Superstore Return Analysis

Introduction

This Tableau project focuses on understanding the key drivers behind product returns at Superstore. The analysis dives into return patterns across **product categories**, **geographic regions**, and **customer segments**, identifying trends and insights to guide operational improvements and reduce return rates.

Objectives

1. **Identify Root Causes**: Investigate the root causes of high return rates by analyzing both **return rates** (relative to sales) and **total returns** (operational scale).
2. **Segmented Analysis**: Understand how returns vary across different **product categories**, **regions**, and **customer segments**.
3. **Temporal Trends**: Highlight trends in returns over time, identifying seasonal patterns.
4. **Actionable Insights**: Provide recommendations and next steps based on the findings to reduce returns and improve overall customer satisfaction.

Tableau Worksheets and Dashboards

1. Measuring Returns: Return Rate vs. Total Returns

- **Objective**: This worksheet compares the **return rate** (normalized by sales) against **total returns** (absolute values).
- **Key Insights**:
  - **Office Supplies** leads in both total returns (1,919) and return rate (25.7%).
  - **Technology** has a slightly higher return rate (27.3%) despite high sales, which highlights potential quality issues.
  - Balancing **return rate** and **total returns** provides a fuller picture of product performance and operational impact.

2. Root Cause: High Return Rates by Product Category

- **Objective**: Explore the return rates across different product categories and sub-categories to identify which products drive returns.
- **Key Insights**:
  - **Technology** has the highest return rate at 27.3%, driven by **Machines (35%)** and **Phones (27.6%)**.
  - **Office Supplies** and **Furniture** show moderate return rates (around 25%).

- **Actionable Insights**: Investigate product quality or customer satisfaction issues in the **Technology** category to reduce return rates.

3. Root Cause: High Return Rates in the West Region

- **Objective**: Analyze geographic return rates with a focus on high-return regions like the West.
- **Key Insights**:
  - The **West region** has the highest return rate (41.2%), particularly in states like **Utah (57%)** and **California (45%)**.
  - Possible logistical or demographic factors might influence these return patterns, requiring further investigation.

4. Root Cause: Consumer Segment's High Return Rate

- **Objective**: Analyze return rates by customer segment to understand which customer groups contribute most to returns.
- **Key Insights**:
  - The **Consumer** segment shows the highest return rate (31.6%), followed by **Corporate** (25.8%) and **Home Office** (25%).
  - Certain customers within these segments have a significantly higher return rate, suggesting potential issues with specific purchasing behaviors.
- **Actionable Insights**: Consider personalized outreach or satisfaction programs for high-return customers to reduce overall return rates.

5. Temporal Trends in Return Rates

- **Objective**: Examine return rates, total returns, and sales over time to identify seasonal trends and spikes.
- **Key Insights**:
  - Certain peaks in returns correspond with specific months, suggesting seasonality in product returns.
  - Spikes in returns often align with high-sales periods, indicating a relationship between sales volume and return rates.

6. Conclusion and Next Steps

- **Objective**: Summarize the findings and provide recommendations for reducing return rates and improving customer satisfaction.
- **Next Steps**:
  1. Focus on improving product quality in **Technology** (especially **Machines** and **Phones**) to reduce high return rates.
  2. Investigate logistics and demographic factors contributing to high returns in the **West region**.
  3. Launch targeted customer outreach for high-return **Consumer** customers, addressing potential issues in purchasing behavior or satisfaction.

Methodology

- **Data Source**: The dataset used for this analysis includes sales, returns, and profit data segmented by **category**, **region**, **customer**, and **time**.
- **Key Metrics**:
  - **Return Rate**: Proportion of returned items relative to sales.
  - **Total Returns**: Absolute number of returned products.
  - **Profit**: The total profit generated by a category or region.
- **Tools Used**:
  - **Tableau**: For data visualization and analysis.
  - **Data Prep**: The data was cleansed to remove missing values, and calculations for **return rate** and **profit** were applied.

Future Improvements

- Explore additional segmentation by **specific products** or **purchase channels**.
- Develop predictive models to forecast return rates based on sales trends and customer behavior.
- Conduct customer feedback surveys to gain deeper insights into reasons for product return.

File Structure

- **Tableau File**: The ‘Return Rate Analysis Ver 09062024-400PM.`twbx`’ file contains all the dashboards and worksheets.
- **README.md**: This document, providing an overview of the project and methodology.
- **Data Sources**: Any relevant data files used in the project are included.