OMNI MART RETAIL EXPLORATORY DATA ANALYSIS
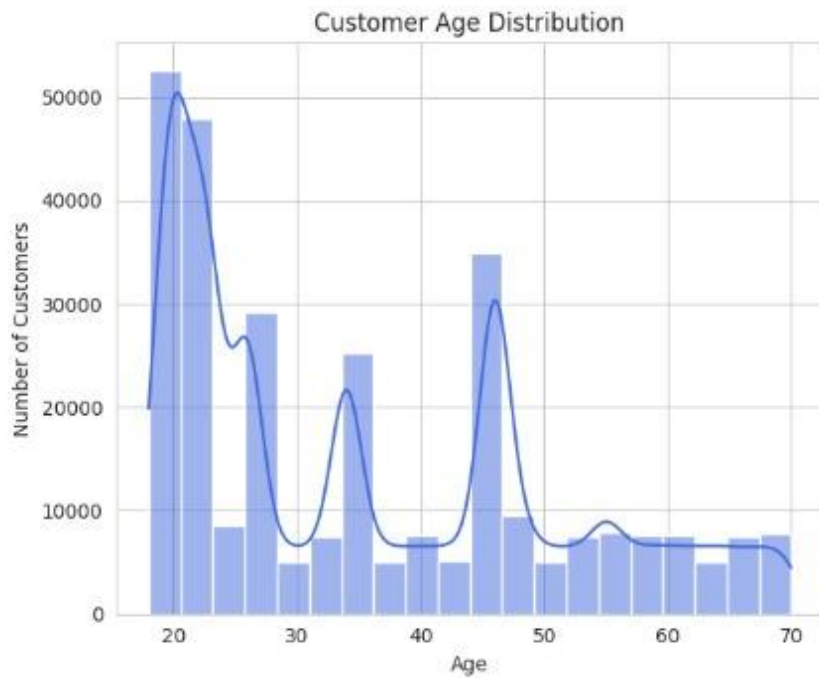
Data Thinkers

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#CHALLENGE 01

THE MANHATTAN PROJECT

Customer Age Distribution

1. Customer Age Distribution
- Majority of customers are in the **18-25 age group**, showing a younger customer base.
- Another **smaller peak** is visible around **40-50 years**, indicating a secondary age group of middle-aged customers.
- Very few customers are above 60, meaning older demographics are underrepresented.

Insight: Marketing and product strategies should primarily target **young adults (18-25)**, but also keep offerings for **middle-aged customers (40-50)**.
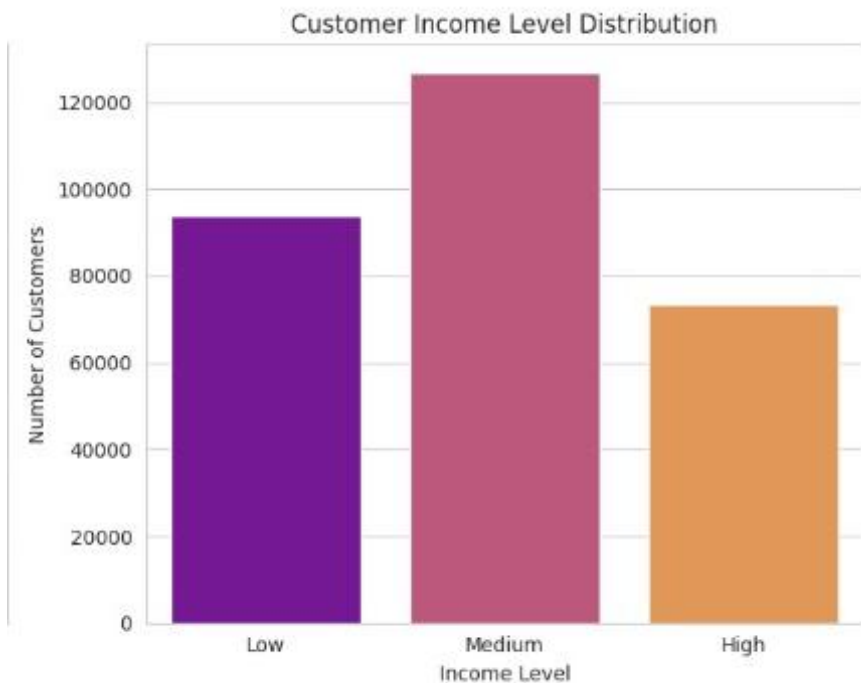
Customer Gender Distribution

Customer Gender Distribution:
- **Males** dominate the dataset (~175,000) compared to **females (~110,000).**
- There is a clear gender imbalance.

