DATA ANALYTICS ASSIGNMENT – 1

Supermarket Sales Analysis using Tableau

1. Introduction:

The objective of this assignment is to analyze the historical sales data of a supermarket company operating in three different branches (A, B, and C) across three months (January 2019 to March 2019).

The dataset includes customer details, product categories, payment methods, sales amount, tax, gross income, and ratings.

Using Tableau, various visualizations were created to understand sales trends, customer behavior, and product performance.

2. Dataset Description:

The dataset contains the following attributes:

- Invoice ID
- Branch
- City
- Customer Type
- Gender
- Product Line
- Unit Price
- Quantity
- Tax (5%)
- Total
- Date

- Time
- Payment
- COGS
- Gross Margin Percentage
- Gross Income
- Rating

3. Data Preparation in Tableau

Steps performed:

1. Uploaded the dataset into Tableau.
2. Checked data types (Date as Date, Quantity as Number, etc.).
3. Removed unnecessary columns such as:
    - Invoice ID
    - Gross Margin Percentage
4. Verified calculated fields (Total, Tax, Gross Income).
5. Ensured no null values were present.

4. Visualizations Created:

4.1 Bar Chart

Objective:
To analyze total sales by Product Line.

Fields Used:

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

Insights:

- Identified the highest revenue-generating product category.
- Compared sales performance across different product lines.

4.2 Pie Chart:

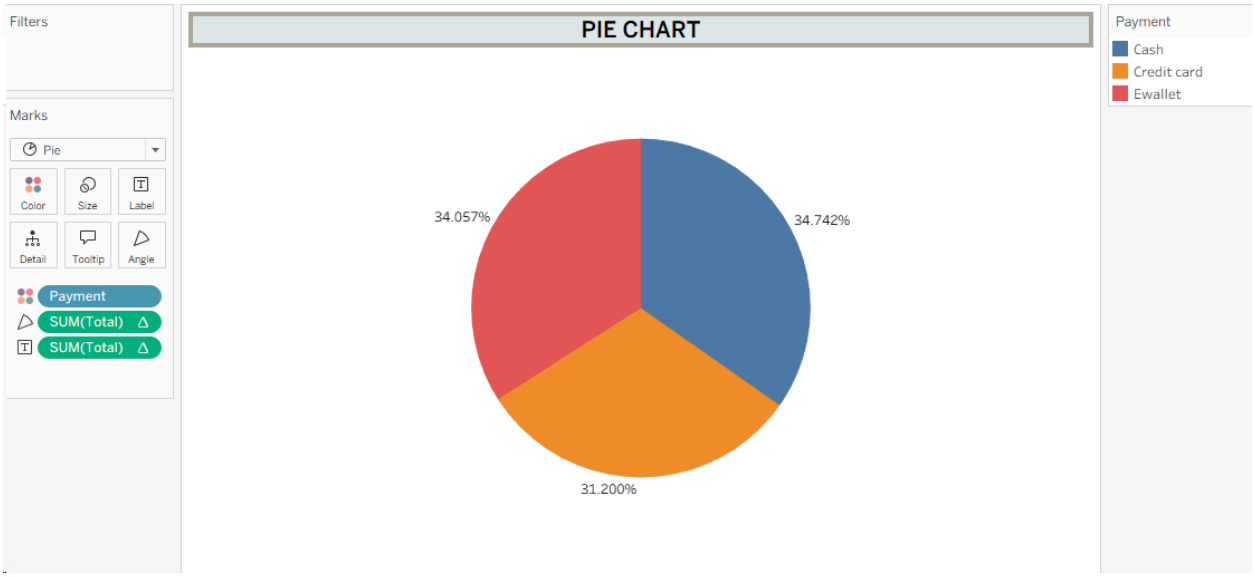
Objective:
To show distribution of payment methods used by customers.

Fields Used:

- Payment → Color
- SUM(Total) → Angle

Insights:

- Identified most preferred payment method (Cash / Credit Card / E-wallet).
- Compared percentage contribution of each payment mode.



