E-Commerce Insights for a Telco Diversification Strategy

HUTCH

Analytical insights on revenue optimization, customer behavior, delivery performance, and product profitability across segments.

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Submitted for the Technical Assessment – Data Analyst, Hutch

Business Context

Hutch Sri Lanka launched a new online shop for their broadband and mobile customers which is doing well. Now, the management needs detailed insights on how to make the most money, understand what customers are buying, check how fast deliveries are, and see which products are most profitable.

Analytical Questions Based on Business Goals & Dataset

Which product **categories** and **regions** generate the highest **profit margin** percentages?

How does the applied **discount** impact this **profitability** across different **payment methods**?

Are there specific **customer age** and **gender** segments that show a significantly higher average **quantity of items** purchased or a lower **returned rate**?

Which combination of **region** and **category** has the longest average **delivery time**?

Is this correlated with a higher **return rate**?

REVENUE

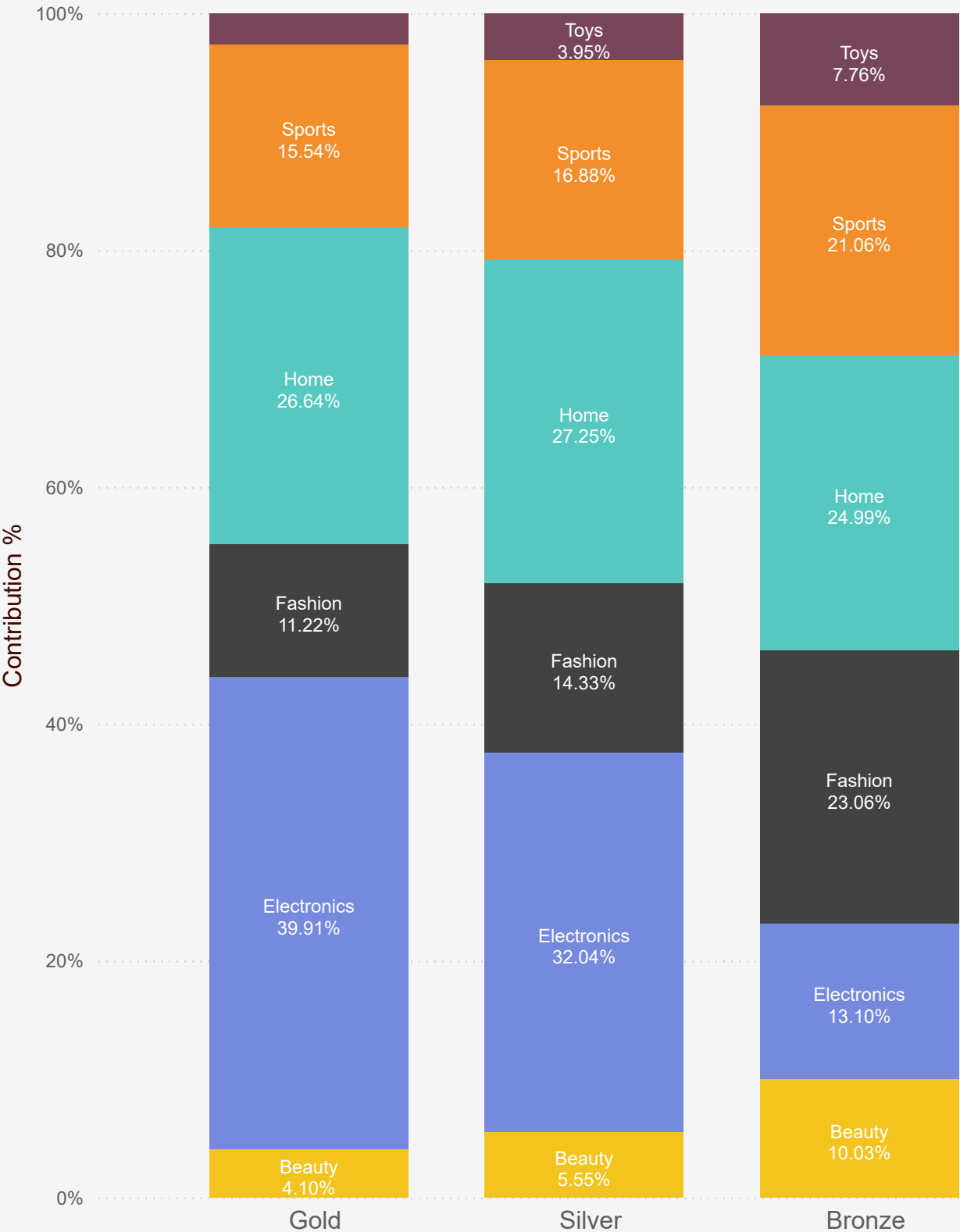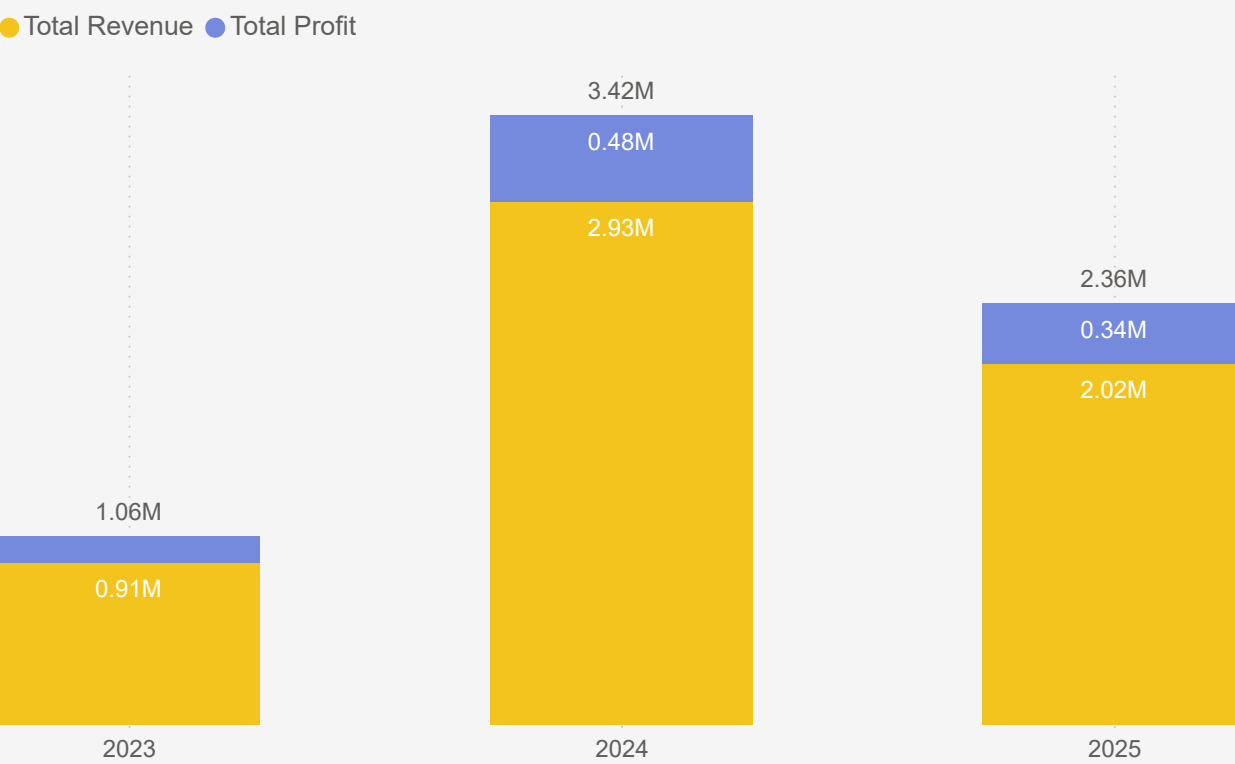|	
Total Revenue 5.87M	**Total Profit** 970K
Total Orders 35K	**AOV** 170.01
Gross Profit Margin % 16.54	**Discount Effectiveness (Quantity Ratio)** 0.45

Gold-Tier Profit Engines: Electronics, Home, & Sports

Electronics, Home, Sports and Fashion Contribution % by Customer Tier

Gold
- Toys
- Sports 15.54%
- Home 26.64%
- Fashion 11.22%
- Electronics 39.91%
- Beauty 4.10%

Silver
- Toys 3.95%
- Sports 16.88%
- Home 27.25%
- Fashion 14.33%
- Electronics 32.04%
- Beauty 5.55%

