DATA ANALYTICS ASSIGNMENT – 2

Supermarket Sales Advanced Visualization using Tableau

1. Introduction

The objective of this assignment is to analyze supermarket sales data recorded across three branches (A, B, and C) over three months (January–March 2019).
Advanced visualizations were created in Tableau to understand:

- Sales distribution
- Branch performance
- Product performance
- Customer behavior
- Revenue contribution

2. Dataset Description

The dataset contains transactional details including:

- Invoice ID
- Branch
- City
- Customer Type

- Gender
- Product Line
- Unit Price
- Quantity
- Tax
- Total
- Date
- Time
- Payment
- COGS
- Gross Margin Percentage
- Gross Income
- Rating

3. Data Preparation

Steps performed:

- Uploaded dataset into Tableau.
- Checked data types (Date → Date format, Total → Number).
- Removed unnecessary columns such as:
    - Invoice ID
    - Gross Margin Percentage (constant value)
- Verified calculated fields.
- Cleaned and validated dataset.

4. Visualizations Created

4.1 Donut Chart

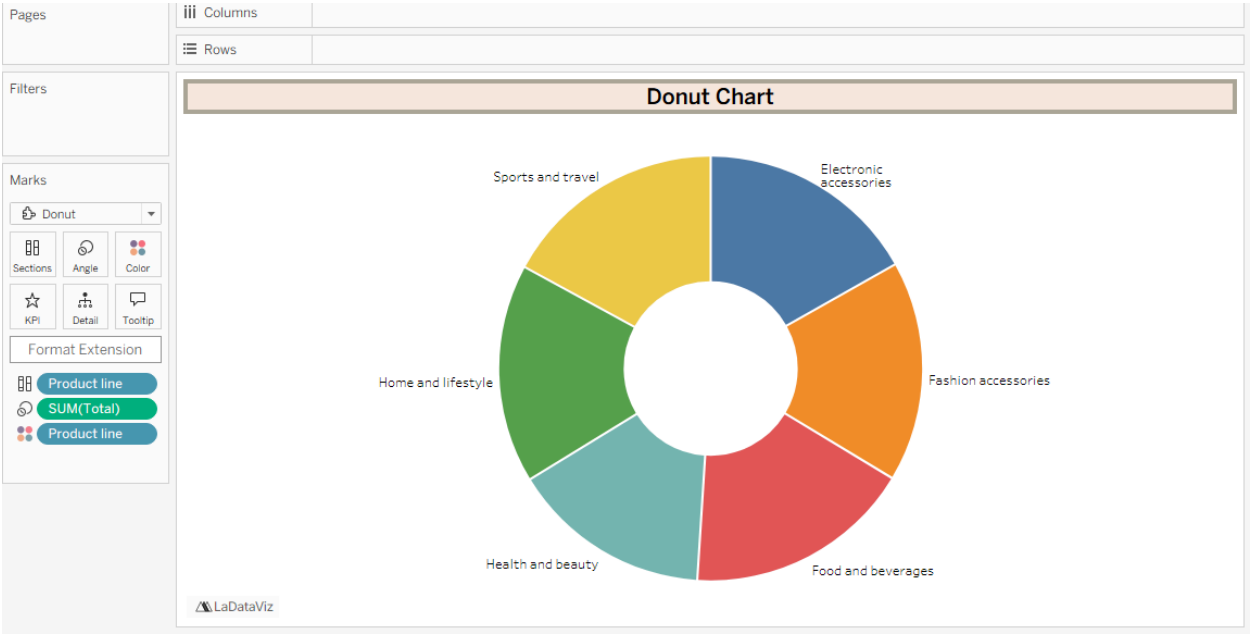
Objective:
To show total sales distribution by Product Line.

Fields Used:

- Product Line → Color
- SUM(Total) → Angle

Insight:

- Sales are almost evenly distributed across product categories.
- Some categories contribute slightly higher revenue.



4.2 Area Chart

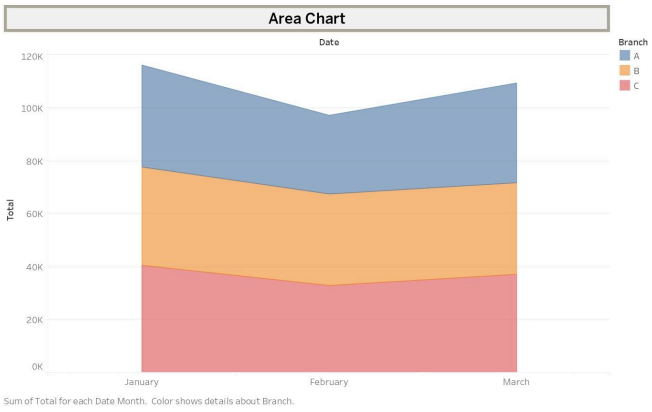
Objective:
To analyze monthly sale trends across branches.

Fields Used:

- Columns → Date (Month)
- Rows → SUM(Total)
- Color → Branch

Insight:

- Sales trend from January to March.
- Branch comparison over time.
- One branch shows slightly higher monthly revenue.



4.3 Text Table

Objective:
To display total sales by Branch.

