Pricing Strategy Under Demand
&
Capital Constraints

A Pricing-Aware Revenue & Risk Simulation Case Study

Can we increase prices without damaging demand, revenue stability, and inventory efficiency?
This study integrates elasticity modeling, scenario simulation, and operational risk translation to answer that question.

Which product groups are most resistant to price increases?

Category	Elasticity	Confidence (R2)	Status
Home	**-0.0450**	0.0046	Resistant
Accessories	**-0.0474**	0.0060	Resistant
Beauty	**-0.0523**	0.0096	Resistant
Fashion	**-0.0790**	0.0111	Resistant
Electronics	**-0.0798**	0.0097	Resistant
Sports	**-0.1047**	0.0086	Resistant

- **Most Loyal Categories: Home** and **Accessories** have been identified as the categories with the lowest price sensitivity and the highest customer loyalty.
- **The Power of Proximity to Zero:** The elasticity scores for these categories are **near zero**, indicating that demand is highly "inelastic." This confirms a strong brand/product stickiness.
- **Concrete Example:** For instance, a **10% price increase** in the **Home** category is projected to result in a negligible sales volume drop of only **0.4%**.
- **Strategic Decision:** These categories are the **prime and safest candidates** for price optimization to maximize profit margins without sacrificing volume.

Where is it safe to adjust prices?

Market	Elasticity Coefficient	Sensitivity Level
APAC	**-0.02**	**Highly Resistant**
EU	**-0.02**	**Highly Resistant**
LATAM	-0.12	Moderate
US	-0.09	Moderate
TR	**-0.20**	**Highly Sensitive**

Global Benchmarking: APAC and EU markets are the "Safest Zones" for price optimization due to extremely low price sensitivity.

- **The 10x Factor:** Customers in **TR (Turkey)** are **10 times more sensitive** to price changes compared to those in APAC.
- **Strategic Warning:** Any price adjustment in the TR market must be handled with extreme caution and backed by aggressive value-added campaigns to prevent immediate churn.

The Intersection of Region and Category

- **Primary Opportunity (The Cash Cow): APAC - Electronics (-0.140)** represents the highest profit maximization potential. Low elasticity allows for aggressive margin expansion.

Category	APAC	EU	LATAM	TR	US
Accessories	-0.518	-0.946	-0.340	-0.596	-1.114
Beauty	-0.638	**-0.272**	-0.514	-0.638	-1.130
Electronics	**-0.140**	-1.889	-0.855	-0.659	-1.521
Fashion	-0.403	-1.684	-0.739	-0.645	**-1.787**
Home	-0.790	-1.058	-0.586	-0.680	-1.317
Sports	-0.806	-1.644	-0.719	-0.693	-1.684

- **The High-Risk Zone: US - Fashion (-1.787)** is the most volatile segment. Since elasticity is significantly above 1.0, even a minor price hike could lead to a massive exodus of customers.

APAC/EU: Focus on **Price Increases** to boost net profit.
US/TR: Focus on **Promotional Campaigns** and value-bundle strategies to maintain market share.

Portfolio Resilience (Global Overview)

- **Top Performers: Home (-0.045) and Accessories (-0.047) demonstrate the highest customer loyalty and lowest price sensitivity.**
- **Margin Optimization: A 5-10% price adjustment in these categories is projected to increase net profit margins with negligible impact on sales volume.**

Geographical Risk & Opportunity Map

- **Safe Havens (APAC & EU): With an elasticity of -0.02, these regions are "highly resistant." Operational cost increases can be safely passed on to prices here.**
- **Sensitive Market (TR): Turkey (-0.20) is the most reactive market. Strategies should focus on volume-based growth (e.g., "buy more, pay less") rather than aggressive price hikes.**

- **Move Away from "One-Size-Fits-All":** We recommend shifting from a global flat-pricing policy to a **"Regional & Category-Based Dynamic Pricing"** model.
- **Strategic Focus:** Prioritize **Margin Expansion** in low-elasticity segments (APAC/Home) while focusing on **Volume Retention** in high-elasticity segments (US/Fashion).
- **Objective:** This approach will optimize total revenue and enhance operational efficiency across all global markets.

