🤖 AutoMate Multi-Agent System

Intelligent data analysis with LLM-powered agents

📝 Query Input

Enter your business question:

Example: What are the top 5 product categories by revenue?

💡 Example Queries

Or choose an example:

Recommend 3–6 category groups suitable for targeted marketing campaigns, using the latest 3 mo…   ⌄

🔍 Analysis Results

🚀 Run Analysis

📊 Analysis Progress

===

✅ Analysis completed successfully!

🎯 System Status

✅ API Key configured

✅ Data path found

🗂 Found 8 data files

❯ View data files

💼 Business Insights & Data Visualizations   🔧 Progress Log   ⚙️ Technical Details

💼 Business Insights & Recommendations

EXECUTIVE SUMMARY Our analysis of the latest three months of data has identified three distinct category groups that are suitable for targeted marketing campaigns. These groups are based on purchasing patterns and sales performance. The main takeaway is that focusing on these groups can enhance marketing effectiveness and drive sales growth.

KEY INSIGHTS

- **High Volume, Diverse Categories**: One group shows a high volume of orders (720.25) and includes categories like health & beauty, bed & bath, and housewares. This group has a significant total sales figure of $94,963.43, indicating strong consumer interest and potential for cross-selling.
- **Premium Products**: Another group, though smaller in order volume (14 orders), has a high average price point ($1,086.91) and focuses solely on computers. This suggests a niche market with high-value transactions.
- **Moderate Volume, Varied Interests**: The third group has moderate order volume (90.4) and includes categories such as telephony, baby products, and perfumery. This group shows a balanced mix of product interests with a total sales of $11,959.84.

BUSINESS IMPLICATIONS

- **Opportunity for Cross-Selling**: The high volume group presents an opportunity to bundle products across categories, potentially increasing average order value.
- **Targeting High-Value Customers**: The premium product group indicates a market for high-value items, suggesting a focus on personalized marketing strategies to attract and retain these customers.
- **Diverse Marketing Strategies**: The moderate volume group requires a varied marketing approach to cater to different interests, which can help in expanding market reach.

ACTIONABLE RECOMMENDATIONS

1. **Develop Cross-Selling Campaigns**: Focus on the high volume group by creating bundled offers that combine health & beauty, bed & bath, and housewares products.
2. **Personalized Marketing for Premium Products**: Implement targeted campaigns for the high-value computer category, using personalized messaging to appeal to tech-savvy consumers.
3. **Segmented Marketing Strategies**: For the moderate volume group, design campaigns that address the specific interests in telephony, baby products, and perfumery, using targeted promotions and discounts.
4. **Leverage Data for Insights**: Continuously analyze purchasing patterns within these groups to refine marketing strategies and improve campaign effectiveness.

NEXT STEPS

- **Further Analysis**: Conduct deeper analysis into customer demographics and purchasing behavior within each group to tailor marketing messages more effectively.
- **Data Collection**: Gather additional data on customer feedback and engagement with past campaigns to inform future strategies.
- **Monitor Metrics**: Track key performance indicators such as conversion rates, average order value, and customer retention rates to measure the success of targeted campaigns.

