A/B Testing

Retail Revenue Prediction ML Model
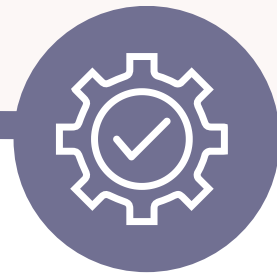
OBJECTIVE

Evaluate the impact of new pricing/discount strategy (Group B) on revenue, profit, and customer behavior.
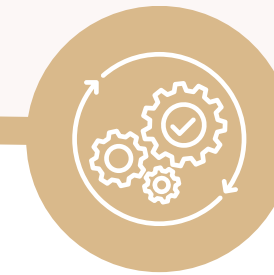
GROUP OVERVIEW

Customers were randomly split between the two groups to ensure a fair comparison

Group A (Control)

Customers experienced our current pricing/discount strategy.

Group B (Treatment)

Customers were exposed to the new pricing/discount strategy we wanted to test.

KPI'S TRACKED

Revenue

Measures the top-line impact of the new strategy — shows whether Group B is driving higher sales compared to Group A.

Units Sold

Indicates customer purchasing behavior — shows if the strategy influences buying volume

Profit

Reflects true business value — highlights if increased revenue is actually translating into sustainable earnings.
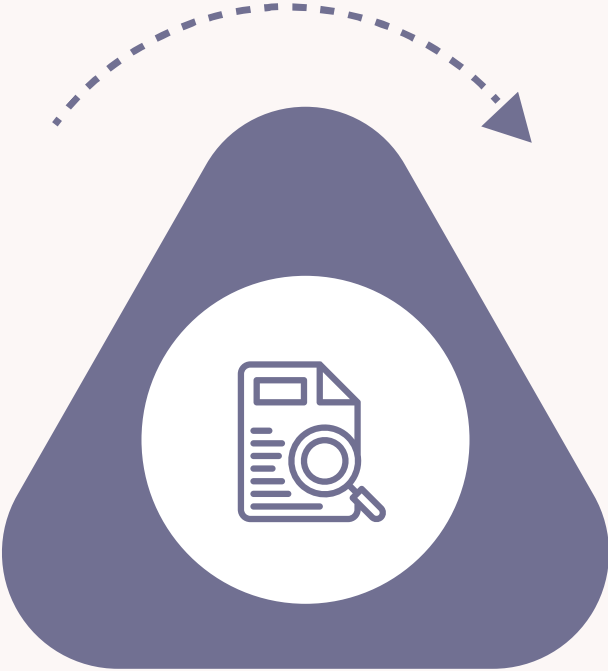
Average Discount.

Captures pricing and promotion efficiency — reveals if discounts are being used effectively to drive results.
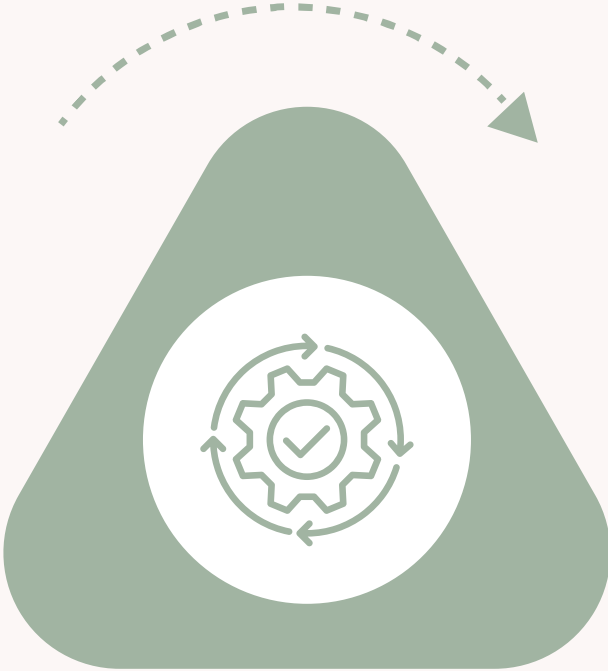
KEY METRICS

Revenue

Total and average per transaction
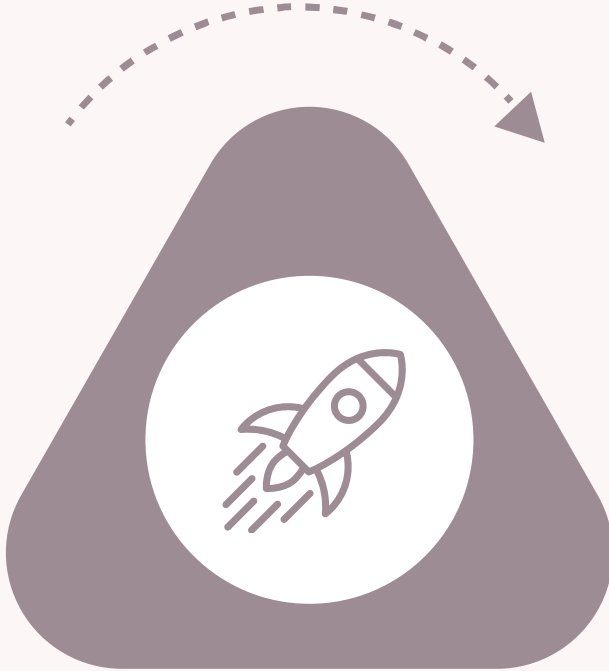
Profit

Total and margin.

Units Sold

Average units per customer or per order.

Average Discount

% discount offered.

Optional

Include Revenue per Unit or Profit per Unit if helpful.

COMPARATIVE INSIGHTS

Revenue Change (B vs A)

0.05%

↓

Not significant
(p-value 0.9486)

Profit Change (B vs A)

292%

↓

Major negative impact.
(p-value 0.9486)

Distribution & Promotion

Nearly identical

↓

No change in customer behavior

A/B TEST INSIGHTS

Revenue Impact

- (Group B) led to a tiny revenue lift of +0.05% compared to Group A
- This increase is statistically insignificant (p-value = 0.9486 ≫ 0.05)

Profit Impact

Group B shows a sharp decline in profit (-292.06%), turning profitable performance in Group A into a net loss.

Customer Behavior

Average units sold per customer were almost identical (136.5 vs 136.4), showing no behavioral change in purchase volume.

KEY- TAKEAWAY

▶ **The new strategy (Group B) maintained revenue, it severely hurt profitability without improving customer behavior. The results are not statistically significant, so there is no evidence of real improvement**

BUSINESS IMPLICATIONS

Revenue

No meaningful improvement

STEP 1

Profit

Profitability risk is significant

STEP 2

Behavior

Customer behavior unchanged

STEP 3

OVERALL CONCLUSION & RECOMMENDATION

▶ **Group B fails to deliver meaningful business gains and introduces significant financial risk. We recommend maintaining the current strategy (Group A) and re-evaluating the approach behind Group B before considering another rollout.**

Recommendation: Stick with Group A or redesign the strategy behind Group B before further rollout.