Priority	Region - Category	Elasticity	Recommended Action
High Profit Op.	APAC - Electronics	-0.140	Maximize margins through price increases.
Market Protection	EU - Beauty	-0.272	Maintain price stability to solidify loyalty.
High Risk	US - Fashion	-1.787	Avoid price hikes; focus on inventory clearance.

Pricing Simulation & Strategy Selection

Scenario	Price Increase%	Unit Drop %	Revenue Impact%	Efficiency Score
Aggressive	15.66	-8.69	4.78	0.55
Balanced	7.83	-4.34	2.93	0.67
Conservative	3.13	-1.73	1.30	0.75

We simulated three paths to balance profitability and market share.

- **Aggressive: High revenue (+4.78%) but risky volume loss (-8.69%).**
- **Balanced (SELECTED): A sustainable growth of +2.93% revenue with a manageable -4.34% volume drop.**
- **Conservative: Lowest risk, but misses growth opportunities.**

- **The Breaking Point: Our analysis proves that price hikes don't always equal more profit.**
- **APAC-Electronics: Can withstand up to 30% increases (Max gain).**
- **US-Fashion: Even a 1% hike leads to revenue loss. Optimal Strategy: 0% increase.**

Market	Category	Recommended Hike	Expected Revenue Growth	Elasticity
APAC	Electronics	%30.0	+%24.54	-0.14 (Highly Resistant)
EU	Beauty	%30.0	+%19.39	-0.27 (Resistant)
US	Fashion	%0.0	%0.00	-1.78 (Highly Sensitive)
TR	Accessories	%30.0	+%6.76	-0.60 (Moderate)

Campaign Momentum & Regional Impact

- **Global Campaign Impact:** Discounts act as an "accelerator" rather than a "poison." Post-promo sales remain **3 times higher** than normal (+244.51% uplift), proving that once customers discover our products, they keep buying.
- **Regional Variance:** Not all regions react the same to promotions:
- **EU (Growth Engine):** Massive impact factor of **3.31**. Campaigns create an explosion in demand; we should shift more advertising budget here.
- **APAC & TR (Efficient):** Promo effects remain above baseline, supporting organic growth.
- **US (High Risk):** Only **0.48** impact. US customers are "discount hunters." Once the promo ends, sales collapse to half of normal levels.
- **Strategic Decision:** Use campaigns in the **EU/APAC** to leverage price hikes, but do not rely on promos in the **US** where organic demand is fragile.

DETAILED CAMPAIGN IMPACT

Normal Week Avg. (Baseline	8.59
Post-Promo Week Avg.	29.60
Cannibalization Effect (Uplift)	244.51%

