

## Retail Business Performance & Profitability Analysis

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### Abstract

This project analyzes retail sales performance across multiple dimensions including product line, city, gender, customer type, and payment mode. Using Power BI, key business metrics such as total quantity sold, cost of goods sold (COGS), total sales, profit percentage, and gross income were calculated and visualized. The analysis provides insights into customer behavior, product performance, and revenue distribution to support data-driven decision-making in retail management.

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### Introduction

Retail businesses generate large amounts of transactional data, making it essential to track sales and profitability trends. This project focuses on building an interactive dashboard to monitor performance across different branches and customer categories. The study highlights revenue contributions by product lines, cities, and payment methods, while also analyzing customer demographics such as gender and membership type. The goal is to provide management with actionable insights to optimize sales strategies.

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### Tools Used

- **Microsoft Excel** – for initial data cleaning and preprocessing.
  - **SQL** – to remove null values and prepare aggregated datasets.
  - **Power BI** – to create interactive dashboards, KPIs, and visualizations.
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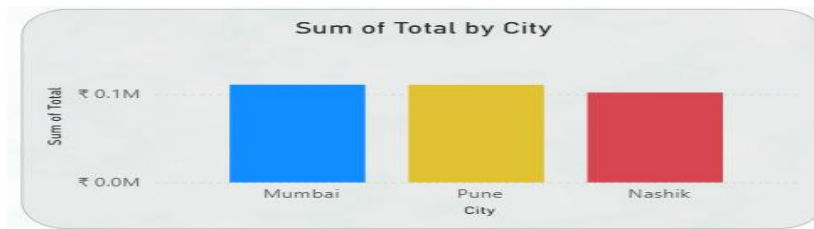
### Steps Involved in Building the Project

1. **Data Preparation**
  - Imported retail sales dataset.
  - Cleaned missing/null records in critical fields such as sales, COGS, and gross income.
2. **KPI Calculation**
  - Quantity Sold , Total COGS, Total Sales, Gross Income, Profit
3. **Visualization in Power BI**
  - **By Product Line:**

Product line	Sum of Total
Fashion accessories	₹ 58,591
Food and beverages	₹ 56,740
Electronic accessories	₹ 55,887
Home and lifestyle	₹ 52,147
Health and beauty	₹ 51,327
Sports and travel	₹ 48,275
<b>Total</b>	<b>₹ 322,967</b>

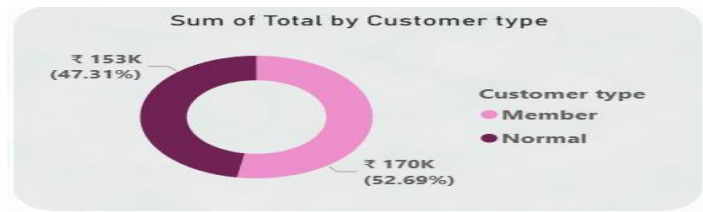
Food & Beverages and Fashion Accessories contributed the highest sales.

- **By City:**



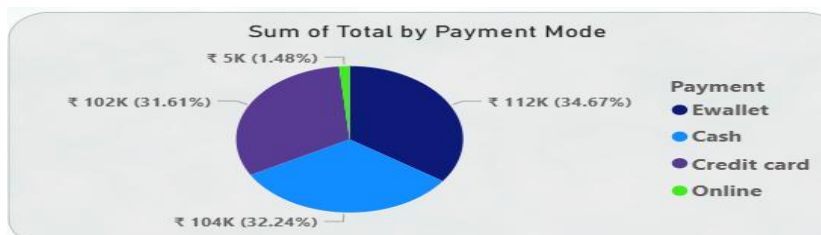
Mumbai, Pune, and Nashik showed almost balanced contributions.

- **By Customer Type:**



Normal customers (52.69%) purchased slightly more than Members.

- **By Payment Mode:**



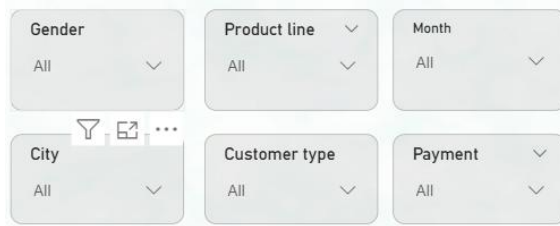
Majority of sales came from Credit Card (34.67%), followed by Cash and E-Wallet.

- **By Gender and Month:**



Female customers dominated purchases in most months, with peaks in January, March, and April.

#### 4. Interactive Filters



Enabled drill-down by **Gender, City, Product Line, Month, Customer Type, and Payment Mode** for deeper analysis.

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## Conclusion

The retail sales analysis highlights key factors driving profitability and customer behavior. The majority of sales are concentrated in fashion and food categories, with balanced contributions from different cities. Payment preference leans towards credit cards, while customer loyalty (memberships) remains an area for potential growth. By using Power BI, the project provides management with real-time insights, enabling better inventory planning, targeted promotions, and revenue optimization.