Insight:
- Campaigns targeting women may help in balancing customer acquisition.
- Alternatively, male-focused products/services might already be driving the customer base.

Customer Income Level Distribution

Customer Income Level Distribution
- **Medium-income customers** form the largest group (~125,000).
- **Low-income customers** are significant (~95,000).
- **High-income customers** are fewer (~75,000).

Insight:
- Products and services should be priced and designed for the **medium-income segment**, with some budget-friendly options for low-income groups.
- High-income group is smaller but could be targeted for **premium offerings**.

Insight:

- **Overall sales remain stable** around 32.5M – 34.5M, with no major long-term growth or decline trend.
- **Peaks observed** in April 2023 and September 2023, both crossing ~34.3M — these could indicate seasonal or promotional sales boosts.
- **Sharp dips** are noticeable in May 2023, July 2023, October 2023, and March 2024 — especially March 2024, which shows the **lowest sales** (~32.25M).
- Sales show a **cyclical up-and-down pattern**, suggesting possible external factors (festivals, offers, or demand cycles) influencing customer purchases.


Monthly Sales Trend
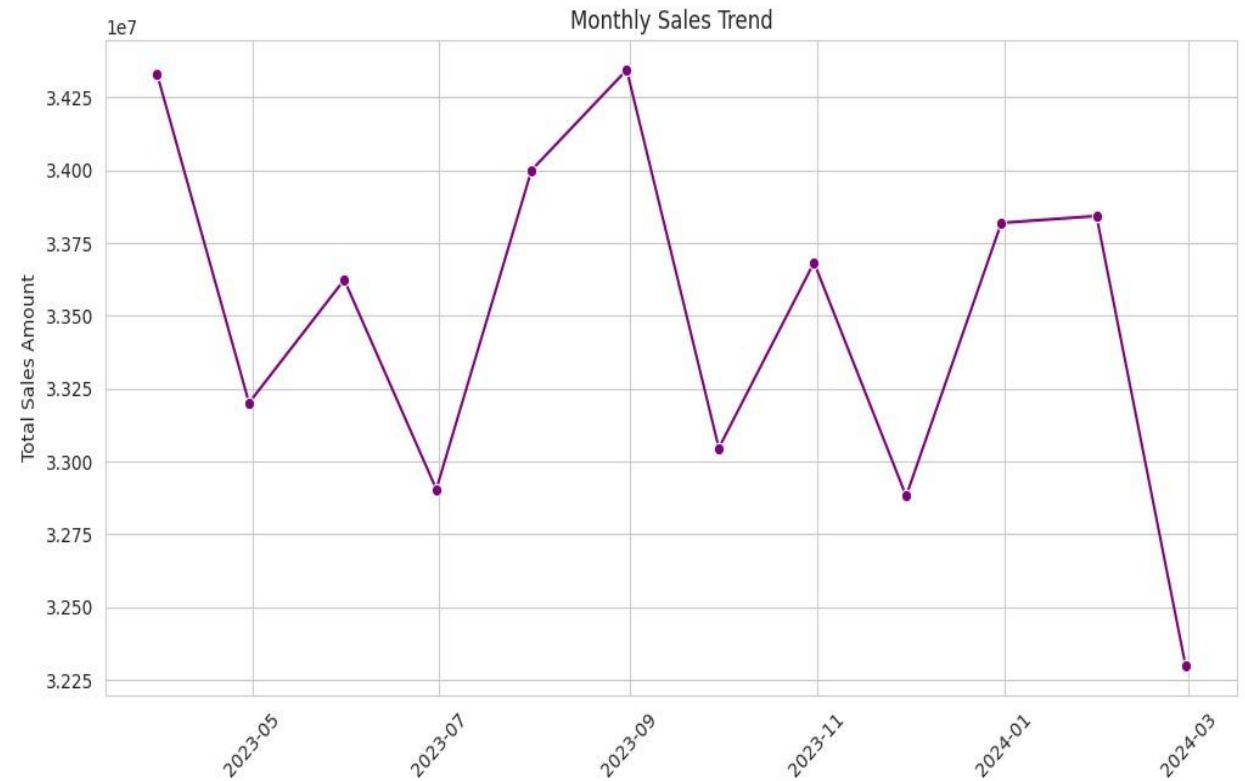
Key Takeaway:
The company has a stable sales base but should investigate **reasons behind sharp dips (like May, July, and March)** and try to replicate strategies that led to **sales peaks (April & September).**
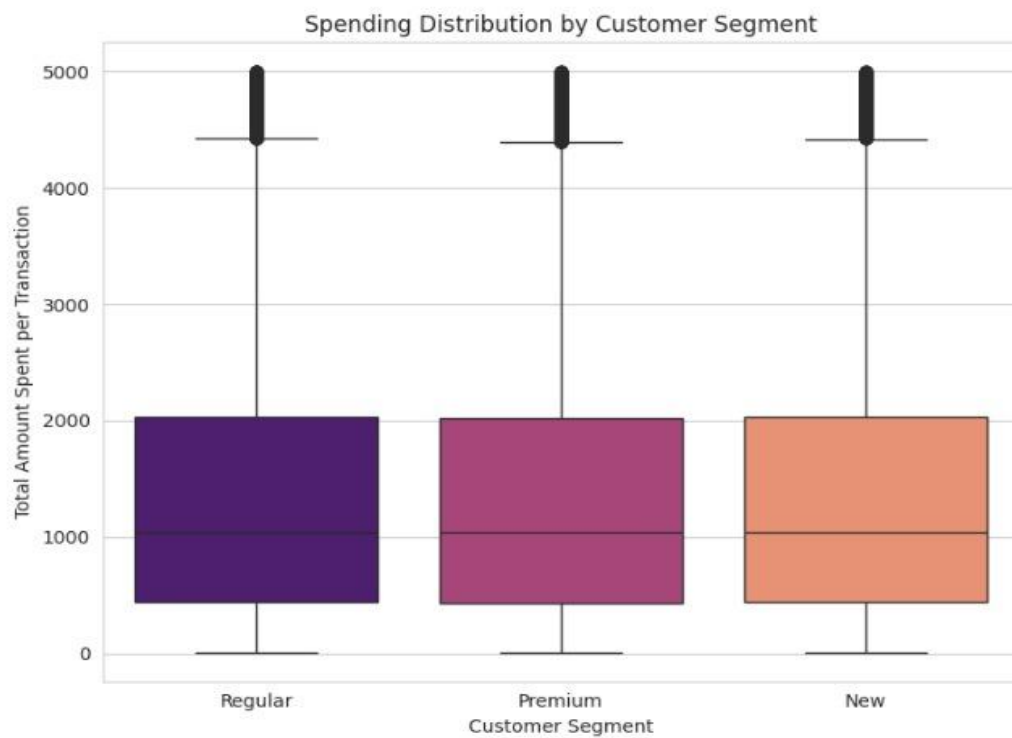
Insight:
- **USA leads significantly** with the highest sales (~125M), almost **50% higher** than the next country.
- **UK is the second largest market** (~85M), showing strong performance but still far behind the USA.
- **Germany (~70M)** is the third in line, contributing a solid share but notably less than UK and USA.
- **Australia (~60M) and Canada (~60M)** have nearly equal sales, being the lowest contributors among the five countries.
- There is a **large gap between USA and other countries**, indicating **USA is the dominant market**

