DA Assignment - 2

Title: Cosmetic Insights - Navigating Cosmetics Trends and Consumer Insights with Tableau

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Course: Data Analysis using Tableau

Assignment Number: 2

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Objective

The cosmetic insights dashboard in Tableau provides a clear view of sales, customer preferences, and product performance. It helps identify trends, monitor marketing impact, and support inventory and product decisions. Overall, it enables data-driven strategies to boost customer satisfaction and business growth.

Dataset Overview

The dataset represents historical sales records of a supermarket company across three different branches for a period of three months. It includes information related to customer demographics, transaction details, pricing, and satisfaction ratings.

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

Payment
Gross Income
Rating
Attributes Removed:
Invoice ID
Tax
COGS
Gross Margin Percentage

Data Cleaning Process in Tableau

Opened Tableau.
Uploaded the dataset into Tableau.
Removed unnecessary columns: Invoice ID, Tax, COGS, Gross Margin Percentage. Validated and adjusted data types where needed for accurate analysis.

Visualizations

Donut Chart: Sales Distribution by Payment Method

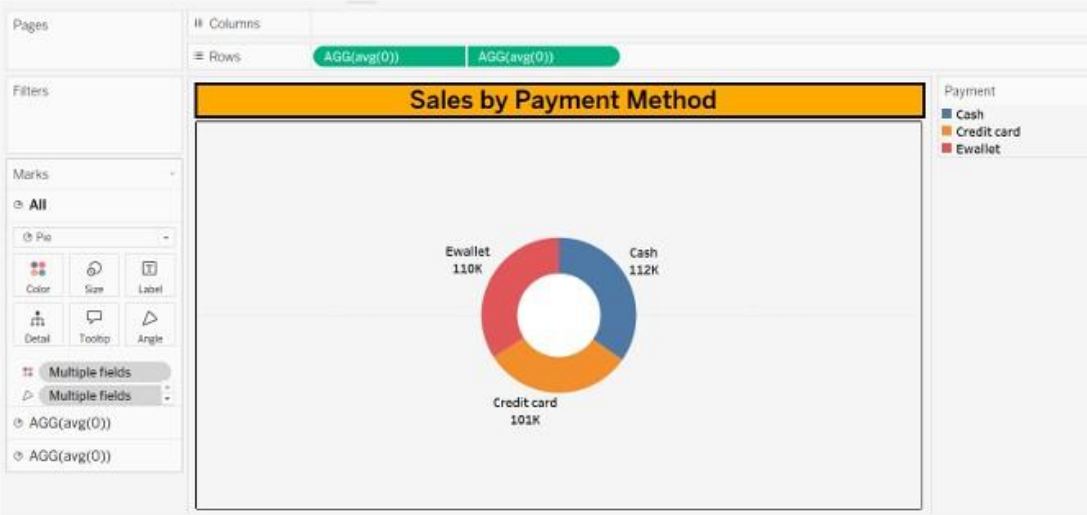
Goal: To visualize the proportion of total sales contributed by each payment method.

Steps in Short:

- - Removed unnecessary fields.
- - Categorized data by 'Payment'.
- - Aggregated 'Total' for each category.
- - Used a pie chart and added a dual-axis with a blank measure for the donut effect.
- - Added labels and adjusted formatting for clarity.

Result:

DOUNT CHART



Area Chart: Monthly Sales Trends by Product Line

Goal: To visualize how total sales have changed over time, segmented by product line.

Steps in Short:

- - Loaded the dataset into Tableau.
- - Used MONTH(Date) on Columns and SUM(Total) on Rows.
- - Segmented using Product Line for depth.
- - Changed mark type to Area.
- - Formatted for clarity and storytelling.

Result

AREA CHART

Text Table: Average Rating by Product Line

Goal: To display the average customer rating for each product line.

Steps in Short:

- - Created a new worksheet.
- - Dragged Product Line to Rows.
- - Dragged Rating to Text, changed to AVG.
- - Formatted text size and alignment for clarity.

