

Retail Sales Data Analysis Report

Introduction

This report presents an analysis of retail sales data using descriptive analytics and data visualization techniques. By examining customer demographics, product categories, and sales trends over time, this study identifies key insights that can support strategic business planning and marketing optimization.

Project Objectives

- Analyze customer demographics based on age and gender.
- Evaluate product category performance using sales volume and revenue.
- Identify seasonal and monthly sales trends.
- Examine relationships between price, quantity, and total sales.
- Segment customers based on purchasing behaviour
- Support strategic business planning and optimization

Methodology

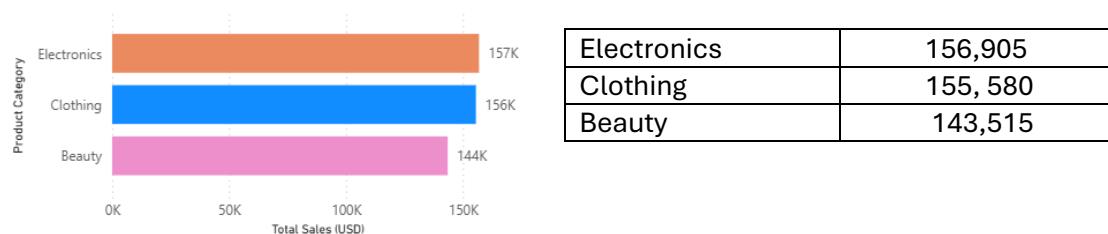
The analysis followed a structured workflow including data cleaning, exploratory data analysis, and dashboard development. Excel and Power BI were used for analysis and visualization.

Dataset Overview

The dataset contains 1000 transaction records with information on date, customer demographics, product categories, pricing, quantity, and total sales amount amounting to USD 456,000.

Product Category Performance

Total Sales (USD) by Product Category



Key Findings

- Identified high-value customer segments based on age and gender. Female customers have slightly higher average spending.
- Determined top-performing product categories by revenue. Electronics category produces the most sales.
- Observed clear seasonal and monthly sales trends. Sales peak in May and October.
- Established relationships between pricing and purchase volume.

Business Recommendations

- Focus marketing efforts on high-spending customer segments in age groups around 30-50. Personalize campaigns by gender and category.
- Optimize inventory for high-demand categories.
- Introduce targeted promotions during low-sales periods. Improve pricing strategies for slow-moving products. Bundle low-volume products.
- Focus promotions during peak months.

Conclusion

This project successfully explored retail sales data using exploratory data analysis and visualization techniques. The analysis provided valuable insights into customer demographics, product performance, and sales trends. These findings can help businesses optimize marketing strategies, improve operational efficiency and profitability.