

Project Report: Strategic Pricing Optimization Analysis

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1. Executive Summary

This report details the methodology and results of a strategic pricing initiative designed to meet three core business objectives: achieve a **2.2% weighted revenue increase**, improve **competitive price alignment**, and adhere to a strict **+/- 15% price change constraint** per product. The analysis was successfully completed using a combination of Microsoft Excel for modeling and Python for data visualization.

The implemented strategy resulted in a **projected annual revenue increase of +\$553,802 (+2.19%)**, closely meeting the financial target while fully complying with all business rules.

2. The Business Problem

The primary challenge was to increase overall revenue through strategic price adjustments across a portfolio of 56 products. This could not be a simple, uniform price hike; it required a nuanced approach that simultaneously considered:

- **Financial Goal:** A weighted average price increase of 2.2%.
 - **Market Position:** Reducing price variance against a key competitor.
 - **Customer Impact:** Limiting any single price change to a maximum of 15% to prevent customer disruption.
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3. Methodology

A two-stage analytical model was developed to solve this multi-constraint problem:

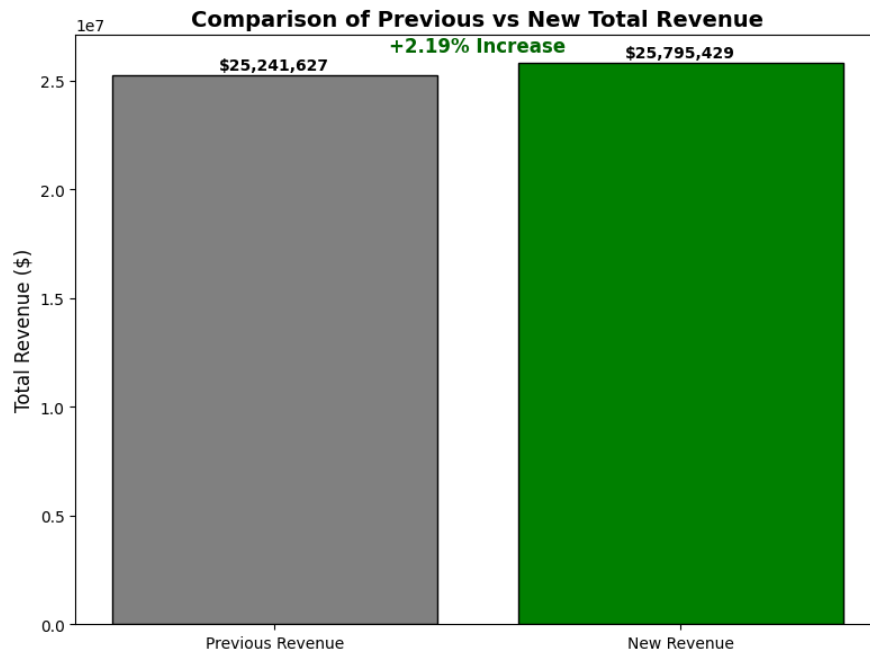
1. **Excel Modeling (Goal Seek):**
 - A "Closeness Factor" was established as the single optimization variable, representing the percentage of the price gap to the competitor that we would close.
 - Excel's **Goal Seek** tool was used to find the ideal "Closeness Factor" that would achieve the 2.2% overall revenue target in an unconstrained scenario.
 2. **Constraint Application & Finalization:**
 - The "ideal" prices from the model were then capped using a $\text{MAX}(\text{MIN}(...))$ formula to strictly enforce the **+/- 15% individual price change rule**. This final price list represents the optimal balance between all business objectives.
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4. Key Findings & Visualizations

The analysis confirmed the success of the model and yielded critical business insights.

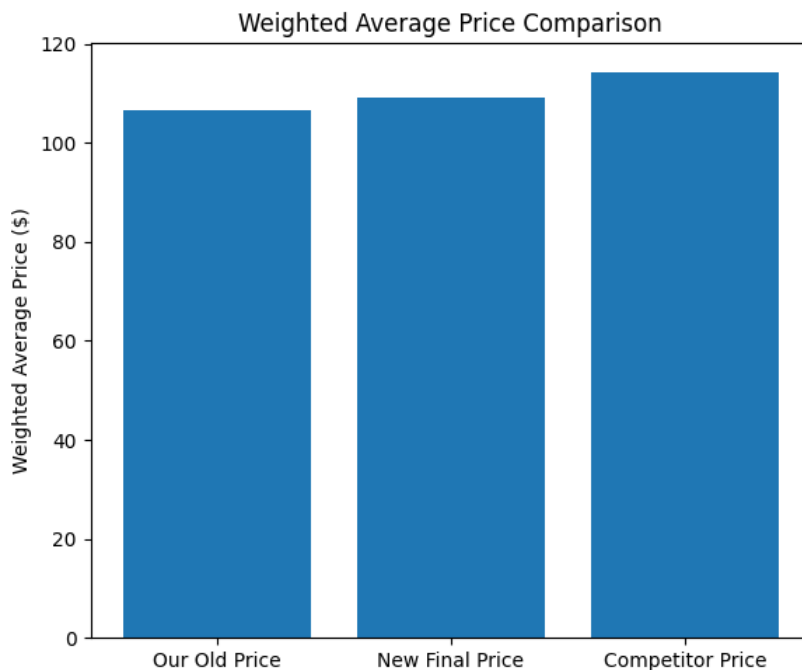
- **Finding 1: Financial Target Achieved**

