

Project Review

Customer Shopping Trend Analysis

BY : Group 2 Members

Kratika Thakur

Gagana R

Tejasvini Dipak Kharinar

1. Executive Summary :

This Power BI dashboard analyzes customer shopping and sales data across regions, categories, demographics, and time. It presents key KPIs, trends, and comparisons in an interactive format for quick and clear insights.

Purpose:

The dashboard exists to help stakeholders monitor performance, identify growth opportunities, understand customer behavior, and support data-driven retail decision-making.

To provide a single, interactive view of sales performance, customer insights, and trends that enables quick, data-driven business decisions.

The analysis reveals a total sales value of 513K generated from 300 customers, with an average sales contribution of 5.13K per customer, indicating a healthy customer purchase value. Electronics emerges as the top-performing category, contributing the highest share of total revenue, followed by Home Appliances and Books, highlighting strong demand for high-value products.

2. Business Objectives:

Monitor overall sales and customer performance.

Identify top-selling categories, products, and regions.

Analyze customer demographics and purchase behavior.

Track monthly and yearly sales growth trends.

Measure managerial impact on sales outcomes.

3.Tools & Technologies:

Power BI (Data Modeling, DAX, Interactive Visuals)

Excel / CSV (Data Source)

4. Data Used:

Customer demographic details (Age, Gender, Location)

Product information (Category, Product Name)

Sales transactions

Manager details

Year & Month wise sales history.

5. Key Metrics/ KPI's

The dashboard uses several important KPIs to evaluate customer behavior, product performance, regional sales trends and managerial impact.

1. Performance Overview (these are KPIS) :

Total Sales: 513K

Total Customers: 300

Average Sales/Customer: 5.13K

Top-selling Category: Electronics

This helps the business understand overall health and highest-impact segments.

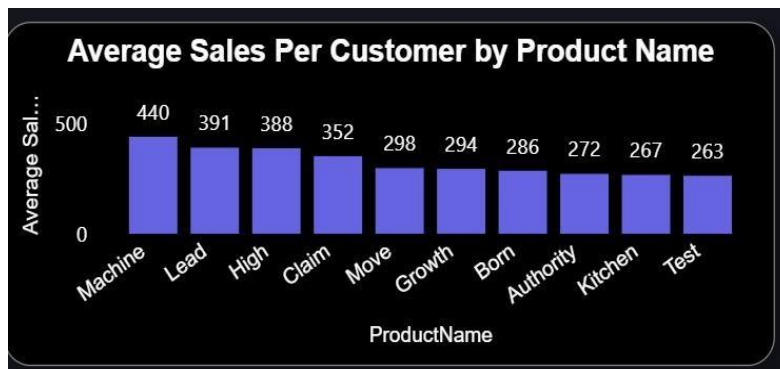
2. Product Insights:

Products like Messenger Bags, Leather Shoes, Headphones show

highest average sales per customer.

Categories like Beauty and Clothing generate lower revenue, indicating opportunity for discount or bundling campaigns.

Average Sales Per Customer by Product

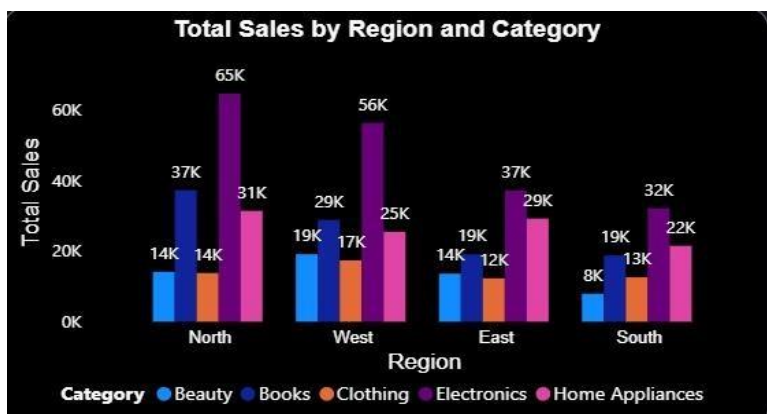


3. Regional Analysis

North & West regions contribute the highest sales (peaking around 60–65K).

South & East regions lag behind, signaling potential markets for targeted marketing or expansion.

