# **Business Insights Report**

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### 1. Customer Data Insights:

- Customer signups were analyzed over time. Trends may indicate peak periods for new customer acquisition.
- No significant missing or duplicate data was found in the customer dataset, ensuring reliable insights.

#### 2. Product Data Insights:

- Product categories were distributed unevenly, suggesting the need to balance inventory or focus on high-performing categories.
  - No missing or duplicate entries in the product dataset were detected.

#### 3. Transaction Data Insights:

- The transaction value distribution shows key spending behaviors among customers. High-value transactions may indicate premium product engagement.
  - Missing or duplicate values in the transaction data were minimal, maintaining data quality.

#### 4. Visualization Highlights:

- Time-series analysis of customer signups helps in identifying trends for strategic marketing initiatives.
  - Category distribution analysis can inform product development and inventory management.
- Transaction value distribution reveals customer purchasing patterns, aiding revenue optimization strategies.

#### 5. Recommendations:

- Use customer signup trends to plan promotional campaigns.
- Optimize inventory based on product category insights.
- Leverage transaction value analysis to identify and target high-value customers.

The data analysis ensures a comprehensive understanding of customer behavior, product performance, and transaction trends.