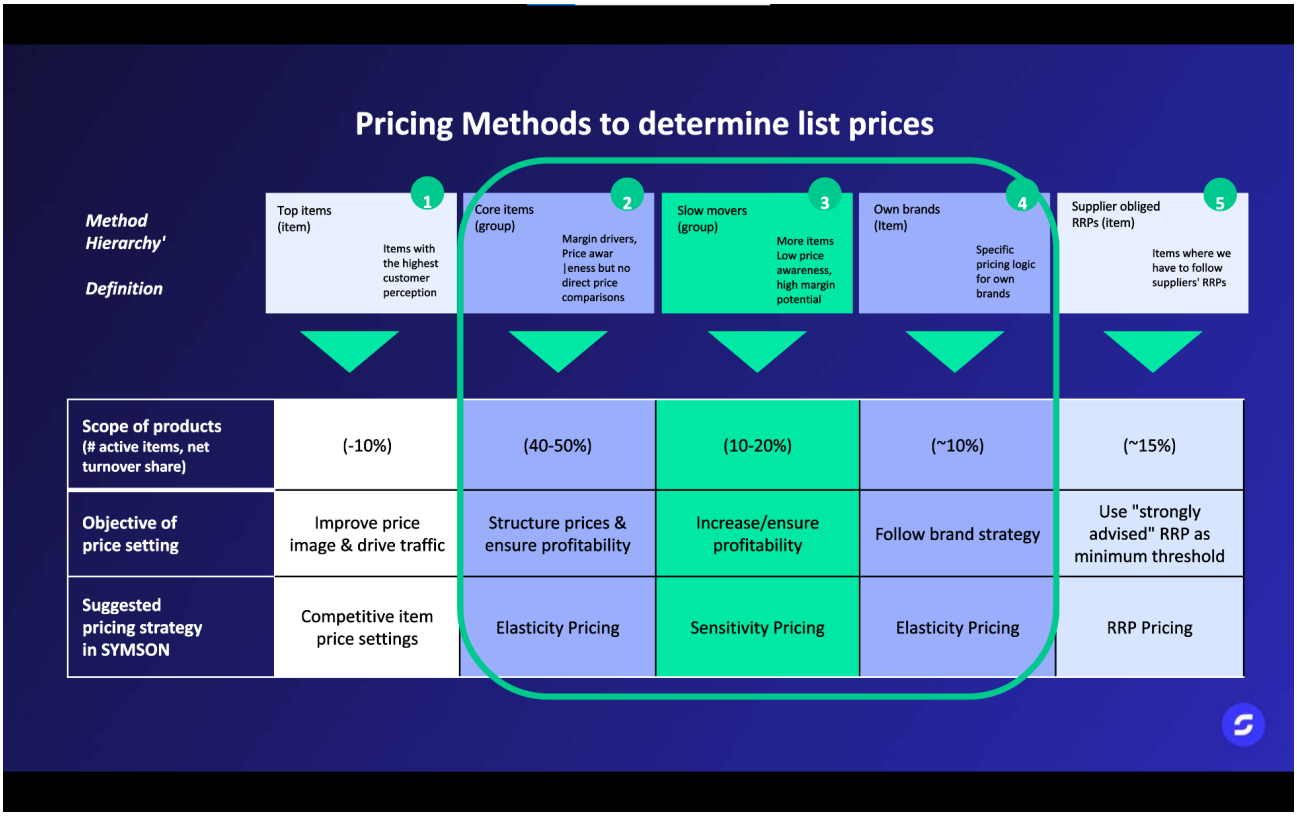


Illustration 4: Suggested pricing strategy for different group of products.

1. **Top Items:**
   These are also known as the Key Value Items (KVI) that drive your customer perception. In this case, you would want to place the top items competitively- may be in terms of pricing or branding. If you want to keep a premium in your pricing that resonates with your brand, you may want to tally the prices with your competition.