📊 Data Results

Analysis Results:
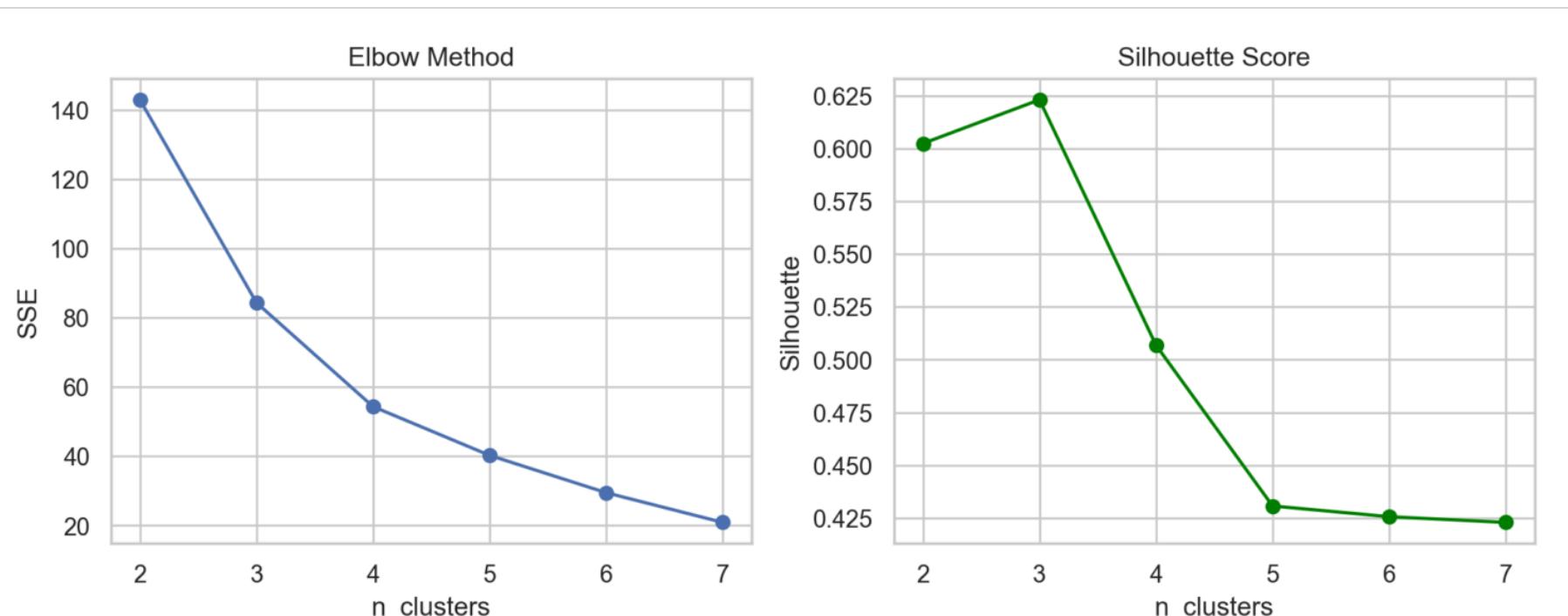
	cluster	order_count	product_count	total_sales	avg_price	avg_freight	category_count	top_categories
0	0	90.4	56.22	11959.84	132.03	23.37	45	telephony, baby, perfumery
1	1	720.25	438.25	94963.43	116.73	20.77	8	health_beauty, bed_bath_table, housewares
2	2	14	7	17390.5	1086.91	61.21	1	computers

