DA Assignment - 1

Title: Supermarket Sales Data Analysis using Tableau

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Objective

To analyze supermarket sales data using Tableau, understand sales patterns, and visualize insights using various types of charts such as bar chart, pie chart, stacked bar chart, line chart, and bubble chart.

Dataset Overview

The dataset contains historical sales data from a supermarket operating in 3 branches across different cities (Yangon, Mandalay, Naypyitaw). It includes customer information, purchase details, product lines, and payment modes.

Attributes Used:
Branch
City
Customer Type
Gender
Product Line
Unit Price
Quantity
Total
Date
Time
Payment
Gross Income
Rating

Attributes Removed:
Invoice ID
Tax 5%
COGS
Gross Margin Percentage

Data Cleaning Process in Tableau

Opened Tableau and connected to supermarket_sales - Sheet1.csv.
Verified data types (e.g., Date as date, Total as numeric, Branch as string).
Hid unnecessary columns (Invoice ID, Tax 5%, COGS, Gross Margin Percentage) in the Data Source tab.
Renamed fields for clarity if needed (e.g., ensured consistent naming for Product Line).

Visualizations

Bar Chart: Total Sales by Product Line

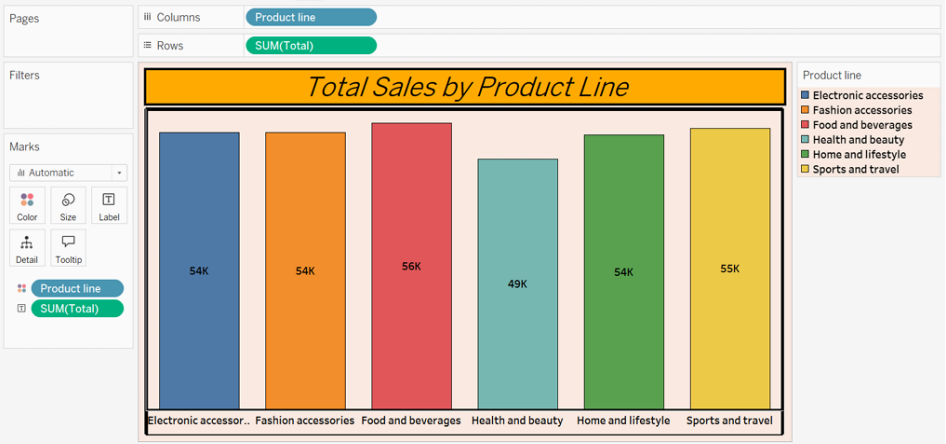
Goal: Compare total sales across different product lines.

Steps:

- - Opened a new worksheet.
- - Dragged Product Line to Columns.
- - Dragged Total to Rows, set to SUM.
- - Sorted in descending order for clarity.
- - Added Product Line to Color for distinct bars.
- - Dragged Total to Label for value annotations.

Result:

BAR CHART



Pie Chart: Payment Method Distribution

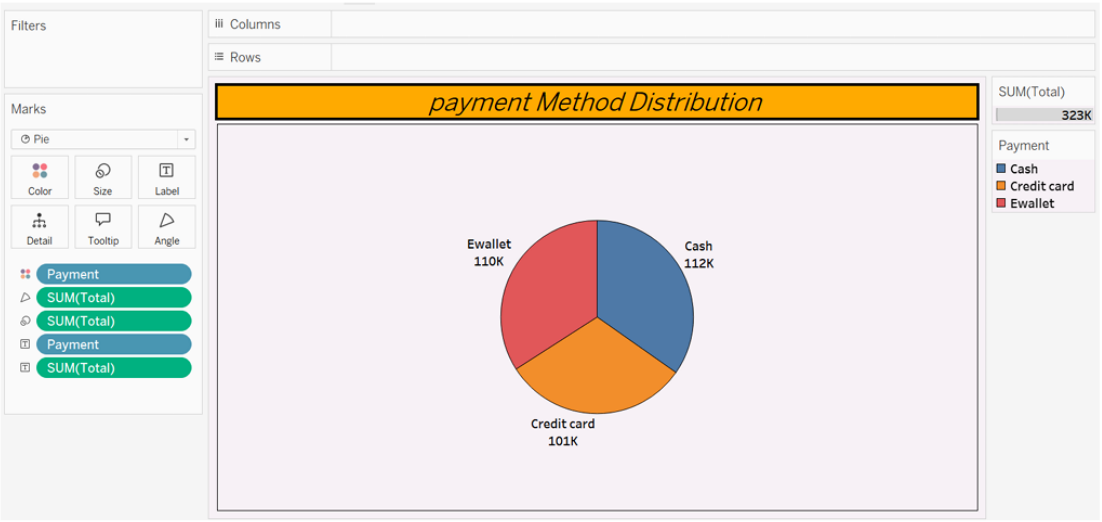
Goal: Show the distribution of sales by payment method.