Bronze
- Toys 7.76%
- Sports 21.06%
- Home 24.99%
- Fashion 23.06%
- Electronics 13.10%
- Beauty 10.03%
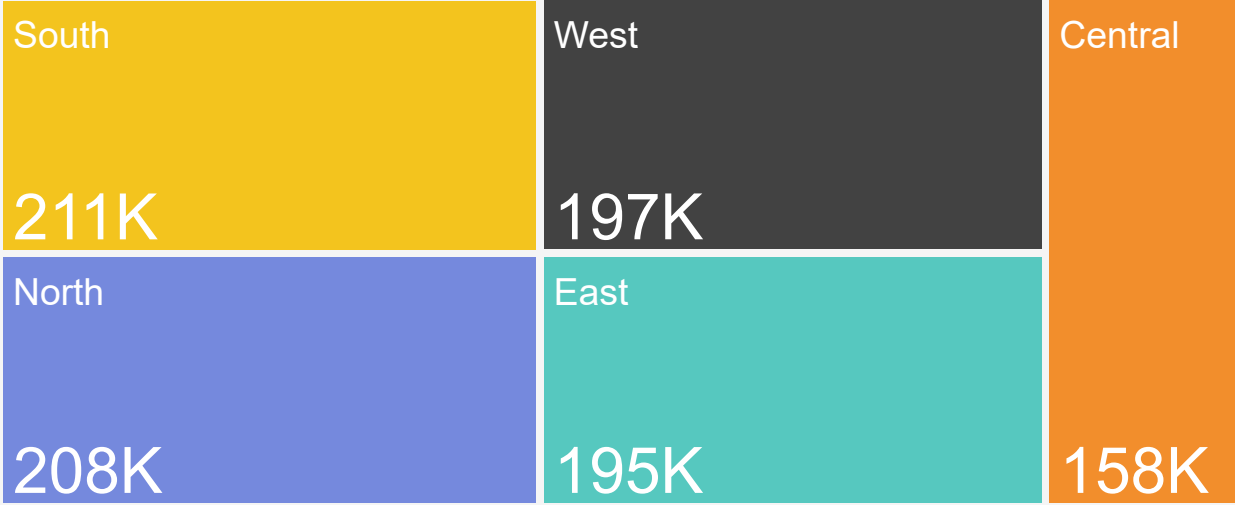
Contribution % (y-axis: 0% – 100%)

Sustain 2024 Revenue Growth & Investigate 2025 Decline

Despite strong 2024 performance, revenue is pacing 31% lower in 2025, requiring immediate diagnosis of marketing or sales efficacy.

● Total Revenue ● Total Profit

Year	Total Revenue	Total Profit	Total
2023	0.91M		1.06M
2024	2.93M	0.48M	3.42M
2025	2.02M	0.34M	2.36M

South Region Drives Highest Share of Total Profit

Total Profit Margin Contribution by Region (Size = Profit Margin)