Total Sales by Country
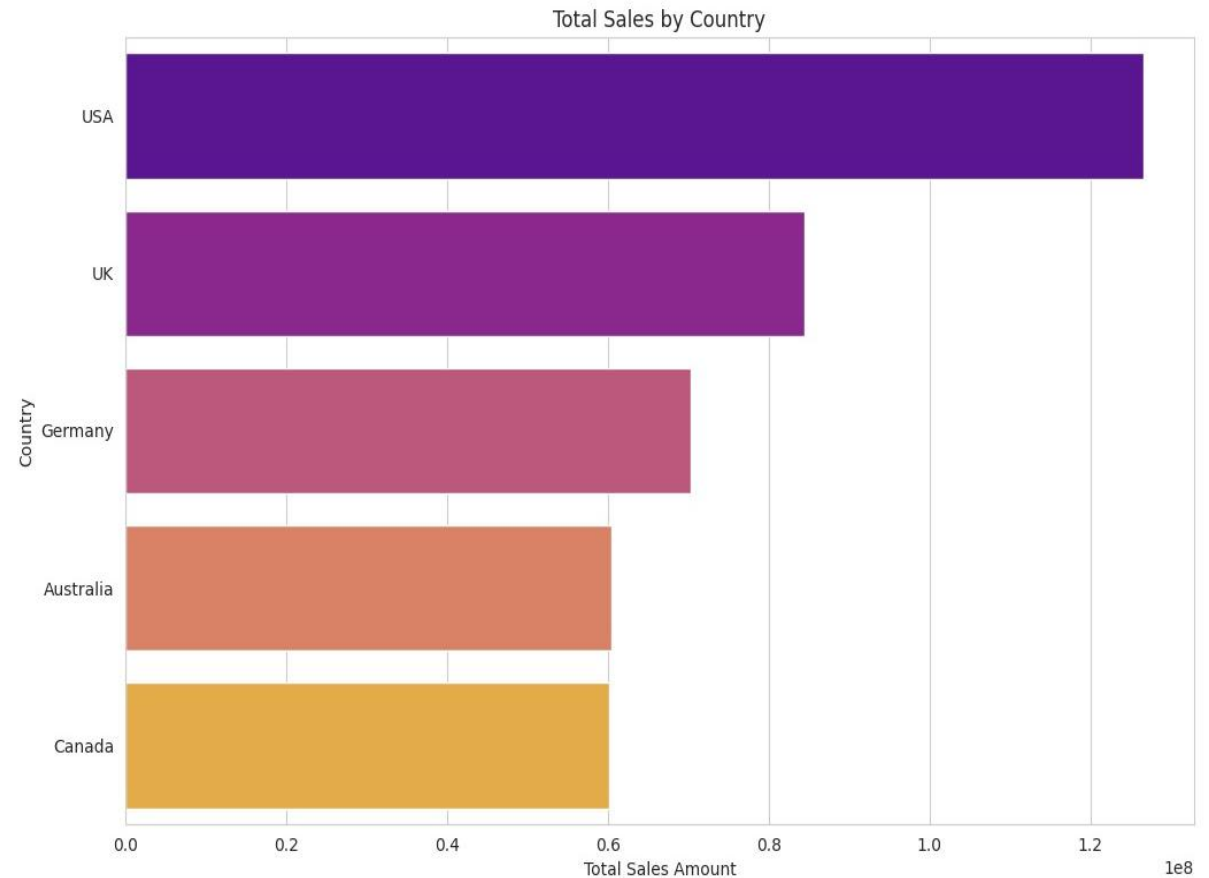
Key Takeaway:
The USA should remain the **primary focus market**, but there's strong potential to **expand in the UK and Germany.**
Australia and Canada are **underperforming markets** and may need **localized strategies, promotions, or partnerships** to boost sales.
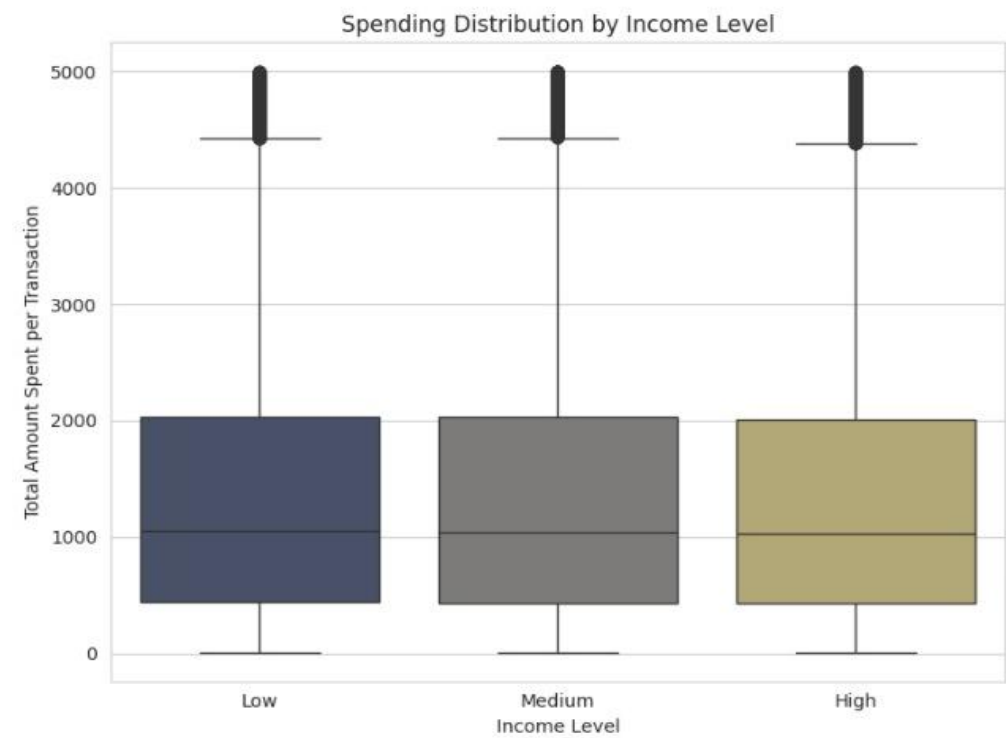
Spending Distribution by Customer Segment — Spending Distribution by Income Level