Steps:

- - Opened a new worksheet.
- - Changed Marks to Pie.
- - Dragged Payment to Color.
- - Dragged Total to Angle, set to SUM.
- - Added Payment and Total to Label, formatted to show percentages.

Result

PIE CHART



Stacked Bar Chart: Branch-wise Sales with Gender Distribution

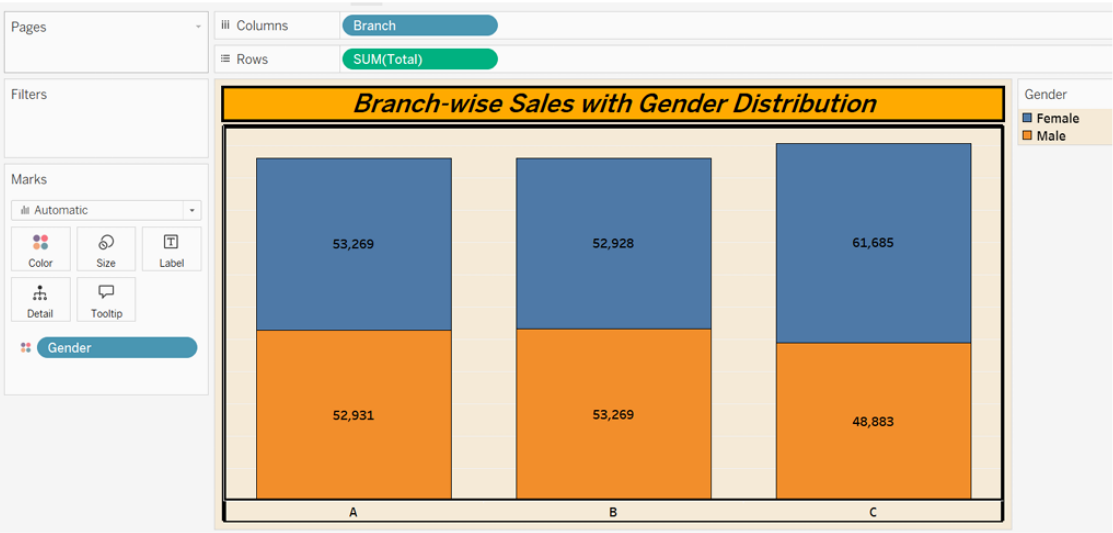
Goal: Compare sales across branches, segmented by gender.

Steps:

- - Opened a new worksheet.
- - Dragged Branch to Columns.
- - Dragged Total to Rows, set to SUM.
- - Dragged Gender to Color to stack bars.
- - Added Gender or Total to Label for value annotations.

Result:

STACKED BAR CHART



Line Chart: Daily Sales Trend

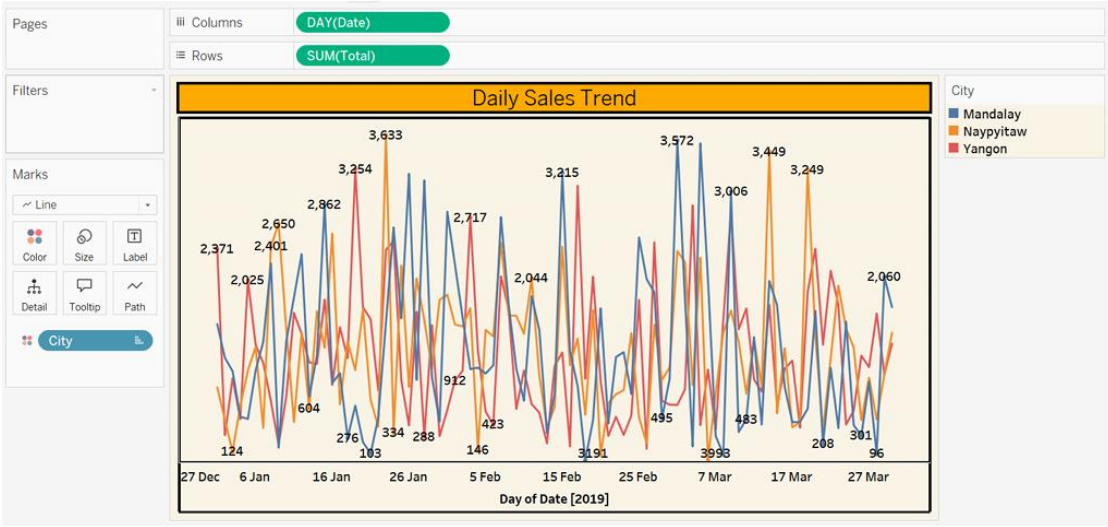
Goal: Analyze the trend of sales over time.