Region	Value
South	211K
West	197K
North	208K
East	195K
Central	158K

PROFITABILITY

Price_Input

101.90

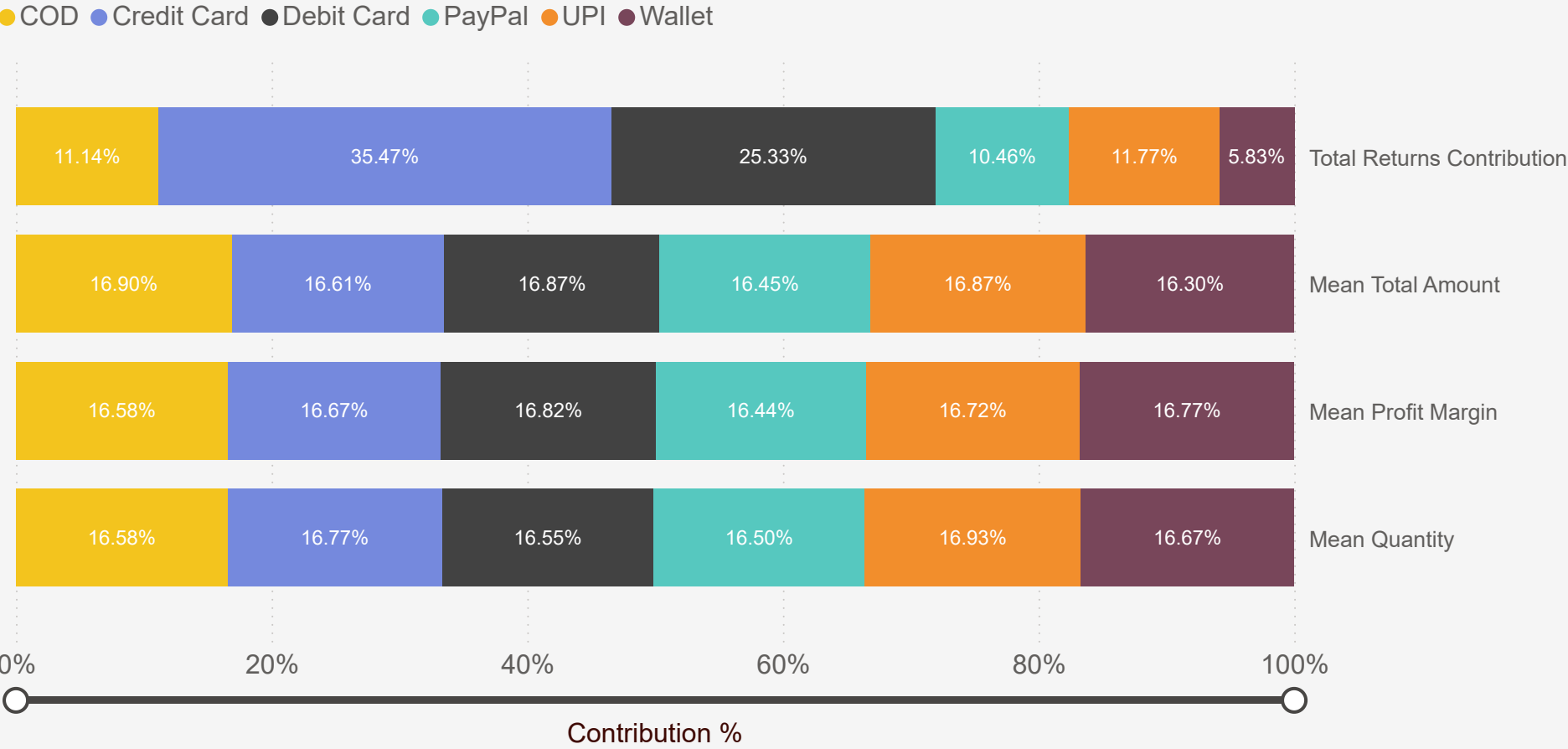**Quantity_Input**

1

Discount_Input

0.00

Predicted Revenue ~ Price + Quantity + Discount + Electronics Category + Home Category + Sports Category

Predicted Order Value based on current Price, Quantity, and Discount inputs.

266.367

Incentivize Debit Card Use to Boost Profit Efficiency

Debit Card orders yield the highest average profit, while Credit Card drives the highest volume of costly returns (35.5%)

● COD ● Credit Card ● Debit Card ● PayPal ● UPI ● Wallet

Category	COD	Credit Card	Debit Card	PayPal	UPI	Wallet	
Total Returns Contribution	11.14%	35.47%	25.33%	10.46%	11.77%	5.83%	Total Returns Contribution
Mean Total Amount	16.90%	16.61%	16.87%	16.45%	16.87%	16.30%	Mean Total Amount
Mean Profit Margin	16.58%	16.67%	16.82%	16.44%	16.72%	16.77%	Mean Profit Margin
Mean Quantity	16.58%	16.77%	16.55%	16.50%	16.93%	16.67%	Mean Quantity

0%   20%   40%   60%   80%   100%

Contribution %

Stop Profit Erosion—Set Discount Floor to 0% for High-Margin Categories

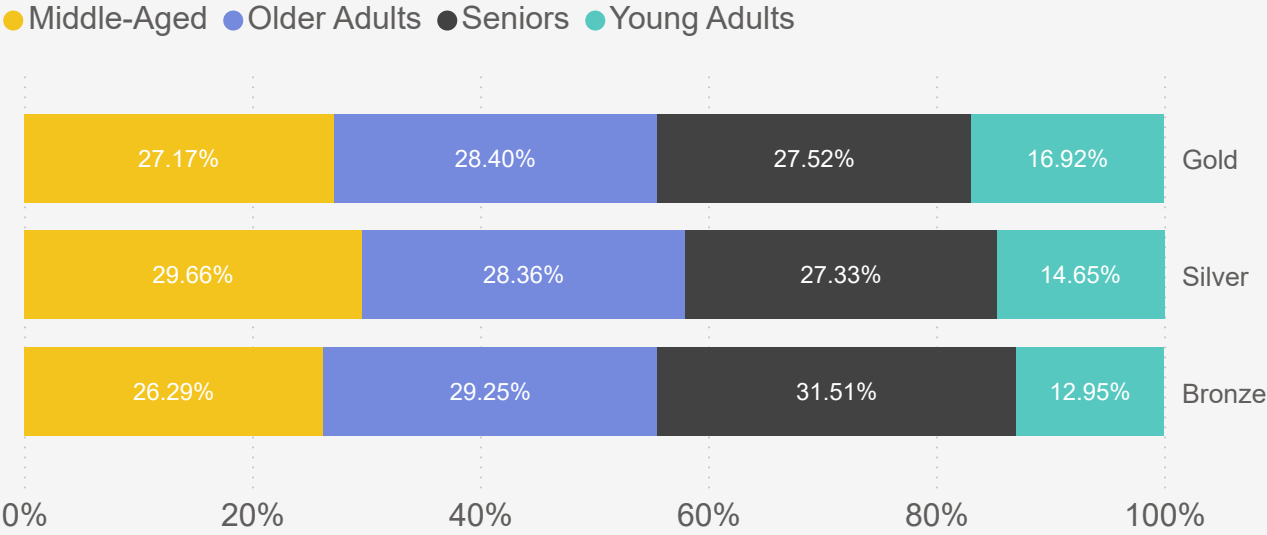Diagnosis shows discounts are profit-destructive; only Toys yield higher average profit at the 5% threshold.