4.3 Stacked Bar Chart:

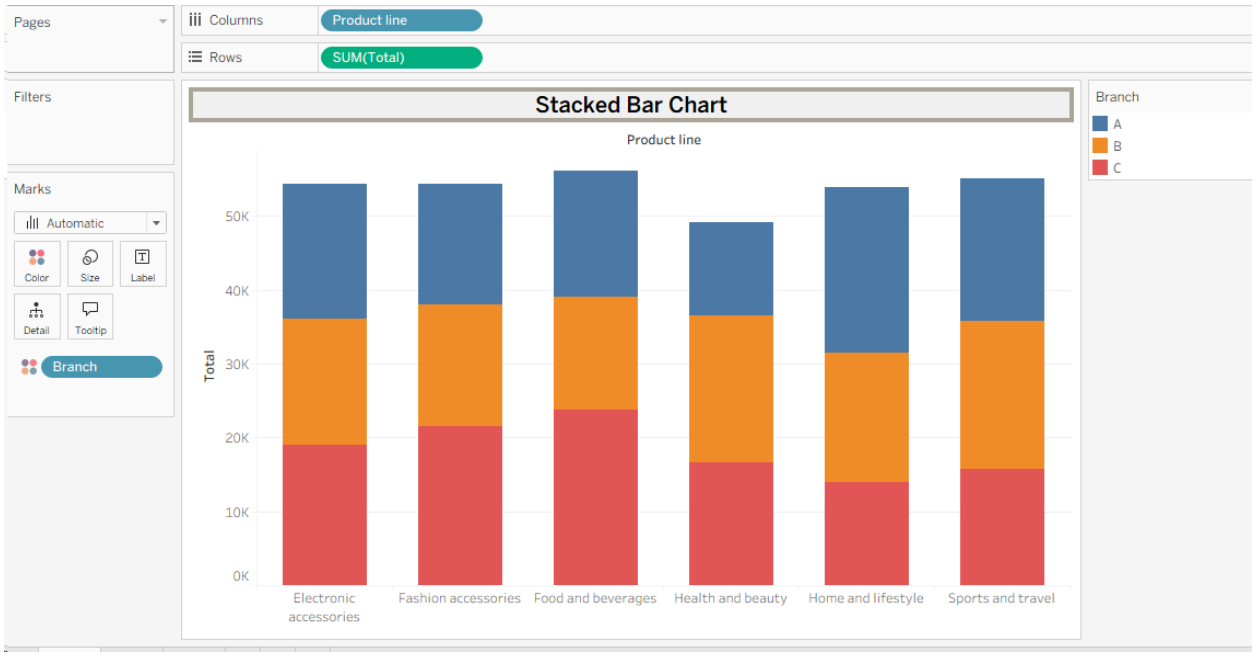
Objective:
To compare sales across branches segmented by Customer Type.

Fields Used:

- Columns → Branch
- Rows → SUM(Total)
- Color → Customer Type

Insights:

- Compared performance of Branch A, B, and C.
- Analyzed contribution of Member vs Normal customers.



4.4 Line Chart

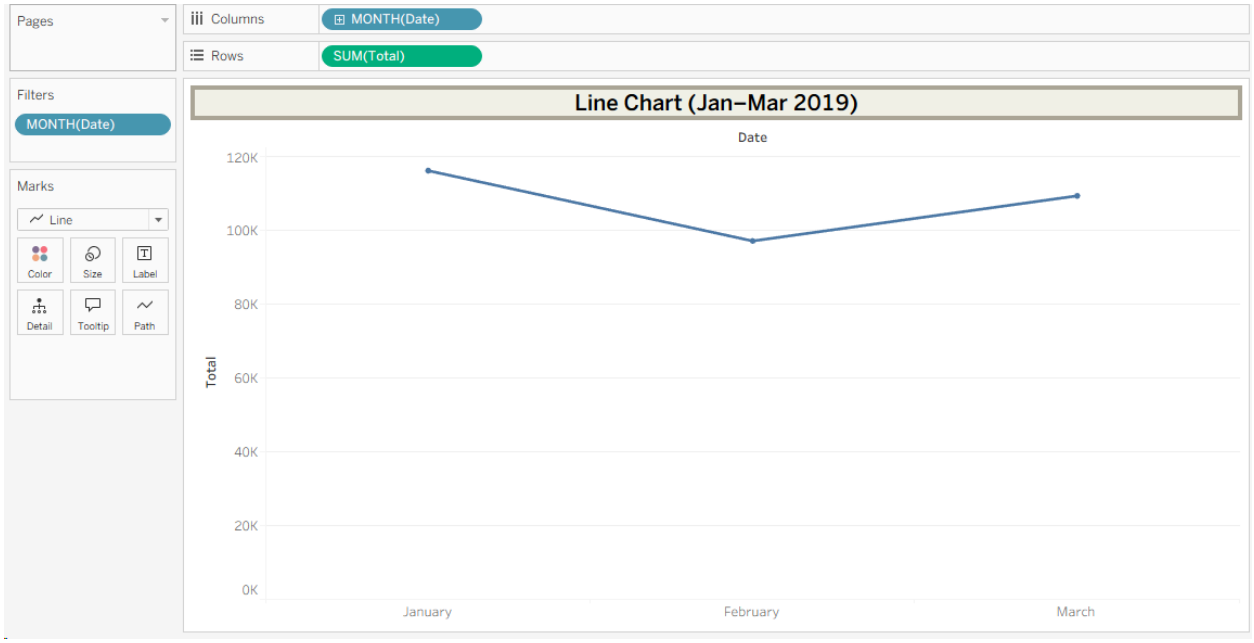
Objective:
To analyze sales trends over time.