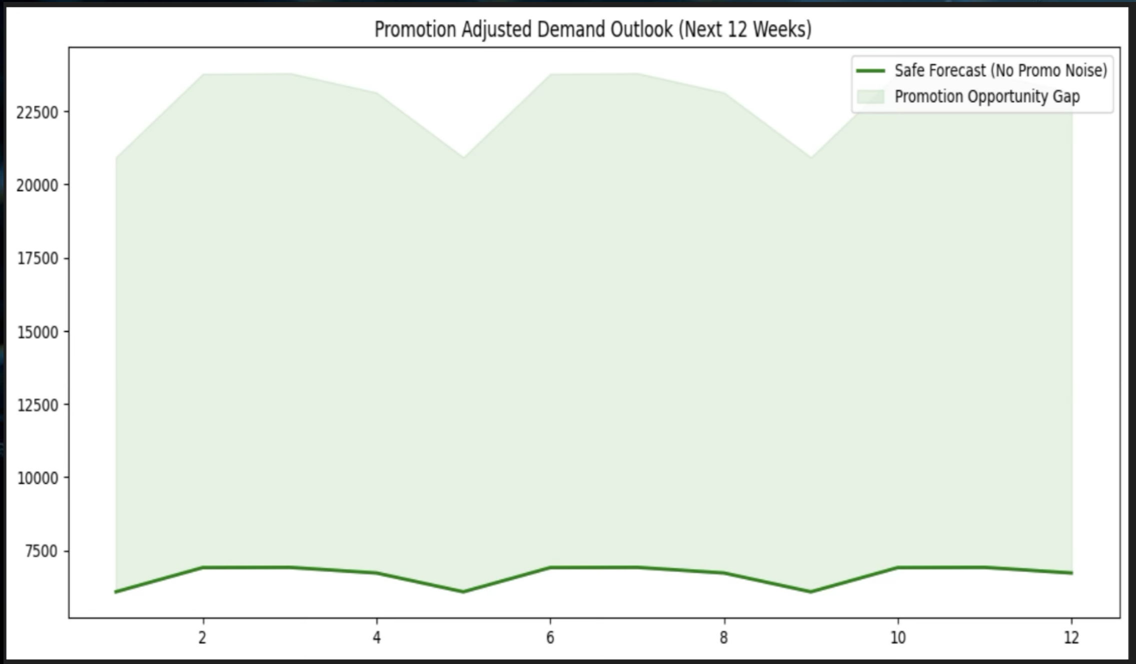
REGIONAL CANNIBALIZATION RATES

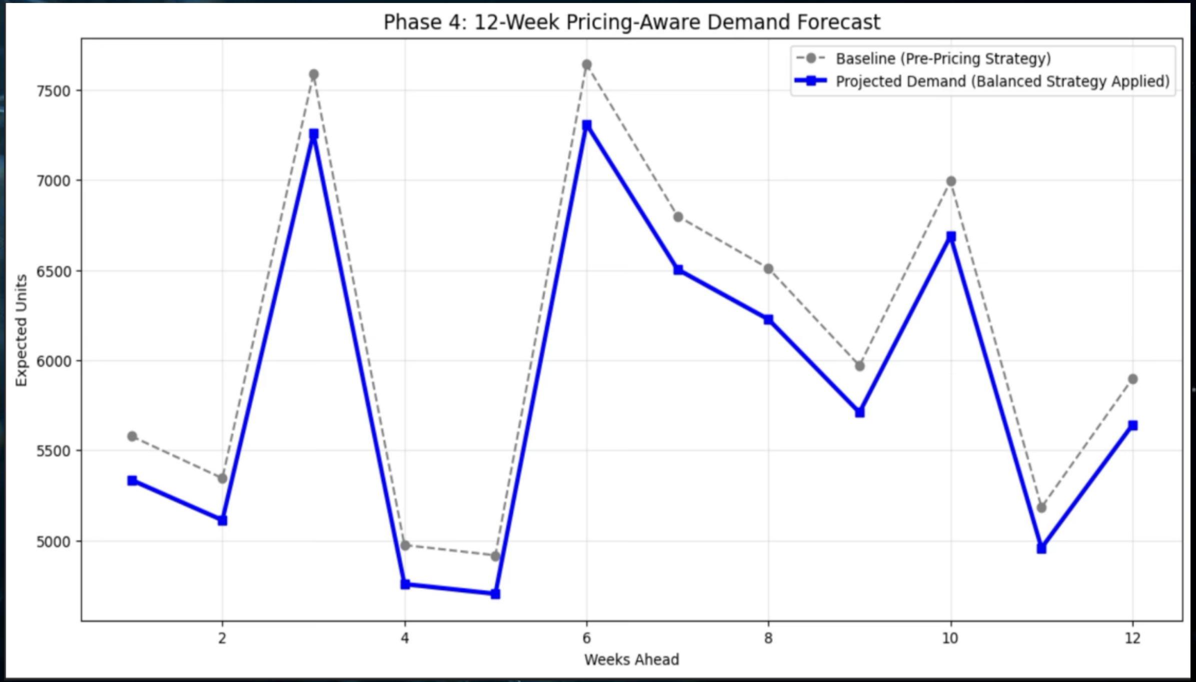
US	0.483596
LATAM	0.852534
TR	1.348274
APAC	1.714513
EU	3.312045

Week Demand Projection

When we look at it from the perspective of the power of promotions, the green area represents the 'safe' sales volume we would achieve if we didn't run any campaigns. However, the 'Promotion Opportunity Gap' shows the potential for a well-timed campaign to increase demand by up to 3.44 times.