Result

TEXT TABLE

Day of ..	A	B	C
1	3,927	2,470	3,4
2	1,968	6,344	4,3
3	4,469	3,868	4,0
4	4,574	1,747	1,6
5	3,012	5,016	4,7
6	2,766	4,123	2,7
7	3,541	4,363	3,5
8	3,970	4,057	5,4
9	3,581	4,220	5,9
10	3,233	2,378	4,2
11	4,023	2,331	3,2
12	2,910	5,177	3,7
13	2,117	1,485	1,8
14	3,921	3,965	5,7
15	3,674	7,827	4,2
16	2,088	2,966	4,8
17	5,706	2,294	2,4
18	2,481	760	2,3
19	7,210	1,704	5,9
20	5,000	3,627	3,1
21	3,199	747	1,7

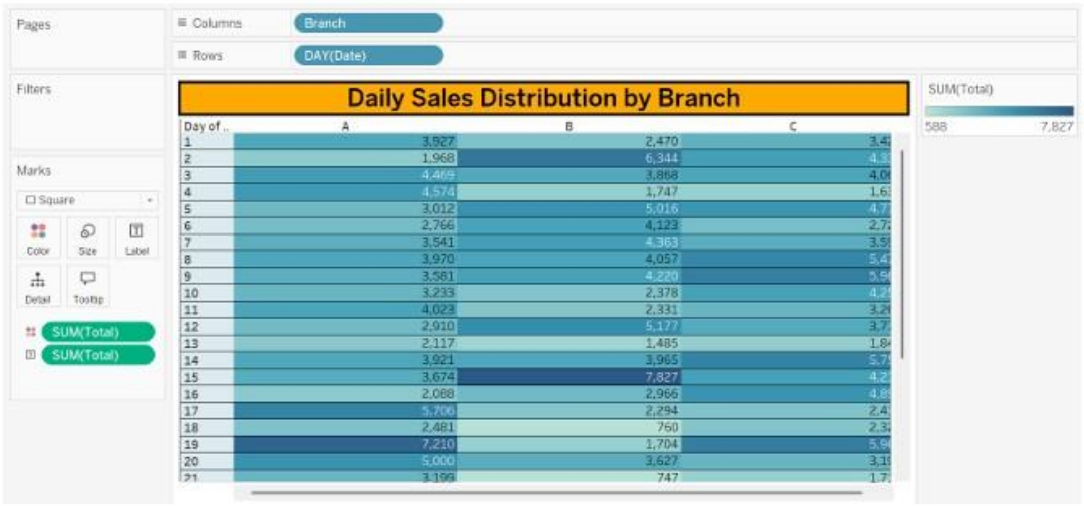
Highlighted Table: Total Sales by Branch and Product Line Goal: To compare total sales across different branches for each product line.

Steps in Short:

- - Created a new worksheet.
- - Dragged Branch to Columns.
- - Dragged Product Line to Rows.
- - Dragged SUM(Total) to Text.
- - Changed Marks to Square and added highlighting.

Result

HIGHLIGHTED TABLE



Word Cloud: Product Line Contribution

Goal: To visualize the relative contribution of each product line using a Word Cloud, where the size of each word corresponds to total sales.

Steps in Short:

- - Dragged Product Line to the Text shelf.
- - Dragged Total to the Size shelf.
- - Set the Mark type to Text.
- - Dragged Total to the Color shelf for visual differentiation.
- - Sorted Product Line by Total in descending order.

Result WORD CLOUD

Funnel Chart: Contribution of Product Lines to Total Sales

Goal: To visualize how different product lines contribute to the overall total sales.

Steps in Short:

- - Dragged SUM(Total) to Rows.
- - Dragged Product Line to Detail.
- - Used SUM(Total) for Size.
- - Added labels to show exact values.
- - Sorted product lines by SUM(Total) for clarity.

Result FUNNEL CHART

Waterfall Chart: Contribution of Product Lines to Gross Income

Goal: To visualize how different product lines contribute to the overall gross income.

Steps in Short:

- - Applied a Running Total to SUM(Gross Income).
- - Used Negative Gross Income to differentiate negative contributions.

- - Added labels to show exact values.
- - Sorted product lines by Gross Income for clarity.

Result WATERFALL

Insights

The Donut Chart highlights the dominant payment method, likely Ewallet, indicating a strong preference for digital transactions.

The Area Chart shows fluctuating sales trends, with Product Line peaks suggesting seasonal demand variations.

The Text Table reveals that certain product lines (e.g., Food and Beverages) have higher average ratings, reflecting customer satisfaction.

The Highlighted Table identifies Branch A as a top performer in total sales across multiple product lines.

The Word Cloud emphasizes high-sales product lines like Electronic Accessories, guiding inventory focus.

The Funnel Chart indicates a tapering contribution, with top product lines driving most sales.

The Waterfall Chart shows positive gross income contributions from key product lines, with minimal negative impacts.

Conclusion

Through Tableau, we successfully visualized the supermarket sales data using a wide variety of advanced charts. Each chart served a unique purpose in understanding customer preferences, sales distribution, and overall performance metrics, enhancing our ability to derive meaningful insights.

Attachments:

Visualizations: Screenshots embedded above!