📥 Download Analysis Results (CSV)
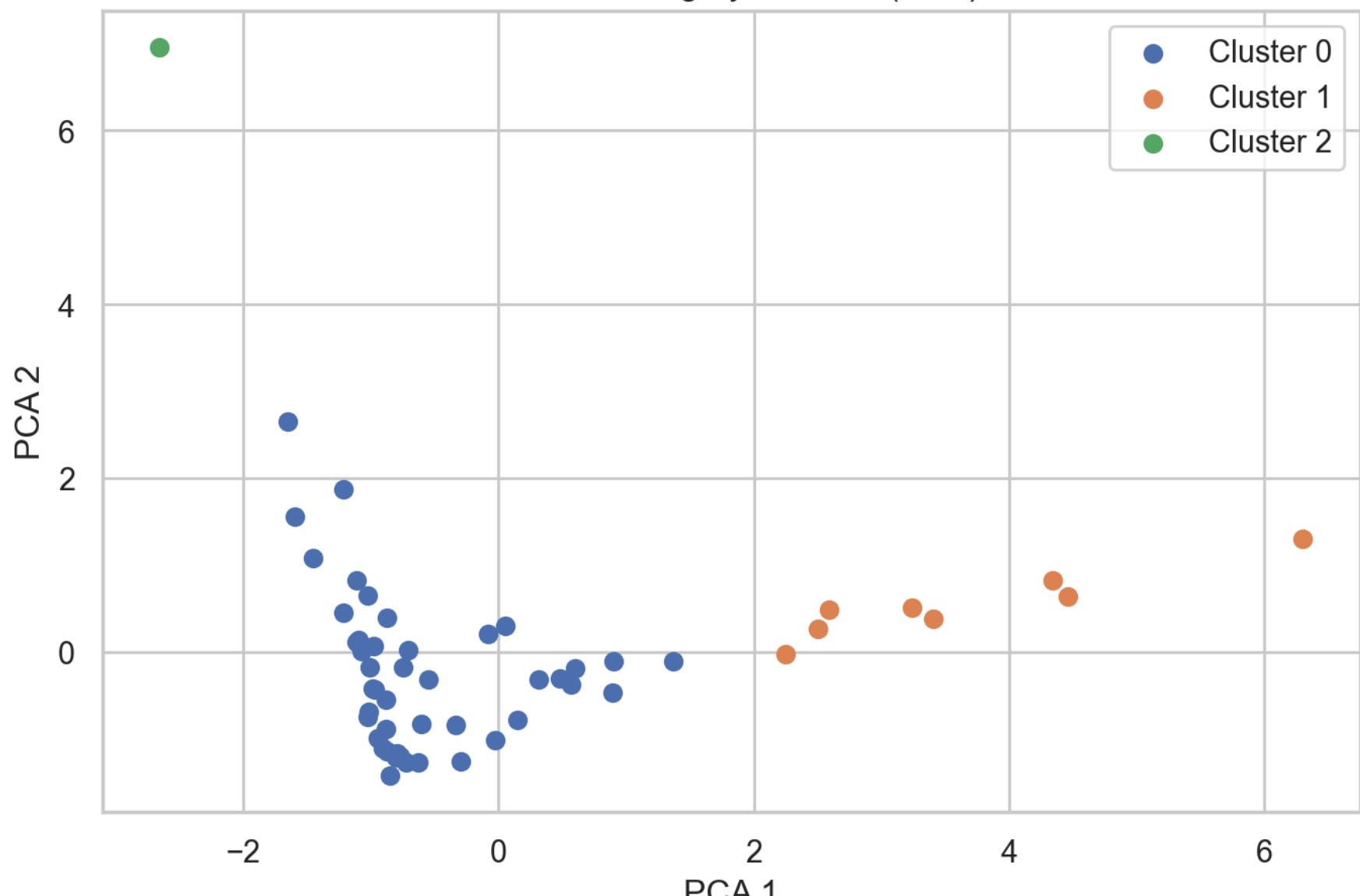

📈 Additional Visualizations

Charts from exploratory analysis, clustering, and other agents
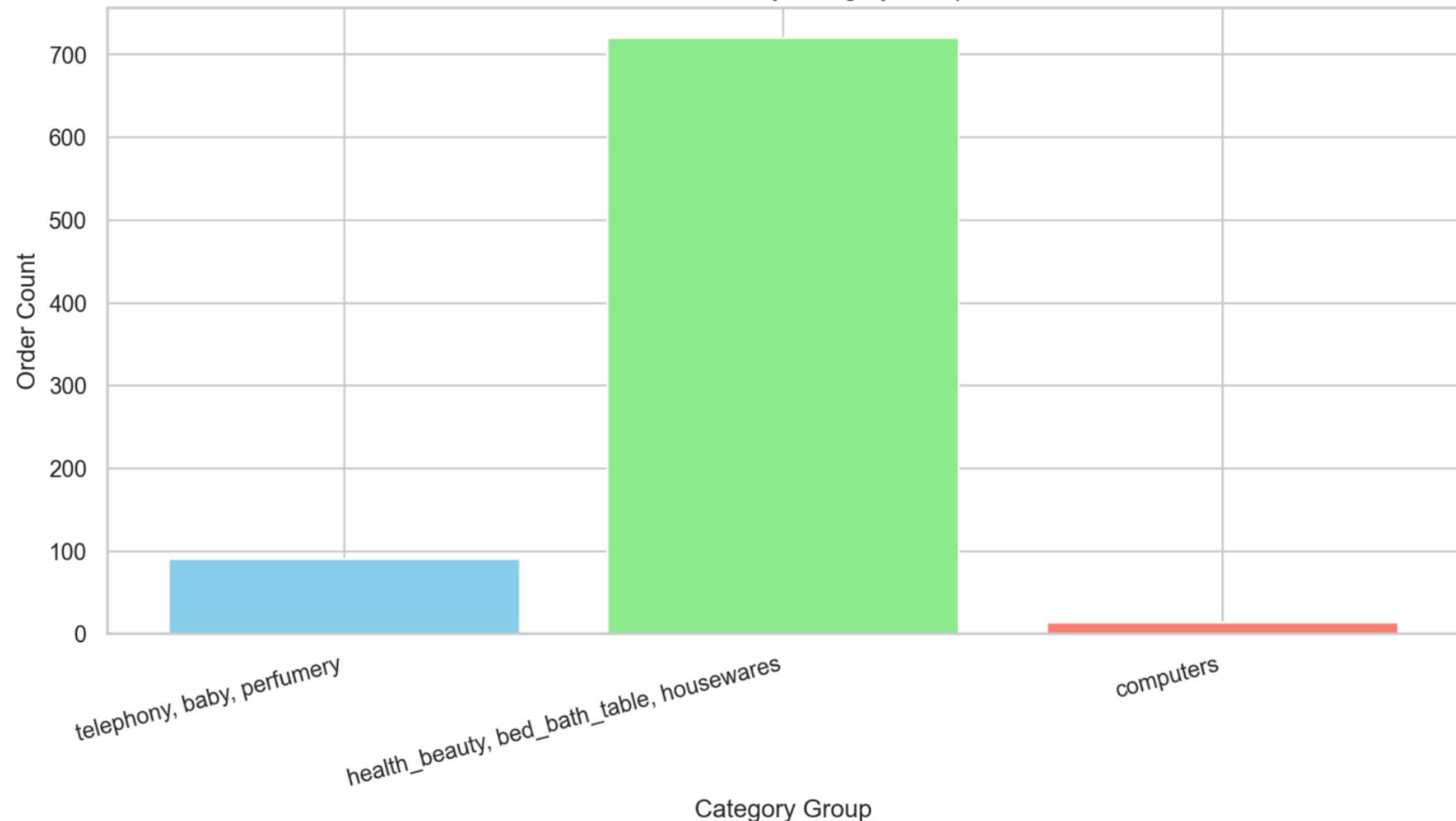