Optimal Discount

5% ●

4%

3%

2%

1%

0% ●   ●   ●   ●   ●   ●   ●

Toys   Beauty   Electronics   Fashion   Grocery   Home   Sports
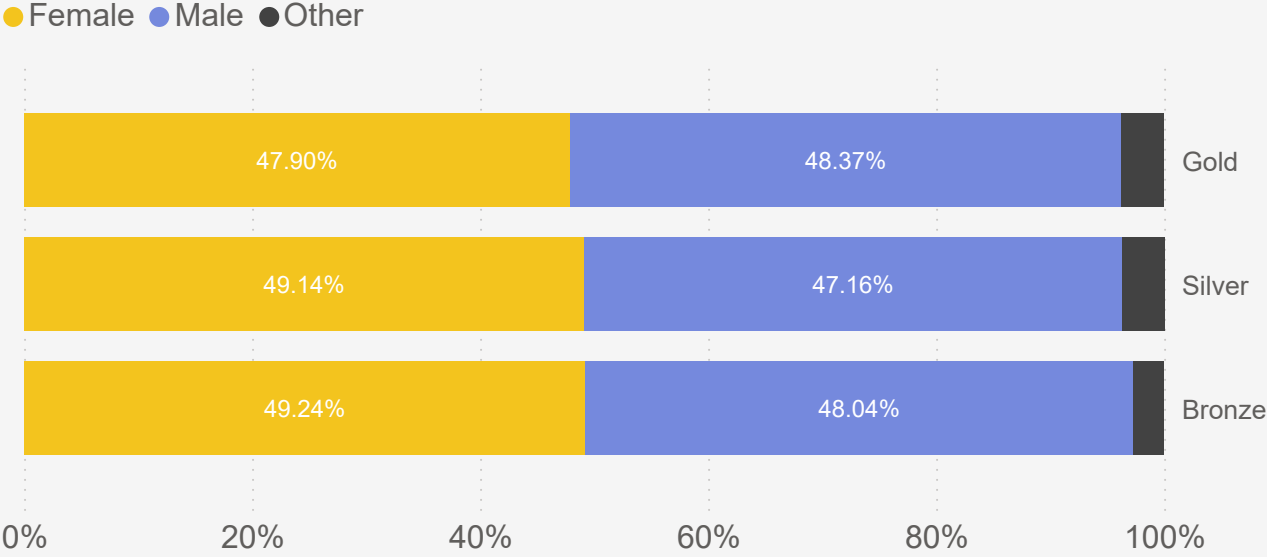
CUSTOMER BEHAVIOR

Protect High-Value Older Adults & Seniors (Gold Tier Dominance)

Older Adults and Seniors (Gold) contribute over 28% of total profit—5 points higher than Middle-Aged and Young Adults combined.

● Middle-Aged   ● Older Adults   ● Seniors   ● Young Adults

27.17%	28.40%	27.52%	16.92%	Gold
29.66%	28.36%	27.33%	14.65%	Silver
26.29%	29.25%	31.51%	12.95%	Bronze

0%   20%   40%   60%   80%   100%

Gold 51.83%   Silver 43.27%

Identify High-Value Lapsed Customers for Immediate Reactivation

Size shows customer value; focus reactivation efforts on high-value customers with low recent activity (High Recency)

Returns Per Customer: Save 'Silver' Tier—Highest Dissatisfaction & Churn Risk

Risk is Highest in the Silver Tier—Focus Quality Interventions on Middle-Aged and Older Customers.