The new pricing structure is projected to increase total revenue from **\$25.24M to \$25.80M**, a +2.19% lift. This demonstrates the model's accuracy and effectiveness.



- **Finding 2: Strategic Competitive Repositioning**

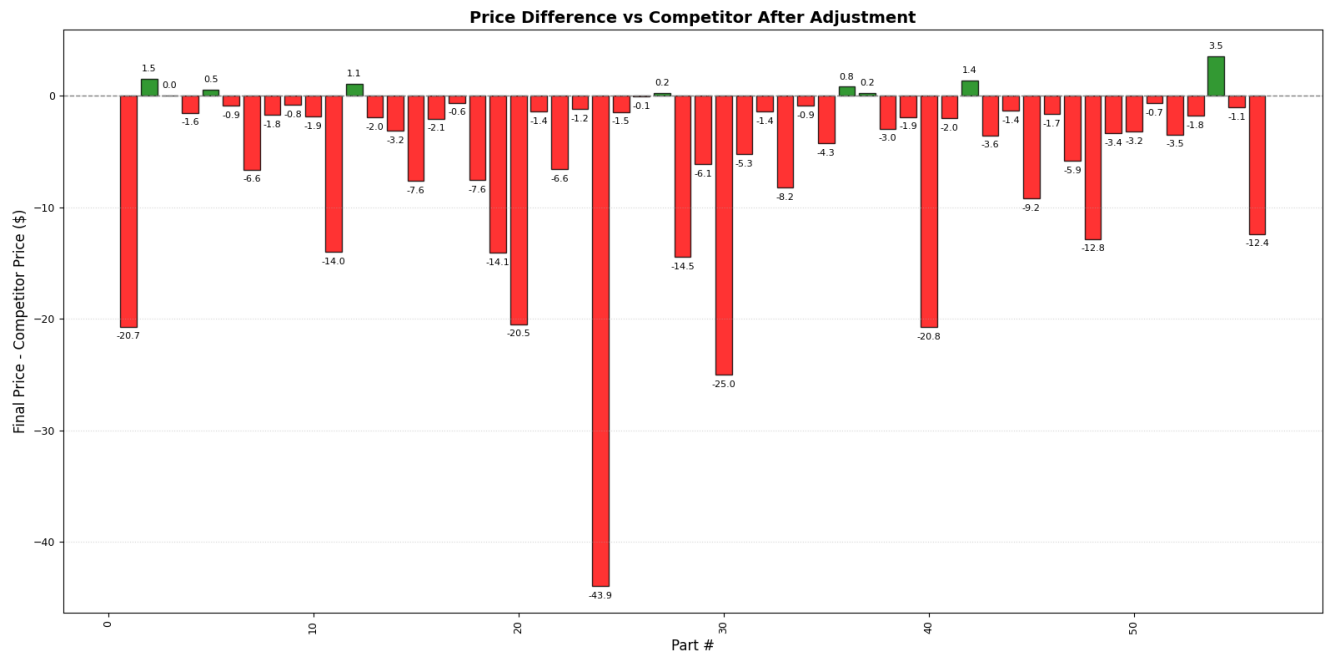
The weighted average price of our products has moved significantly closer to the competitor's, reducing market inconsistencies. We remain competitively positioned just below their average, allowing for increased margin without sacrificing market share.



- **Finding 3: Data-Driven, Per-Product Adjustments**

The model intelligently applied changes where they were most needed. Products that were previously priced far below the competitor received the largest increases, while

others were adjusted more subtly, proving a data-driven approach rather than a uniform one.



5. Recommendation

It is recommended that the business **adopt the new "Final Price" list** generated by this model. This pricing structure is validated to:

- Deliver a significant and predictable revenue increase.
- Strengthen our competitive market position.
- Operate within established business rules to ensure customer stability.

This analytical framework can be reused for future quarterly or annual pricing reviews to maintain an optimal and data-driven market strategy.