Steps:

- - Opened a new worksheet.
- - Dragged Date to Columns, set to Day level.
- - Dragged Total to Rows, set to SUM.
- - Ensured Marks card is set to Line.
- - Added City to Color for trend differentiation.

Result

LINE CHART



Bubble Chart: Gross Income by Product Line

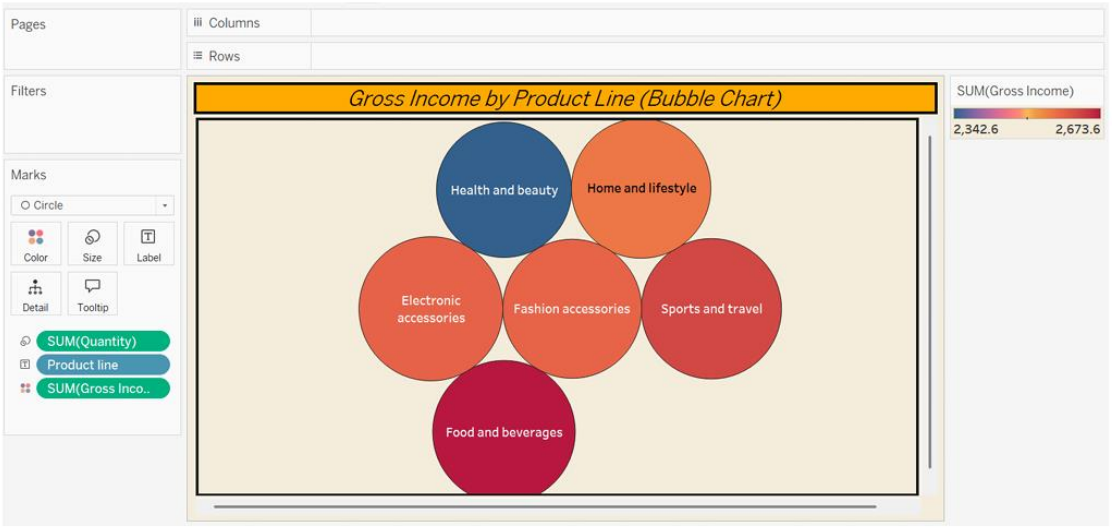
Goal: Visualize the relationship between gross income and product lines, with bubble size representing quantity sold.

Steps:

- - Opened a new worksheet.
- - Dragged Gross Income to Columns, set to SUM.
- - Dragged Product Line to Rows.
- - Dragged Quantity to Size, set to SUM.
- - Added Product Line to Color for grouping.
- - Dragged Product Line to Detail for clarity.

RESULT:

BUBBLE CHART



Insights

The Bar Chart reveals that Electronic accessories and Fashion accessories lead in total sales, indicating high demand for these product lines.
The Pie Chart shows Ewallet as the most frequently used payment method, suggesting a preference for digital payments among customers.
The Stacked Bar Chart highlights that female customers contribute significantly to sales in Branch A, while male customers dominate in Branch C.
The Line Chart indicates fluctuating daily sales, with peaks in mid-February, possibly due to seasonal promotions or events.
The Bubble Chart demonstrates that Food and beverages generate the highest gross income, with larger quantities sold compared to other categories.

Conclusion

Using Tableau, we effectively explored and visualized the supermarket sales dataset, uncovering key insights into product performance, customer preferences, and sales trends across branches and time periods. This analysis supports data-driven decision-making for inventory management and marketing strategies.

Attachments:

Visualizations: Screenshots embedded above!