   On the other hand, if these top products are more of a commodity ones, you may want to price them lower to get more footfalls in your store or webshop. Hence, competitive pricing strategy suits the best for such items.

Price Sensitivity Implementation

Which Products are Suitable for Price Sensitivity?

2. **Core Items:**
   Core products are those that your customers buy together with the Top or the Key Value Items. Such products are not as price sensitive as the former and are great profit margin drivers. That's why, core items allow you to earn more money especially due to its low sensitivity level. You can set higher prices to generate more margin.

   Price Elasticity strategy is the most suitable for such inelastic items unless you lack the data quality, in that case implementing Price Sensitivity would be ideal.

3. **Slow Movers:**
   As the name suggests, due to the group's slow moving nature, companies generally tend to neglect such items. Customers are probably not buying them and hence are stuck in your portfolio. But, such slow movers are the low hanging fruits where you can optimise your prices and earn healthy profits.

   When it comes to deciding the pricing strategy, the issue with slow movers is that they lack the data quality to use price elasticity. Therefore, we recommend using the Price Sensitivity strategy for such items.

4. **Own Brands:**
   Generally for your own branded products, there may be a clear brand strategy active for the pricing and positioning. If not, you can use the Price Elasticity Strategy or even the Price Sensitivity one.

   Likewise, we can highlight that most of your products, about 40-50%, of your assortment, is ready for both Price Sensitivity and Elasticity- making it a vital area to explore in pricing.

5. **Supplier Obliged RRP Items:**
   Finally, we have the items that manufacturers suggest a specific Recommended Retail Price to be sold at for the end consumers. In this case, retailers must stick to that price to avoid losing value of the product or create a price discrepancy in the market. In case of violation, the manufacturers are free to take steps to avoid such issues.

Price Sensitivity Implementation

How to implement SYMSON's platform and Price Sensitivity Algorithms to find your optimal price

Using the 5 Step Approach mentioned earlier in this guide, we at SYMSON can help you implement Price Sensitivity algorithms appropriately across your product portfoliio. Using the insights gained, you can group your products into price sensitive buckets. As mentioned earlier these buckets range from Very Sensitive to Very insensitive. You can then assign these products to specific pricing strategies appropriately. For example, if you find that a product in your portfolio is very sensitive, you can lower the prices for those products to draw more people to your store and increase the prices on the insensitive products to gain more overall margin.