As a result of our decision to implement a 'Balanced' price increase, our demand projection for the next 12 weeks has been updated. The gray dashed line in the chart shows the number of units we will sell at the old prices, while the thick blue line shows the expected number of units at the new (increased) prices. Although a controlled decrease of 4.35% in volume is anticipated due to the price increase, this decrease is more than offset by the increase in revenue (Revenue Impact).





Operational Risk & Stock Strategy

- **APAC (Growth):** Low price sensitivity (-0.14) means the primary risk is a **stockout**. We prioritize stock availability to protect high-margin gains.
- **US (Critical):** Extremely high sensitivity (-1.78) and risk score (5.70). Any excess inventory becomes a **financial liability**; immediate pause on new orders is required to protect cash flow.
- **EU & TR (Stable):** Moderate elasticity. We will maintain current levels and **monitor weekly sales** before making further stock adjustments.

Region	Category	Strategy	Risk Score	Action
APAC	Electronics	Aggressive (+15%)	0.68	GROWTH: Low Sensitivity. Increase Safety Stock
US	Fashion	Defensive (0%)	5.70	CRITICAL: High Sensitivity. Pause New Orders.
EU	Beauty	Balanced (+15%)	0.71	STABLE: Monitor Weekly Sales.
LATAM	Accessories	Aggressive (+15%)	0.52	STABLE: Monitor Weekly Sales.
TR	Accessories	Balanced (+15%)	0.73	STABLE: Monitor Weekly Sales.

Financial Risk & Error Management

Category	Uncertainty Band	Bias Trend	Financial Risk Value
APAC-Electronics	±7.1%	Under-Forecast	**$241,050**
US-Fashion	**±31.7%**	**Over-Forecast**	**$507,200**
EU-Beauty	±8.8%	Under-Forecast	$174,560
LATAM-Accessories	±10.1%	Under-Forecast	$107,460
TR-Accessories	±14.0%	Over-Forecast	$118,580

- **The High-Volatility Zone (US):** US-Fashion carries a massive **±31.7%** uncertainty band. An over-forecast here represents a **$507K risk** in wasted inventory and storage costs.
- **The Stockout Risk (APAC & EU):** In our high-performing markets, errors trend toward "Under-Forecasting". This confirms our decision to increase safety stocks to avoid missing out on high-margin sales.

The Path Forward: Growth, Protection, and Efficiency

Market	Inventory Strategy	Projected Revenue	Primary Trade-off
APAC / EU	**Aggressive Stock-Up (110%)**	**$11.6M**	Margin > Volume
US / TR	**Lean Stocking (85%)**	**$4.6M**	Market Share > Margin
LATAM	**Aggressive Stock-Up (110%)**	**$2.3M**	Margin > Volume

Aggressive Stocking (110%): In price-resistant markets like APAC and the EU, we deliberately increased stock levels above the forecast.
Reason: Price increases boost profits; our only risk here is "product unavailability." Therefore, we added a 10% safety margin to guarantee revenue.
Lean Stocking (85%): In price-sensitive or high-risk markets like the US and Turkey, we lowered stock levels below the forecast.
Reason: To avoid tying up company funds in dead stock in case of a potential demand contraction. The "low stock, fast turnover" principle will be applied in these markets.

Trade-off: In most regions, we focused on price increases, adhering to the principle of "Margin > Volume" (Profit is more important than volume). Only in the US-Fashion market did we choose the "Market Share > Margin" strategy, leaving the price untouched to avoid losing market share.