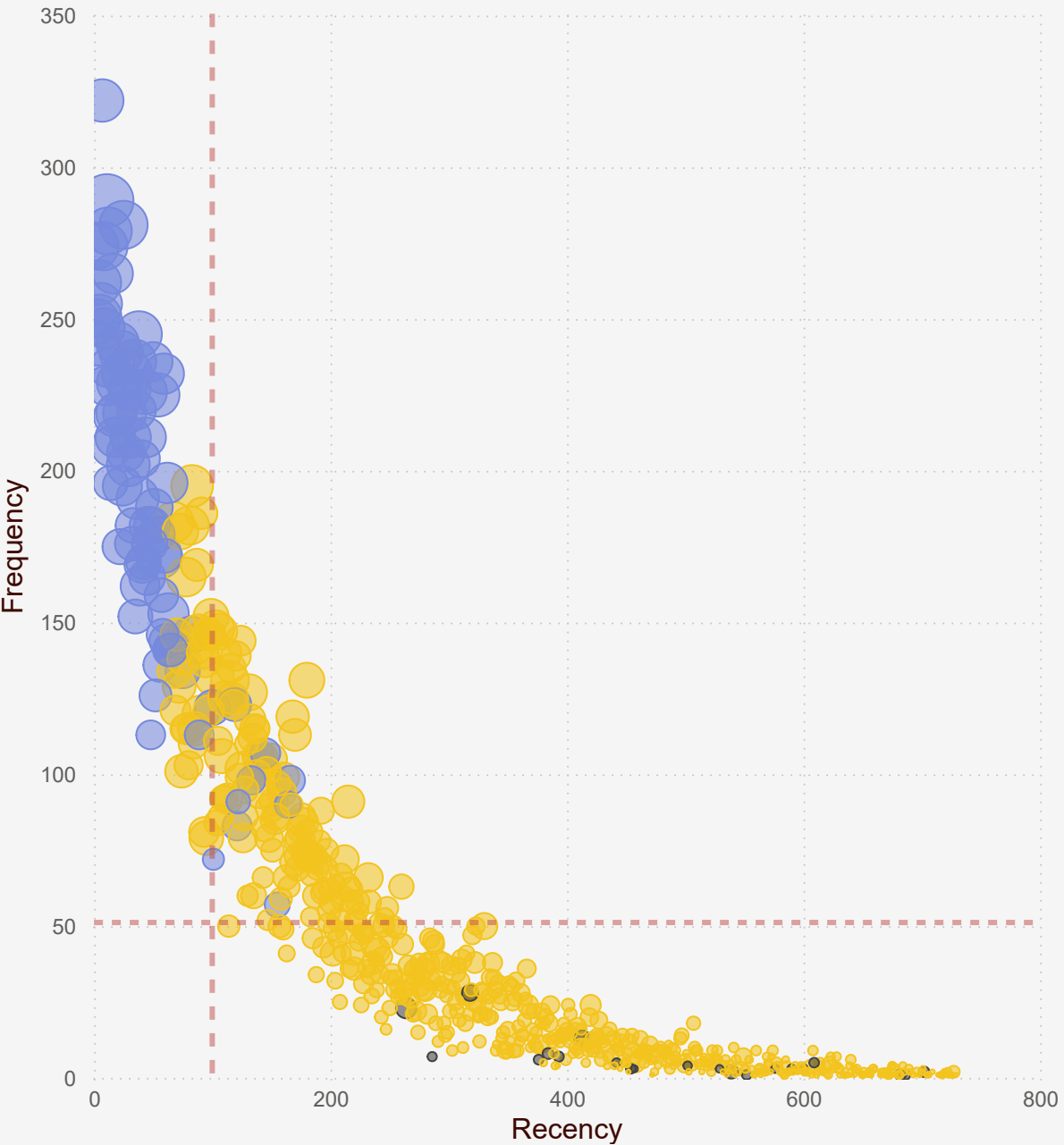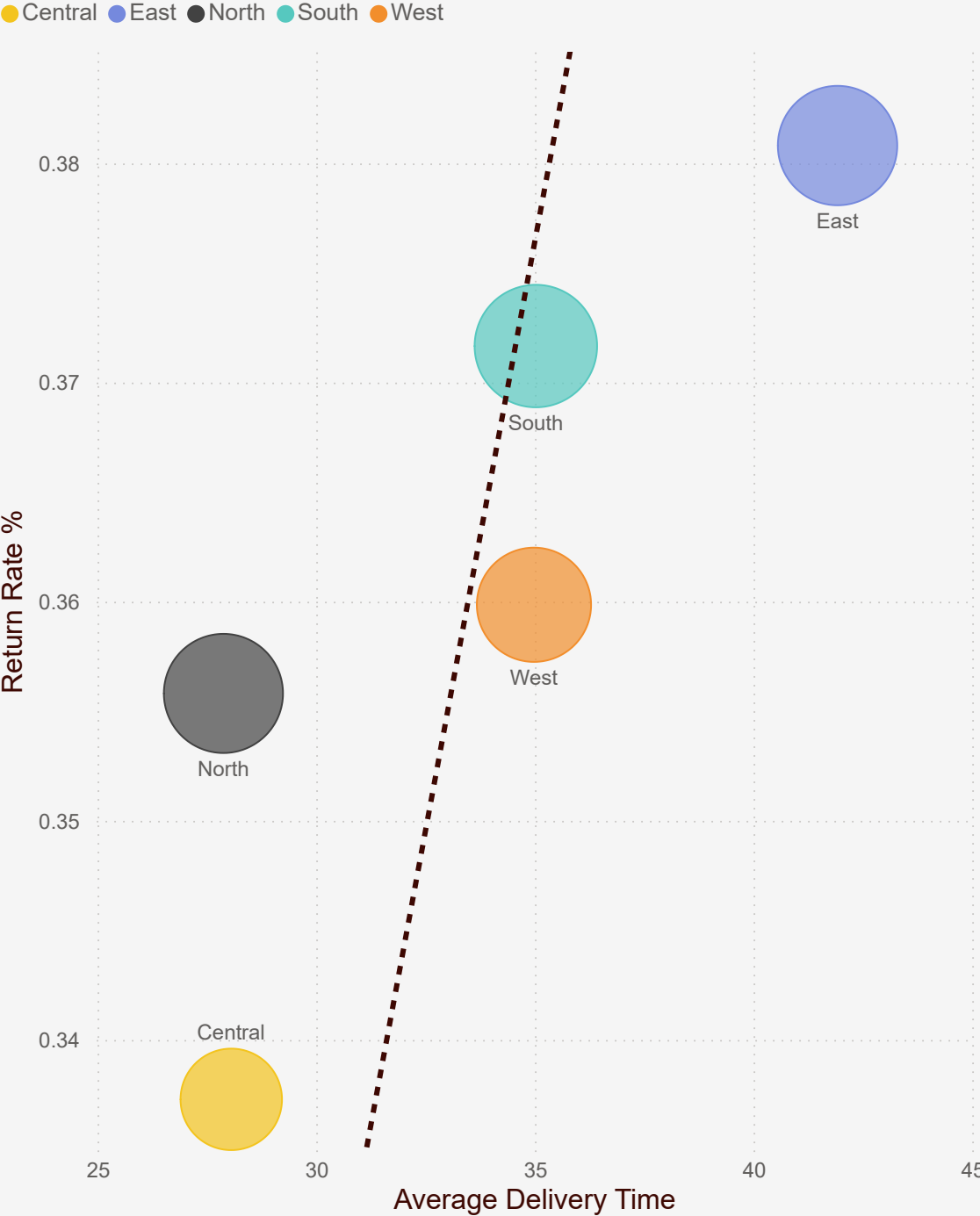| age_group	Bronze	Gold	Silver
Middle-Aged	0.12	0.34	0.23
Older Adults	0.12	0.37	0.20
Young Adults	0.10	0.36	0.24
Seniors	0.11	0.38	0.22