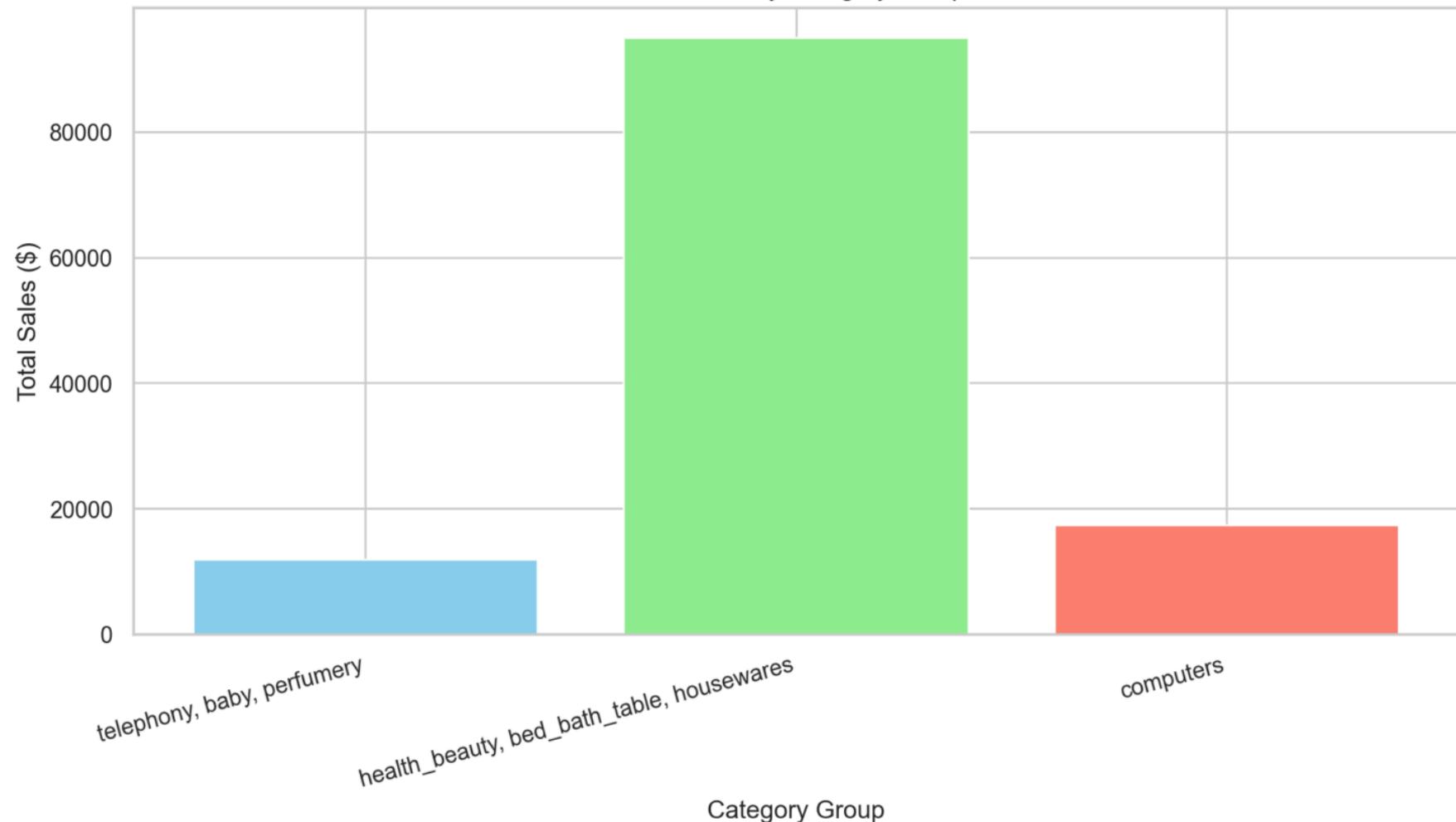
⌄   ◉ Orchestrator (5 charts)
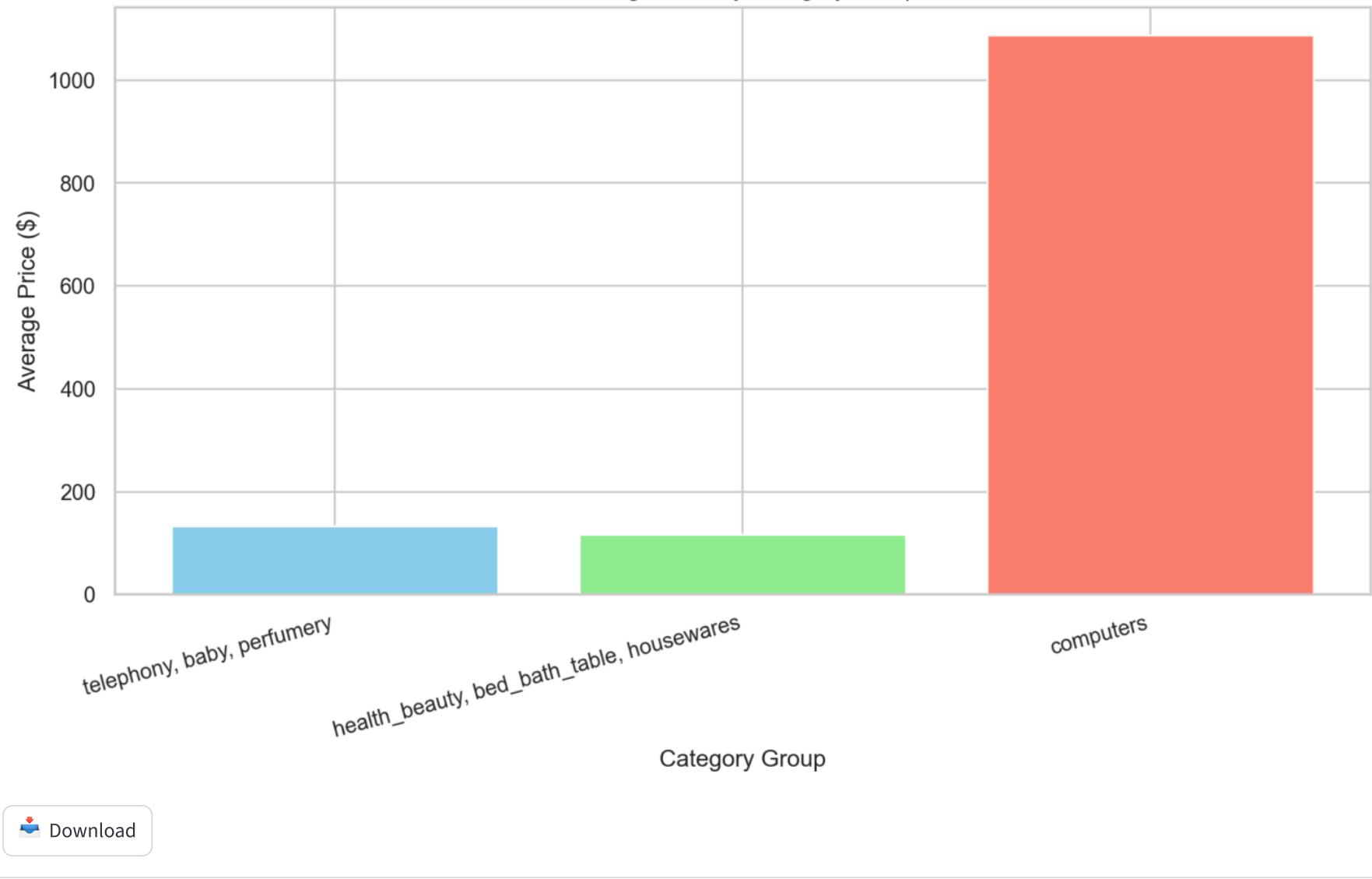
Download

Product Category Clusters (PCA)

Download

Total Sales by Category Group

Download

Average Price by Category Group

Download

📋 Quick Summary

Datasets Analyzed

8

Agents Executed

5

Visualizations Created

5

Multi-Agent Data Science System - Powered by LangGraph & OpenAI