Insight:

- Customer segmentation (Regular vs Premium vs New) does not strongly affect **per-transaction**

Insight:

Income level is **not a strong differentiator** for per-transaction spending. All groups spend similarly, suggesting pricing or product range appeals **equally to all income levels**.
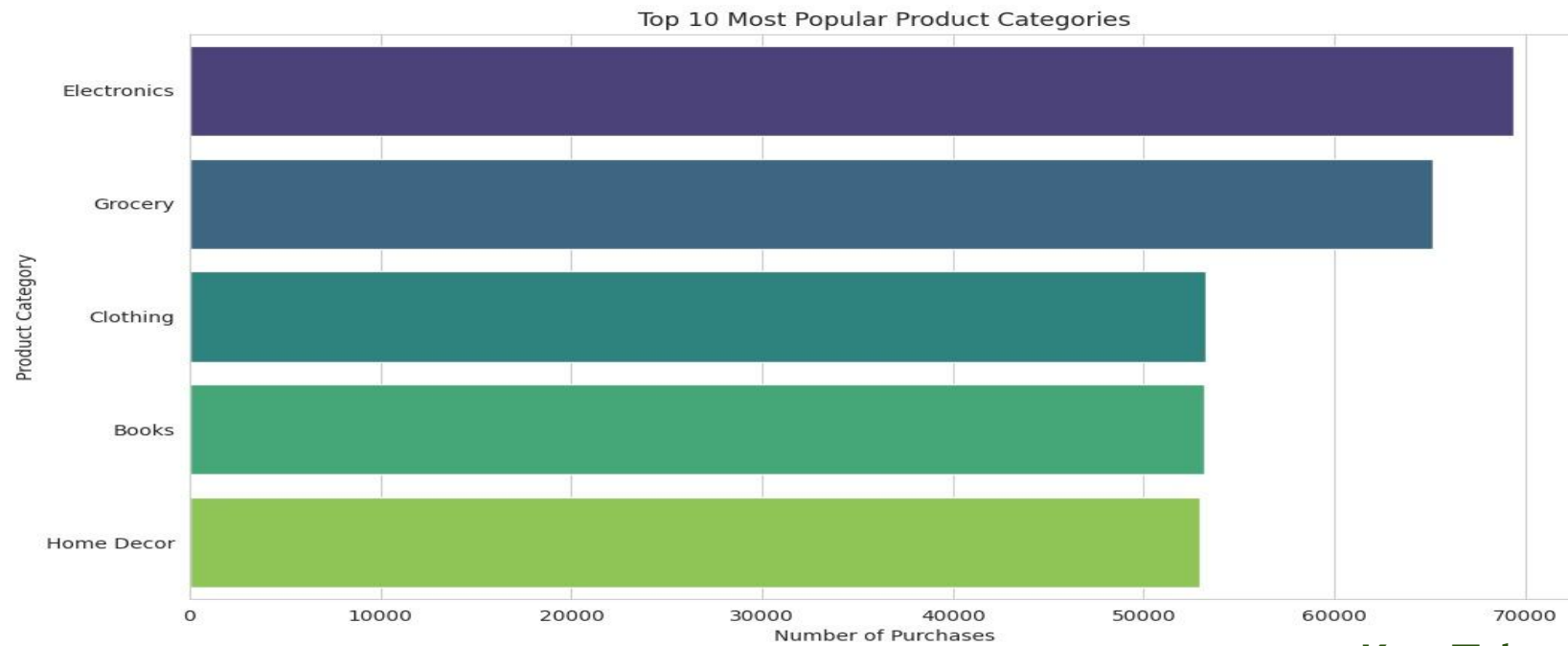
Key Takeaway:

- The business may need to **rethink Premium offerings**, since premium customers are not spending more than others.
- Opportunities exist to **design targeted promotions** to encourage higher per-transaction spending in Premium and High-income groups.

Top 10 Most Popular Product Categories

Insight:
- **Electronics** is the most popular category (~69,000 purchases), indicating strong customer demand for tech products.
- **Grocery** follows closely (~65,000 purchases), showing that everyday essentials are also a major sales driver.
- **Clothing, Books, and Home Decor** have similar purchase volumes (~52,000–53,000 each), indicating balanced customer interest in lifestyle categories.

