

DA Assignment-1

The growth of supermarkets in most populated cities is increasing and market competitions are also high. The dataset is one of the historical sales of supermarket company which has recorded in 3 different branches for 3 months data.

Cleaned Dataset Description:

Branch: Branch of supercentre (3 branches are available identified by A, B and C).

City: Location of supercentres

Customer type: Type of customers, recorded by Members for customers using member cards and Normal for those without member cards.

Gender: Gender type of customer

Product line: General item categorization groups- Electronic accessories, Fashion accessories, Food and beverages, Health and beauty, Home and lifestyle, Sports and travel

Unit price: The price of each product in \$ Quantity: Number of products purchased by the customer

Tax: 5% tax fee for customers buying

Total: Total price including tax Date: Date of purchase (Record available from January 2019 to March 2019)

Time: Purchase time (10 am to 9 pm) Payment: Payment used by the customer for the purchase (3 methods are available Cash, Credit card and Ewallet)

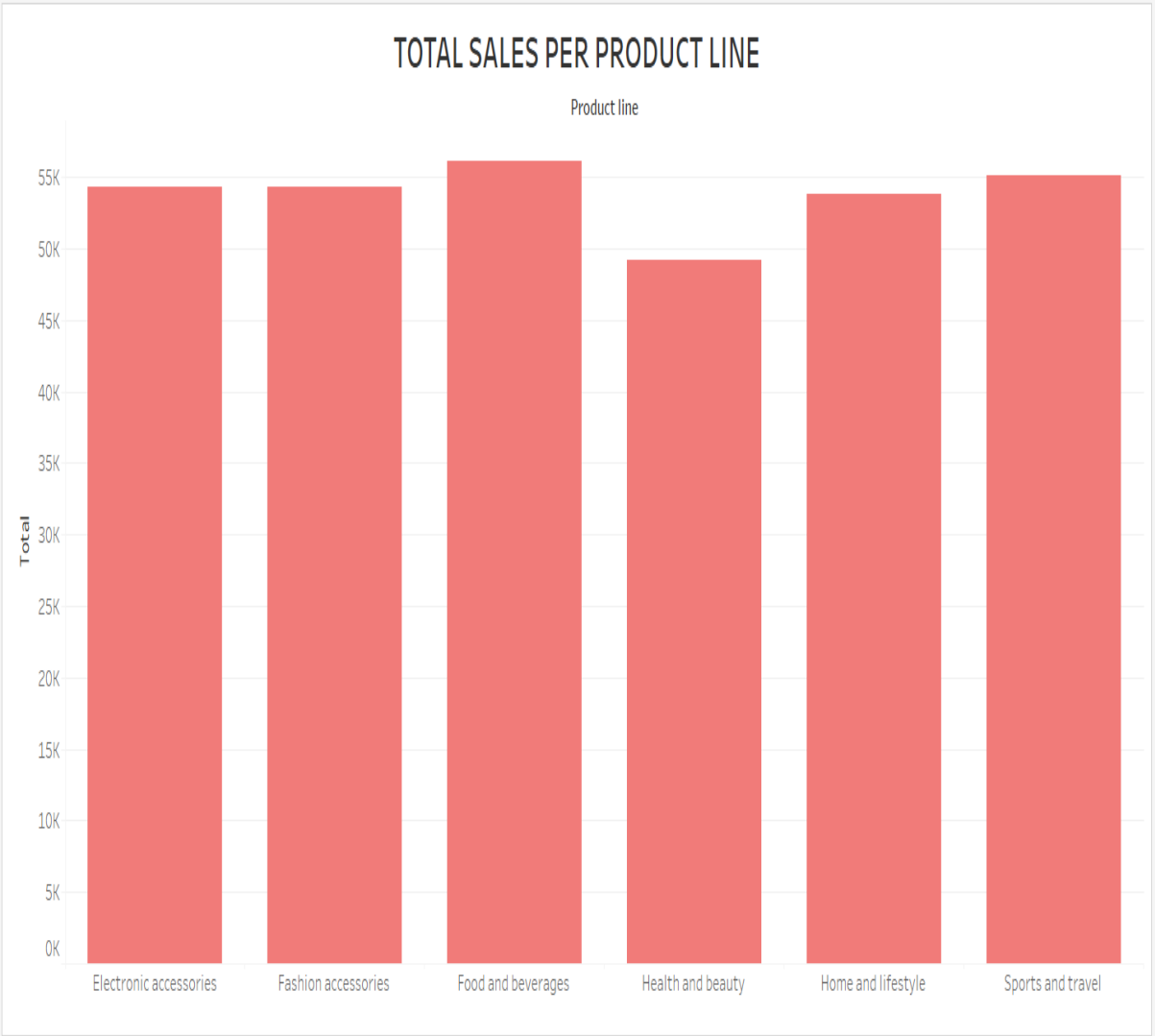
Gross income: Gross income

Rating: Customer stratification rating on their experience (scale of 1 to 10)

The Visualizations:

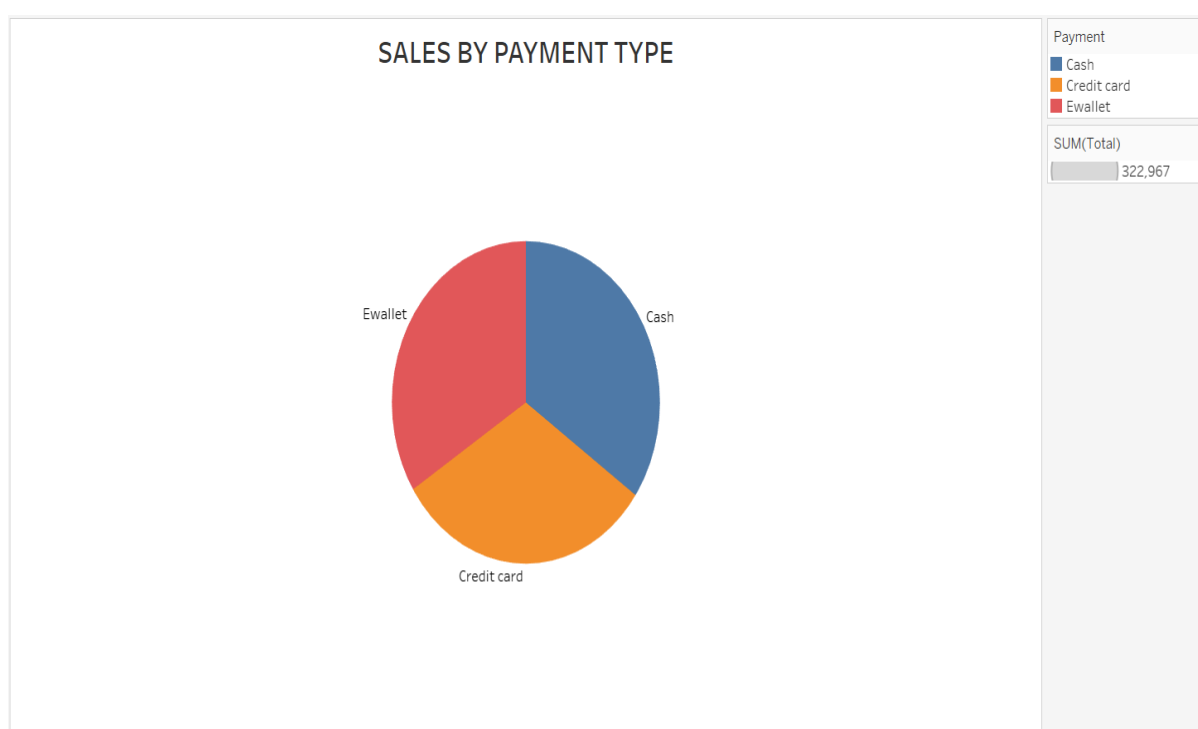
Bar Chart

This chart displays the total sales generated by each product line. By comparing the height of the bars, we can easily identify which categories—such as *Food and Beverages* or *Electronic Accessories*—contribute the most revenue. This visualization is effective for understanding overall performance across different product groups.



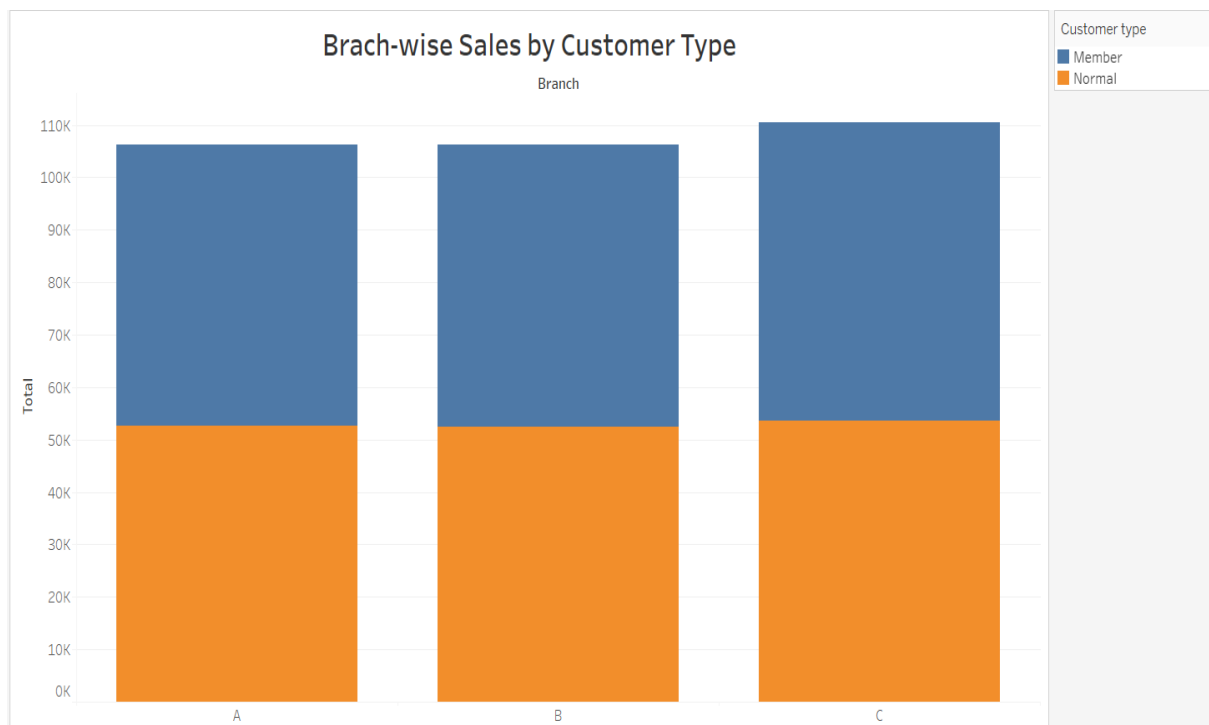
Pie Chart:

The pie chart illustrates the proportion of total sales attributed to each payment method: *Cash*, *Credit Card*, and *E-Wallet*. This helps us visualize customer preferences in transaction modes and can guide strategic decisions for optimizing the checkout experience.



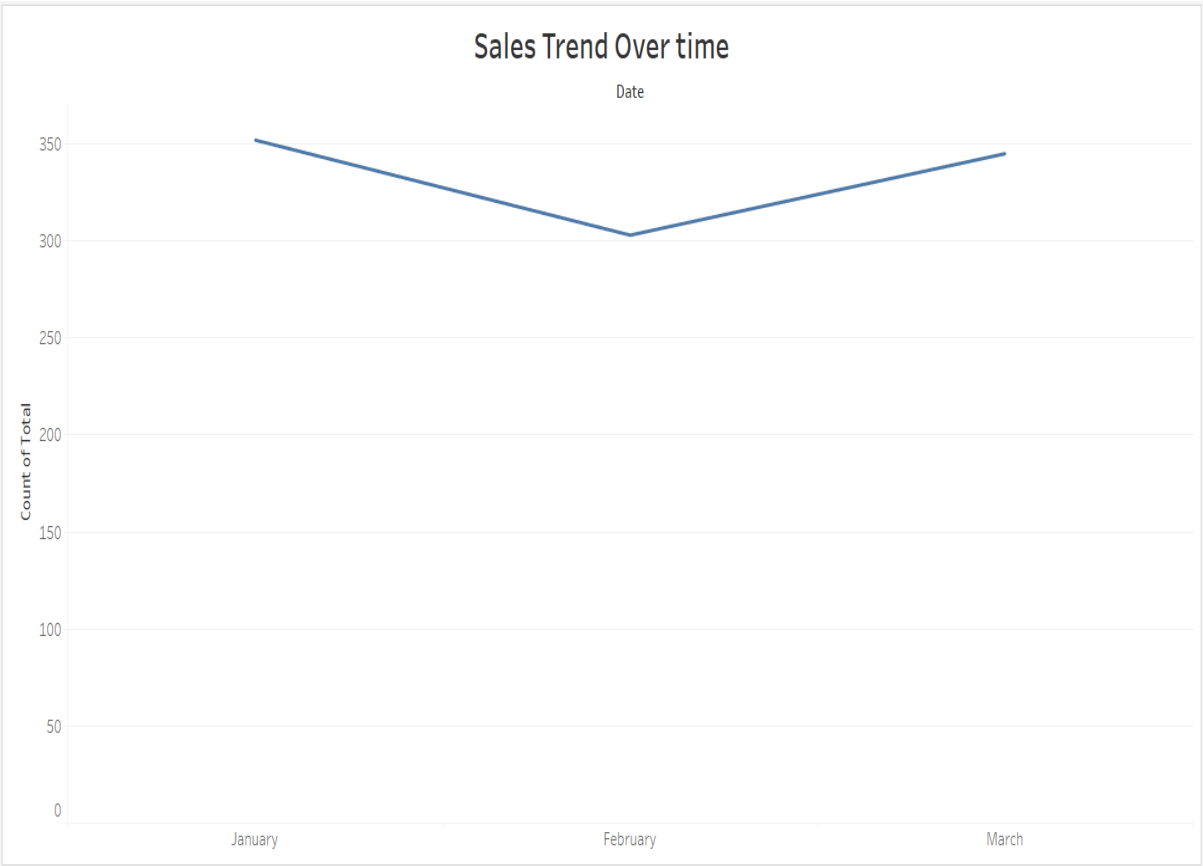
Stacked Bar Chart:

This chart combines two dimensions—*Branch* and *Customer Type (Member vs. Normal)*—to show how different types of customers are distributed across store locations. It helps identify which branches attract more loyal (member) customers and provides insight into regional consumer behaviour.



Line Chart:

The line chart shows the trend of total sales over time, specifically from January to March 2019. This temporal analysis helps reveal patterns such as monthly growth, seasonal peaks, or unexpected drops, offering valuable context for forecasting and operational planning.



Bubble Chart:

This multi-variable chart plots the relationship between quantity purchased and total amount spent, while bubble size indicates *Gross Income* and color represents different *Product Lines*. It uncovers hidden patterns, like high profitability despite fewer units sold, and helps evaluate product performance in terms of both sales and profit margins.