Total Sales by Region and Category



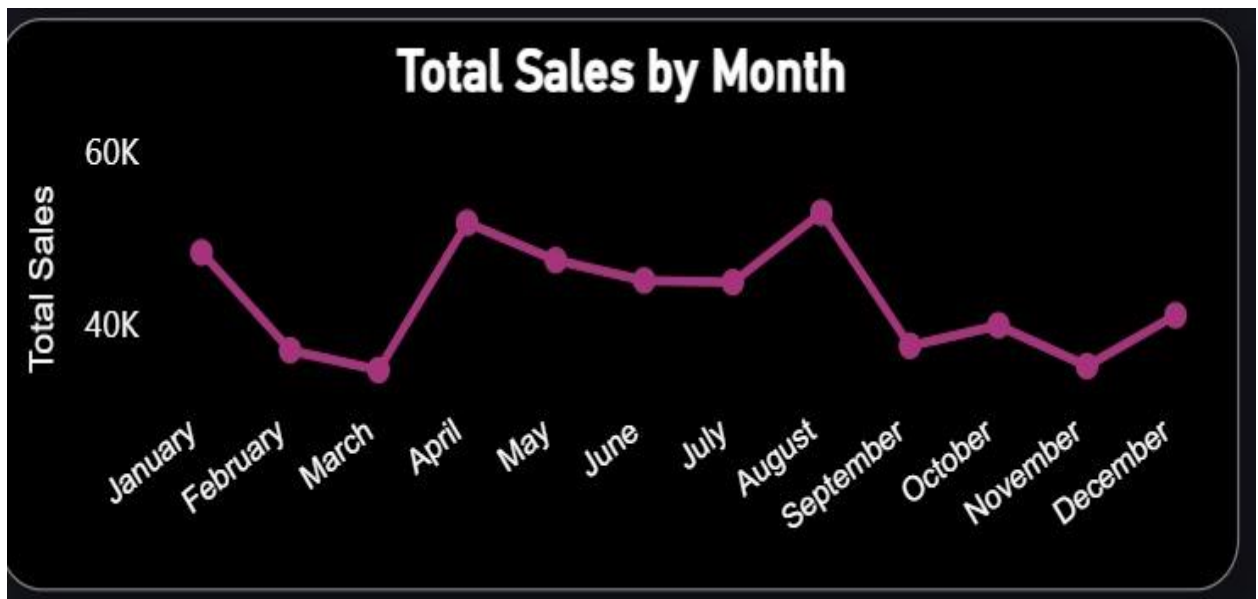
4. Monthly Sales Trends:

Identified sales fluctuations across months.

Peak months around mid-year; slight decline at year-end.

Helps in forecasting & inventory planning.

Total Sales by Month



5. Customer Insights:

Top 10 customers generate significantly higher sales → dependency on high-value customers.

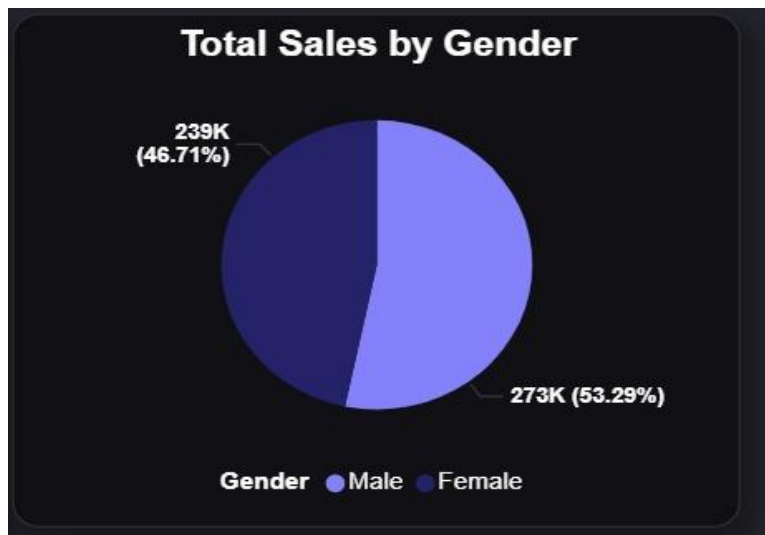
Ideal for designing VIP customer loyalty programs.

6. Gender-Based Analysis

Female customers contribute 58% of total sales.

Male customers: 42%.

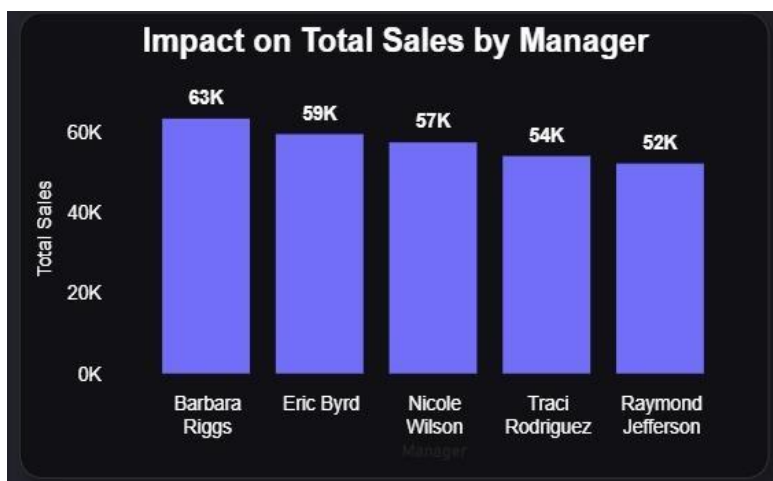
Business can better allocate products/ads based on gender preference.