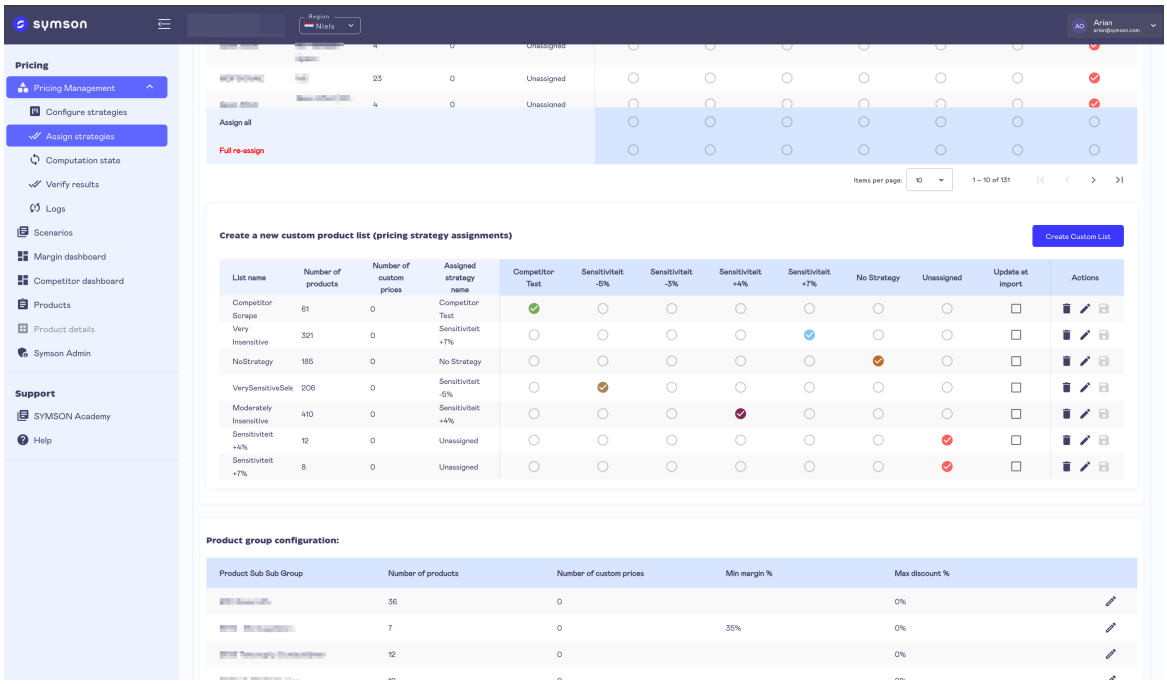


Illustration 5: Implementing price sensitivity in the SYMSON platform.

Combine with other strategies

The price engine in SYMSON includes several price strategy blocks that can be used in combination with each other. You could create your own custom pricing strategy that uses our other features such as competitor monitoring (automatically track and set prices based on your competitors), stock-based pricing (which can set prices based on the level of units in your inventory) , or add guardrails like minimum margin, or price rounding.
The SYMSON price engine provides an incredible level of flexibility and customisation to sensitivity-based pricing.

Price Sensitivity Implementation

How to implement SYMSON's platform and Price Sensitivity Algorithms to find your optimal price

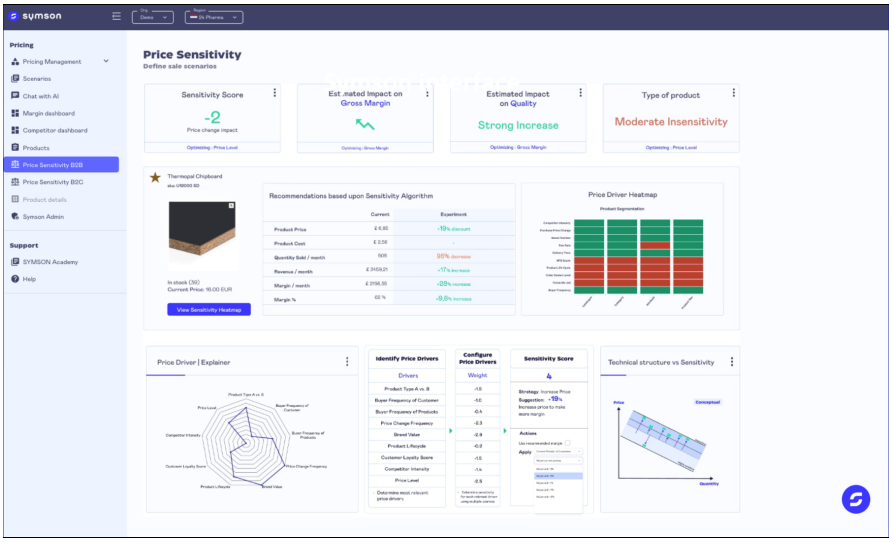


Illustration 6: Implementing price sensitivity in the SYMSON platform.

Visualising Price Sensitivity Outcomes & Get Recommendations

Once we have gathered the appropriate data, most importantly, the price drivers based on expert judgement and machine learning, we can then produce a heat map visualisation to see which price drivers have the largest effect on sensitivity Once the output is computed and applied to your portfolio, you can now view these results in your very own SYMSON environment. Get detailed analyses such as:

- Price sensitivity score of each product
- Price Driver Heatmap and weighted scores
- Advice on how to increase margin or revenue

Price Sensitivity Implementation

How to set up Good Experiments

The process of implementing Price Sensitivity doesn't stop with just one cycle.
We at SYMSON are passionate about learning loops and using the capabilities of machine learning and expert human judgement to get better with each iteration. We call this process **Hyperlearning™**

This is our process for successful experiment design. While this can be applied for Price sensitivity, it can be used for other types of pricing experiments as well.