Fields Used:

- Rows → Branch
- Text → SUM(Total)

Insight:

- Branch A, B, and C have similar revenue.
- Small variations exist between branches.

4.4 Highlighted Table

Objective:

To compare sales by Branch vs Product Line.

Fields Used:

- Rows → Product Line
- Columns → Branch
- Color → SUM(Total)

Insight:

- Highest revenue observed in Food & Beverages for certain branches.
- Color intensity highlights high-performing combinations.

Highlighted Table

	Branch			Total
Product line	A	B	C	12,598 23,767
Electronic accessories	18,317	17,051	18,969	
Fashion accessories	16,333	16,413	21,560	
Food and beverages	17,163	15,215	23,767	
Health and beauty	12,598	19,981	16,615	
Home and lifestyle	22,417	17,549	13,896	
Sports and travel	19,373	19,988	15,762	

Sum of Total broken down by Branch vs. Product line. Color shows sum of Total.

4.5 Word Cloud

Objective:

To visualize product categories based on total revenue.

Fields Used:

- Product Line → Text
- SUM(Total) → Size
- SUM(Total) → Color

Insight:

- Larger words indicate higher revenue categories.
- Sports & Travel and Food & Beverages appear prominent.

4.6 Funnel Chart

Objective:

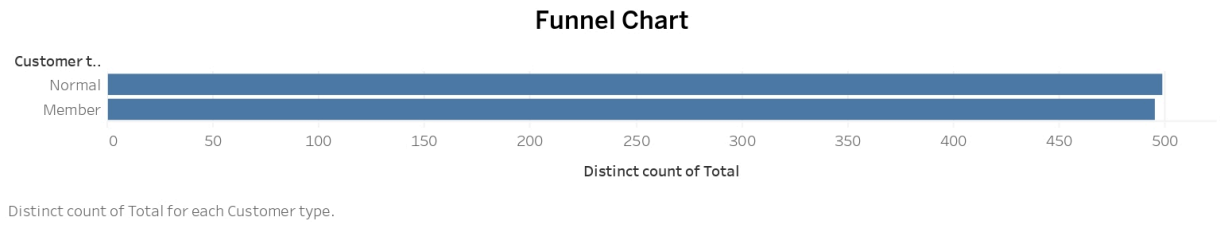
To compare customer type based on transaction count.

Fields Used:

- Customer Type → Rows
- COUNT(Total) → Columns

Insight:

- Normal customers are slightly higher than Members.
- Shows customer distribution visually.



4.7 Waterfall Chart

Objective:

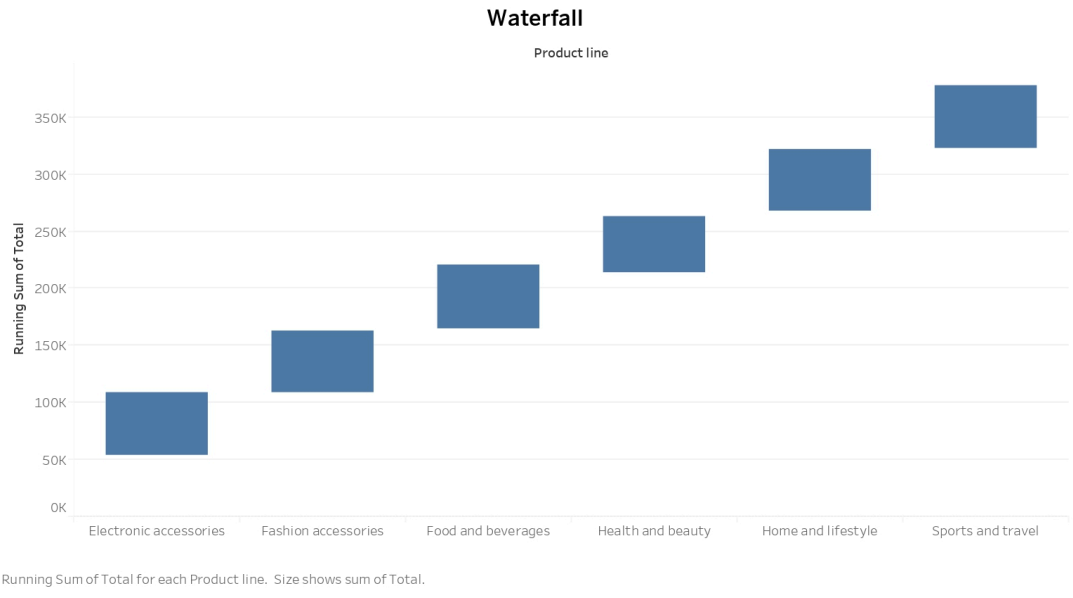
To show running total of revenue across product lines.

Fields Used:

- Product Line → Columns
- Running SUM(Total) → Rows

Insight:

- Shows cumulative revenue contribution.
- Helps understand incremental revenue growth.



5. Overall Findings

- Sales are evenly distributed across product categories.
- Branch performance is nearly equal.
- Food & Beverages and Sports & Travel generate strong revenue.
- Normal customers contribute slightly more transactions.
- Revenue shows a steady growth pattern.

6. Conclusion

These visualizations help management in:

- Identifying high-performing products
- Understanding customer segmentation
- Monitoring branch performance
- Supporting strategic decision-making