7. Manager Performance:

Managers like Barbara Riggs & Eric Byrd contribute the highest sales.

Helps in identifying performance gaps, staff training needs.

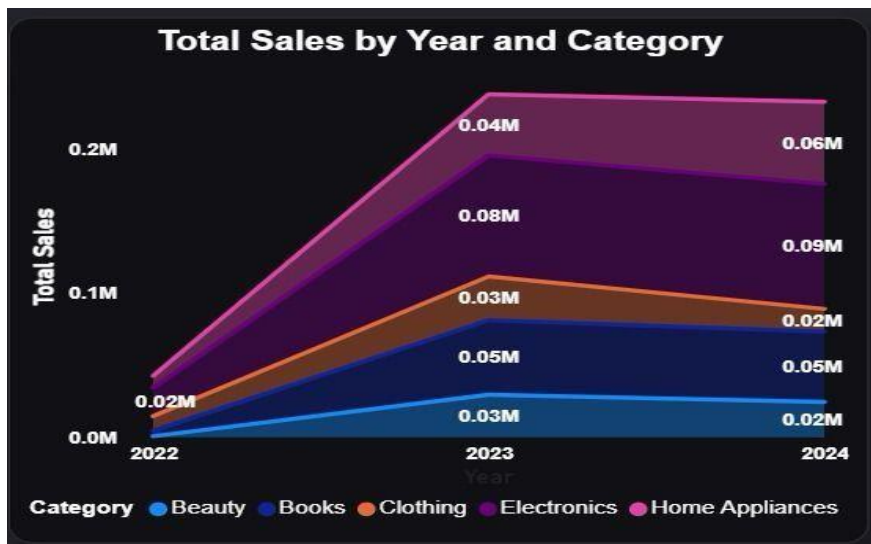


8. Year & Category Trends:

Electronics show consistent year-on-year growth.

Home Appliances & Books moderate growth.

Beauty & Clothing comparatively low → opportunity areas.



9. Sales by Category:

Electronics (190K) leads sales with a significant margin, followed by:

Home Appliances – 108K

Books – 104K

Clothing – 56K

Beauty – 55K



4. Business Highlights:

- a) Festive and holiday months show the highest sales:
Sales peak during November, December, and January. This indicates strong seasonal buying behavior.
- b) Certain product categories dominate total sales:
Categories like Electronics, Fashion, and Home Appliances lead revenue.
- c) Customer segments show varied purchasing behavior:
Young adults (18–30 years) shop the most online.
- d) Sales vary significantly by region:
Metro cities generate the highest sales.
- e) Monthly sales trend reveals clear seasonality:
Sales dip during February–April.
- f) Profit margin fluctuates across categories:
Some high-selling items have lower profit margins due to discounts.

5. Business Insights:

1. Strengthen Top-Selling Categories

Electronics and Home Appliances generate the highest revenue.

→ Increase stock, run targeted ads, and push combo offers to maximize profit.

2. Improve Low-Performing Categories

Beauty and Clothing have low sales.

→ Introduce discounts, bundles, seasonal sales, and improve product variety.

3. Expand in Weak Regions

South and East regions show poor sales.

→ Focus marketing efforts, improve supply chain, and increase store presence in these areas.

4. Target High-Value Customer Segment

Top 10 customers contribute a major chunk of sales.

→ Launch loyalty programs, exclusive offers, and personalized communication.

5. Manage Sales Volatility Across Months

Monthly trend shows fluctuations.

→ Use forecasting, stock planning, and month-specific promotional campaigns.

6. Enhance Manager Performance

Some managers perform significantly better than others.

→ Conduct training, set KPIs, and incentivize performance to boost productivity.

7. Focus More on Female Customers

Females contribute 58% of total sales.

→ Introduce women-centric product lines and targeted marketing campaigns.

6. Snapshot of the Dashboard:





7. Conclusion:

This project demonstrates the effective use of Power BI for analyzing and visualizing e-commerce sales data. The dashboard helps identify key trends, high-performing products, and profitable customer segments. It enables data-driven decision-making through clear insights and interactive visuals.