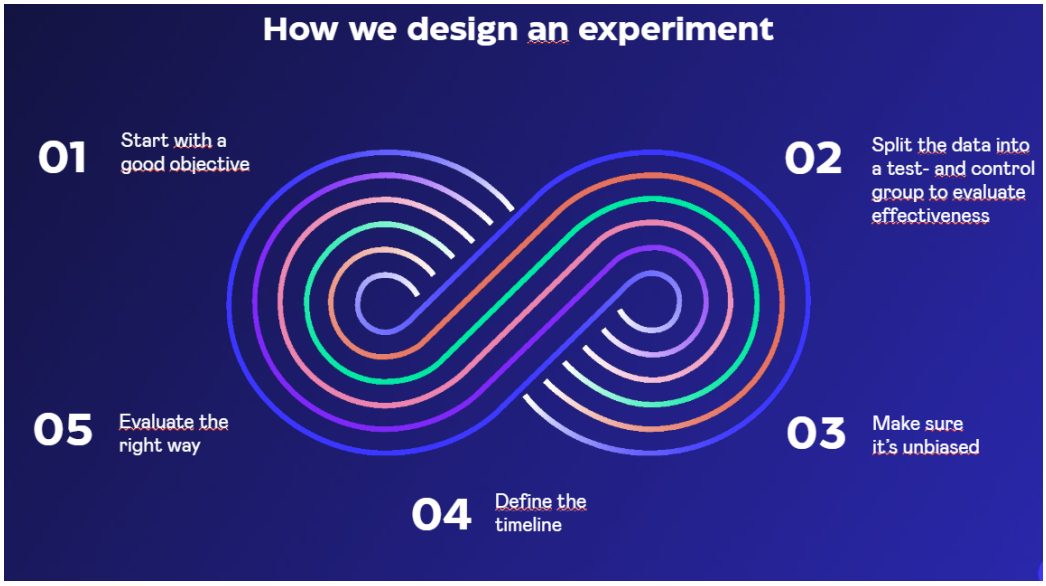


Illustration 7: Our process to design a good experiment

A good objective is one that has a meaningful and compelling business case for your situation. It also must be measurable! This allows us to set the parameters of success.

The second and third steps are crucial as they provide objective perspectives on the success of the experiment. It allows for a fair and honest experiment and makes sure that we can measure that any success is not tainted by other factors.

The fourth step is defining a timeline. This timeline can vary depending on whether you work with B2C or B2B. This is dependant on your contract cycles, how often you re-price etc. The fifth step suggests that one should retrace the previous steps and make sure they were executed properly. For example, was the objective successful? Was there a control group? Was the experimentation fair and free from bias? Did you see products that behaved differently than expected? Why? The use of the infinity symbol is to convey that this is a continuous process. It doesn't just stop at step 5 but can be repeated to refine the accuracy and objective of the experiment with each pricing cycle.

Conclusion

Sensitivity pricing, particularly with SYMSON's advanced machine learning-based algorithms, can provide the accuracy and adaptability needed to stay competitive in today's dynamic market. Our Intelligent Pricing & Forecasting Platform is designed to optimize your pricing strategies by analyzing market trends and customer behavior, ensuring your prices are both competitive and profitable. We hope this whitepaper has helped you get started with this process in the most informed manner. If you are interested in optimising your pricing with SYMSON, we are always keen to connect and help out! Schedule a call and discuss the possibilities of unlocking your **fullest pricing potential!**

Contact Us

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