Fields Used:

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

Insights:

- Observed monthly sales trend.
- Identified peak sales month.
- Understood growth pattern over 3 months.



4.5 Bubble Chart

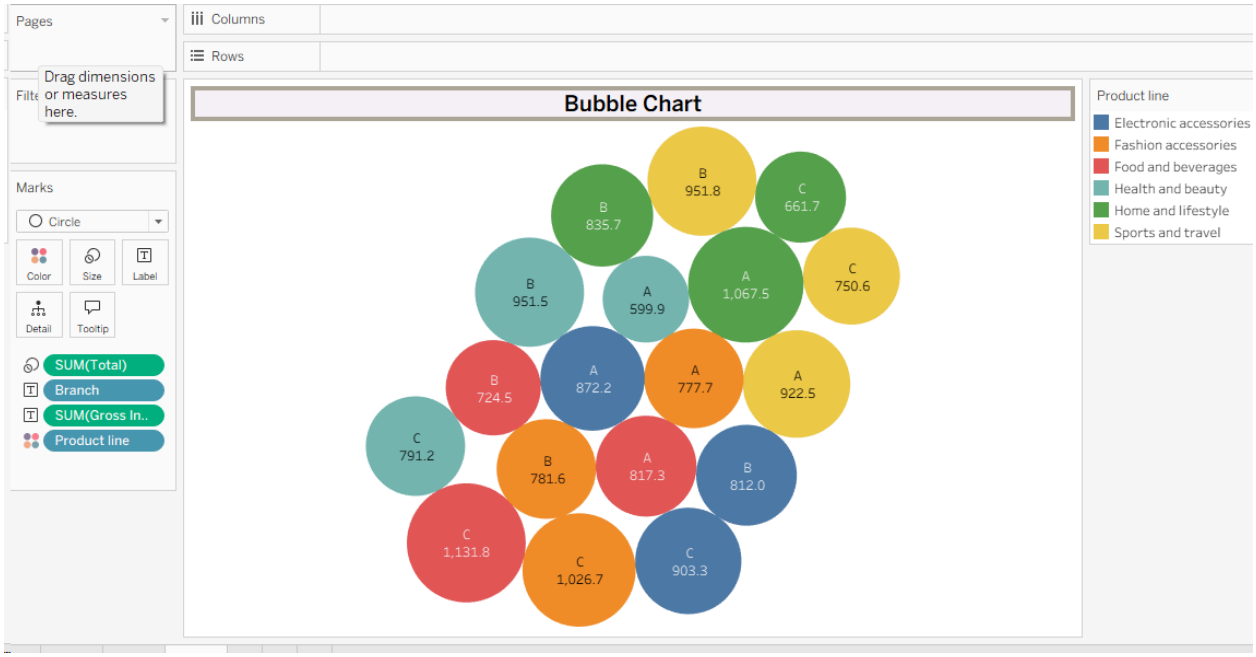
Objective:
To visualize the relationship between Product Line and Gross Income.

Fields Used:

- Product Line → Detail
- SUM(Gross Income) → Size
- Product Line → Color

Insights:

- Larger bubbles indicate higher profitability.
- Compared profitability across product categories.



5. Overall Findings

- Certain product categories contribute more to revenue and profit.
- One branch performs better compared to others.
- Members contribute significant revenue compared to normal customers.
- Cash and E-wallet are popular payment methods.
- Sales showed a steady trend during the 3-month period.

6. Conclusion

This analysis helped in understanding:

- Customer buying behavior
- Product performance
- Branch performance
- Profitability trends

Using Tableau visualizations made it easier to interpret patterns and generate business insights.