Key Takeaway:
- Electronics and Grocery are the **core revenue generators**.
- Clothing, Books, and Home Decor are **secondary contributors**, but still significant.
- Strategies could focus on **bundling lifestyle products with Electronics or Grocery** to boost cross-category sales.

Insight:

- **Volatility observed** – Growth rates fluctuate frequently between positive and negative, showing unstable sales performance.

- **Final observation** – The last month shows the **steepest decline (-4.5%)**, which is a warning sign for business sustainability.

- **Pattern** – Growth alternates between positive and negative frequently, meaning **no consistent upward trend** is established.

Month-over-Month Sales Growth Rate (%)
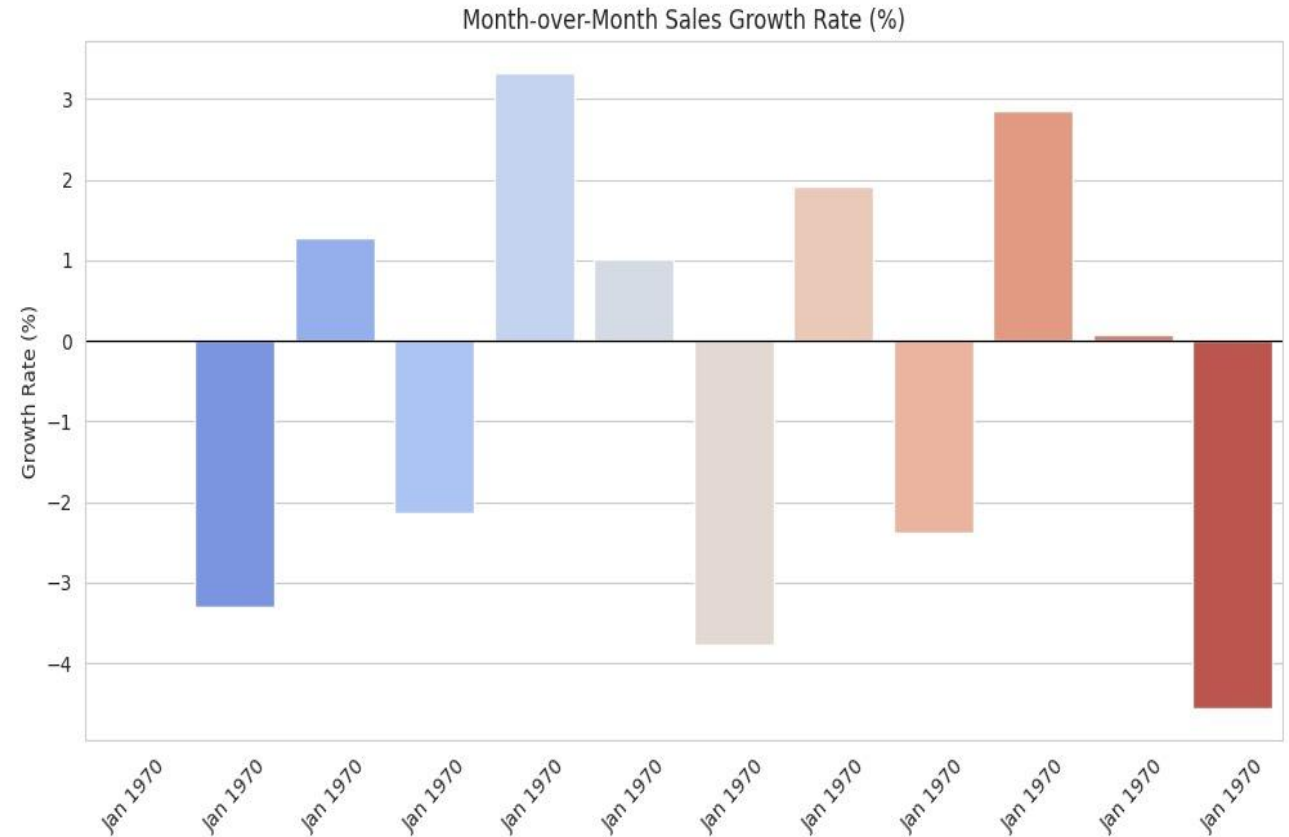
Key Takeaway:

- Sales are **unstable and highly seasonal/volatile.**
- The business needs **better forecasting, promotions, or customer retention strategies** to reduce sudden declines.

Thank You