

Final Pricing Recommendations:

Executive Summary.

This project analyzed how demand responds to price changes across customer segments and evaluated the revenue impact of alternative pricing strategies using elasticity-based simulations.

The analysis shows that price sensitivity varies significantly by segment, and applying a single pricing policy across all customers would lead to suboptimal revenue outcomes.

Segment-specific pricing strategies are therefore required to maximize revenue.

Key Analytical Findings

Demand Behavior:

Demand decreases as price increases across all segments.

The magnitude of this response varies significantly by customer type.

Estimated Price Elasticities:

Segment	Elasticity	Interpretation
Premium	-0.43	Inelastic demand
Regular	-1.11	Approximately unit elastic
Student	-1.77	Highly elastic demand

These elasticity estimates were derived using log-log regression models, where coefficients directly represent percentage demand response to price changes.

Revenue Simulation Results:

Revenue simulations were conducted for price changes ranging from -15% to +15% using the estimated elasticities.

Premium Segment:

Revenue increases consistently as prices rise.

Demand declines modestly relative to price increases.

Discounts reduce revenue.

Finding: Price increases improve revenue.

Regular Segment:

Revenue remains relatively stable around current prices.

Price increases slightly reduce revenue.

Price decreases do not significantly improve revenue.

Finding: Current pricing is close to revenue optimal.

Student Segment:

Revenue decreases sharply when prices increase.

Revenue improves substantially with price reductions.

Demand responds strongly to discounts.

Finding: Lower prices or promotions maximize revenue.

Final Pricing Recommendations:

✅ Premium Customers

Recommendation: Increase prices

Rationale: Inelastic demand allows revenue growth despite lower volume.

✅ Regular Customers

Recommendation: Maintain current pricing

Rationale: Demand response is near unit elastic, making large price changes risky.

✅ Student Customers

Recommendation: Reduce prices or apply targeted promotions

Rationale: High elasticity means lower prices significantly increase demand and revenue.

Strategic Implications for Business:

Uniform pricing changes across all segments will reduce total revenue.

Segment-based pricing unlocks pricing power where it exists and volume where sensitivity is high.

Elasticity-based simulations provide a quantitative framework for testing pricing decisions before implementation.

Limitations & Next Steps:

Limitations.

Analysis is based on synthetic data.

Cost structures were not incorporated (revenue optimization only).

Next Steps:

Incorporate cost data to optimize profit, not just revenue.

Include competitor response dynamics.

Deploy pricing simulations into an interactive dashboard for decision-makers.

Final Conclusion:

This project demonstrates how demand modeling and elasticity-based simulations can transform pricing decisions from intuition-driven to data-driven, enabling firms to maximize revenue while minimizing risk.