Focus on Tiered Behavior, Not Gender—Performance is Symmetrical

Male and Female Gold tiers exhibit near-identical profit and risk profiles, confirming that customer behavior is the only actionable segmentation driver.

● Female   ● Male   ● Other

47.90%	48.37%		Gold
49.14%	47.16%		Silver
49.24%	48.04%		Bronze

0%   20%   40%   60%   80%   100%
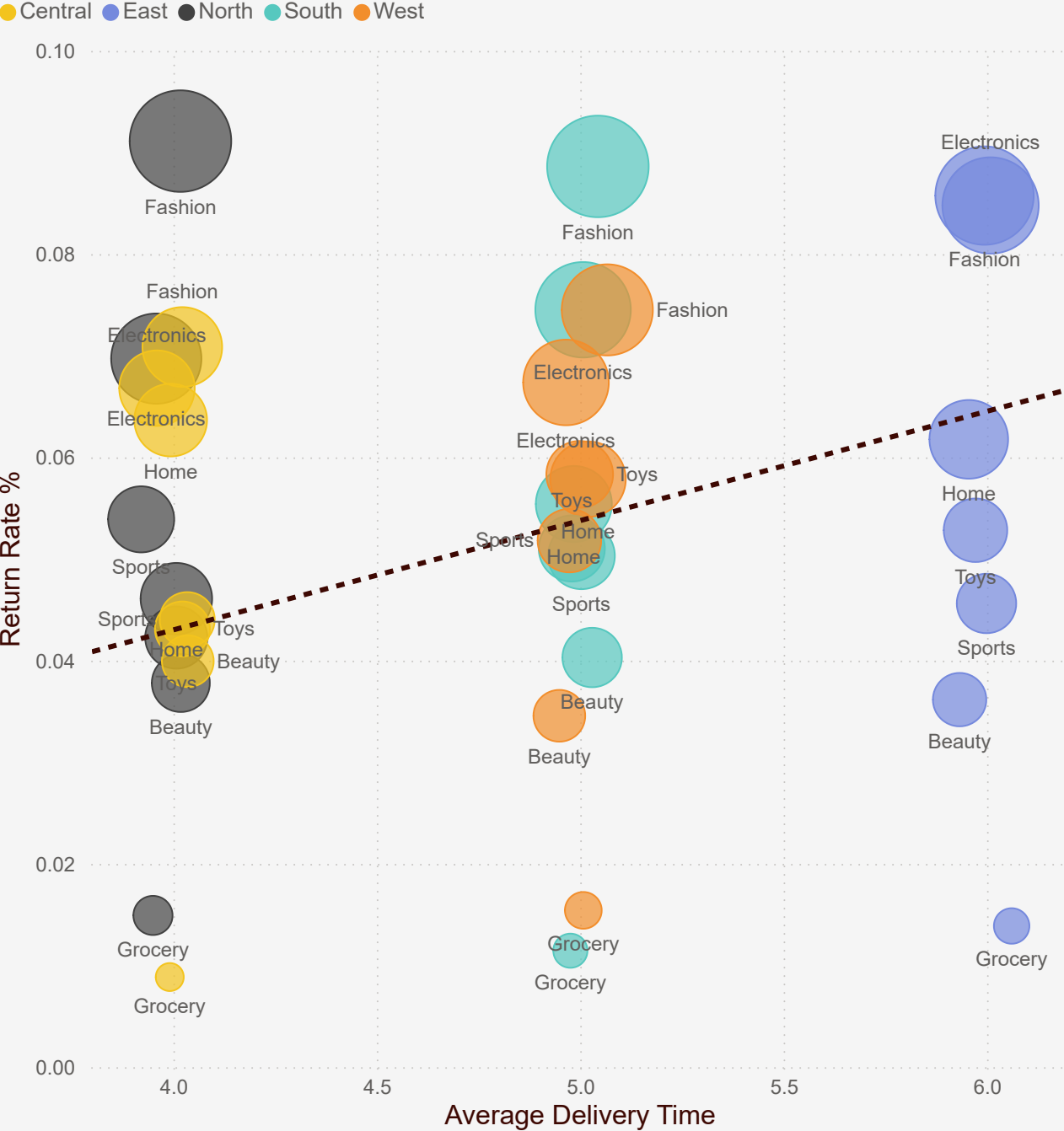
DELIVERY & LOGISTICS

Identify Logistics Bottlenecks—Delivery Time vs. Customer Dissatisfaction

Pinpointing regions where slow average delivery time correlates with high customer return rates, indicating operational failure.

● Central ● East ● North ● South ● West

Return Rate %

Average Delivery Time

Resolve 6-Day Delivery Failure in East Region (High Returns in Fashion & Electronics)

The East Region exhibits the longest average delivery time (approx. 6 days), correlating with high returns in critical, high-volume Fashion and Electronics categories.

● Central ● East ● North ● South ● West

Return Rate %

Average Delivery Time

SUMMARY

To address revenue optimization, customer behavior, delivery performance, and product profitability:

The path to boosting 16.54% GPM is clear: Stop discounts, protect Electronics and Home profits, and fix the 6-day delivery failures in the East region.

Hutch should prioritize protective retention for Gold-Tier customers, intervene to reduce service failures (returns) for Older Adult Silver-Tier customers, while excluding gender as a primary segmentation factor.