Marketing Data Analysis Interactive Dashboard

- Example & Explanation -

Created by: Felice Benita

Overview

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Background

- The importance of marketing data analysis in supporting the company's business success through developing sales performance and identifying KPIs.
- There are many metrics that can be used and calculation formulas to present data analysis information.

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Scope of Problem

- The interactive dashboard is built using Tableau and using formulas in it.
- The dashboard is created to display marketing data for the period 2019 to 2022 using several metrics and categorizing data based on KPIs.
- The format and calculation formula used in this dashboard are based on the format and calculation formula for sales metrics.

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Interactive Dashboard Display

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Description

- Interactive Dashboard created using Tableau.
- Analysis of marketing data for the period 2019 – 2022.
- Data on the dashboard can be filtered based on: Order Date and Region.

  For example, in the explanation here, the analysis data is filtered based on:

  - Order Date: 11/8/2019 – 12/31/2022
  - Region: All
- Metrics used: (will be explained one by one on the next slide)

  - Total Sales, Total Profit, Total Order
  - Monthly Sales Trend, Monthly Profit, Monthly Order
  - Total Sales per Category and Region with Benchmark = $100.000
  - Total Sales by Region and Category
  - Profitability by Category
  - Profitability by Product
  - Total Order by Sub Category

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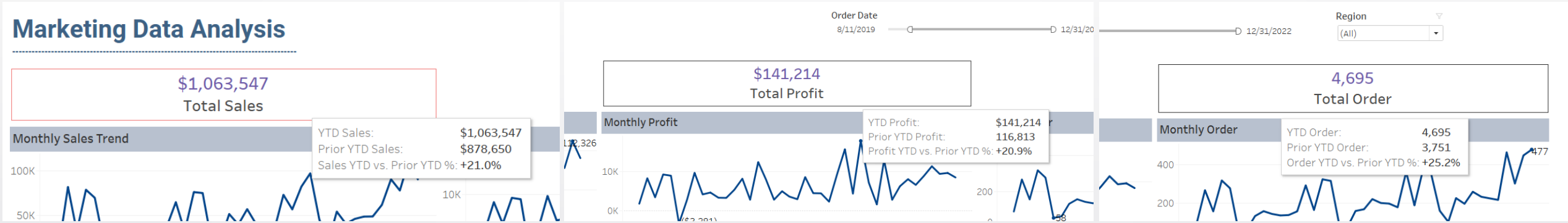
Total Sales, Total Profit, Total Order (1)



Each number shows total sales, total profit, and total orders based on the filters selected on the dashboard.

The metrics used per each total are YTD, Prior YTD, dan YTD vs. Prior YTD %.

These three metrics are shown in a tooltip for each total (when the cursor is pointed at).

Explanation of metrics:

Year to Date (YTD): refers to the period beginning on the first day of the current calendar year or fiscal year up to the current date.

Prior Year to Date (PYTD): refers to the period beginning from the first day of the previous calendar year or fiscal year to the date equivalent to the current day from the previous year (or the same period as YTD in the previous year).

YTD vs. Prior YTD %: refers to the difference between the YTD period and the PYTD period per PYTD in percentage.

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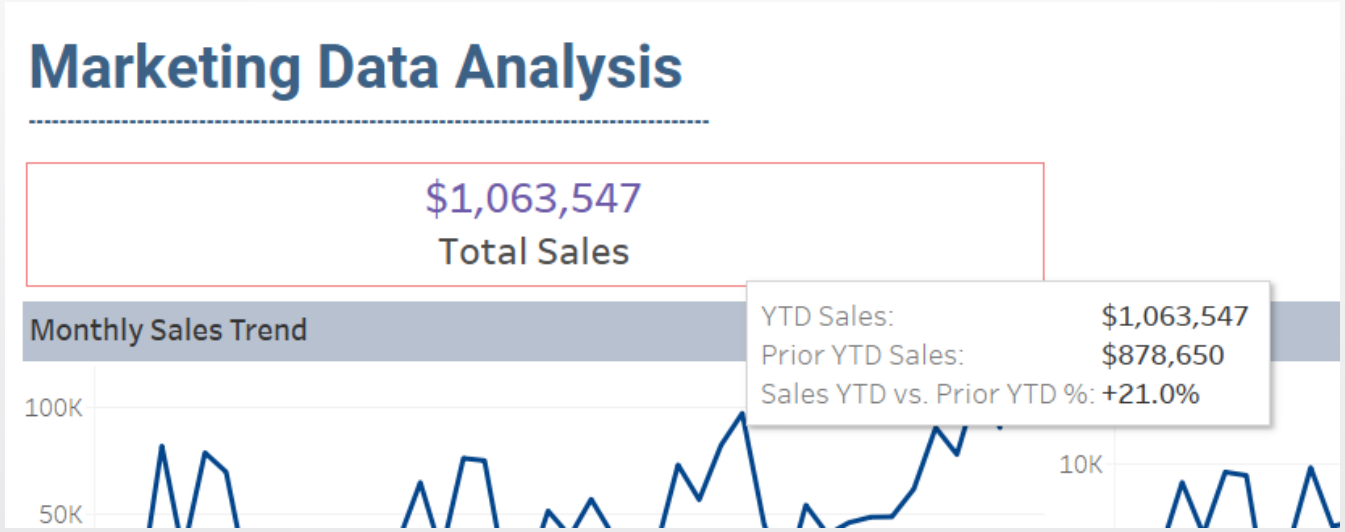
Example – Total Sales Metrics (2)



Because the data displayed on the dashboard is filtered based on Order Date.

So the calculation of these three metrics is adjusted based on the selected Order Date:

Sales YTD: refers to sales on the period on the selected [order date from] up to the selected [order date to].

Prior YTD Sales: refers to sales on the period on the selected [order date from] in the previous year up to the selected [order date to] in the previous year.

Sales YTD vs. Prior YTD %: refers to the sales difference between the YTD period and the PYTD period per sales PYTD in percentage.

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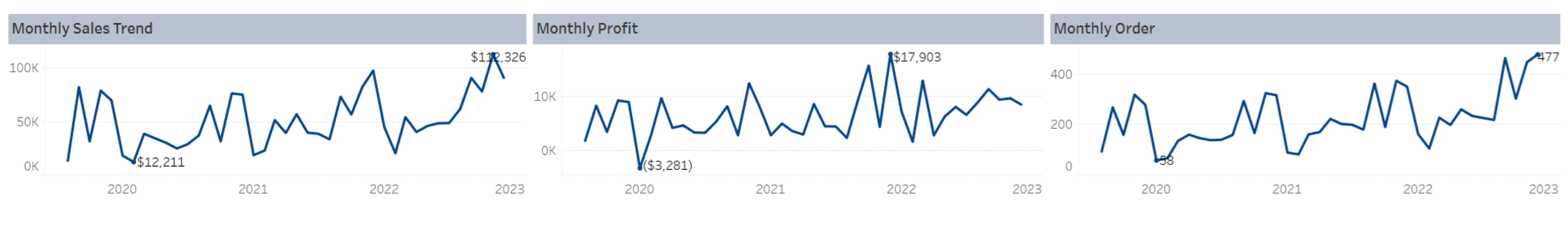
Monthly Sales Trend, Monthly Profit, Monthly Order (3)



Each graph above shows monthly total sales, profit, and orders.

Numbers shown on the graph are the lowest number and the highest number.

Example:

- The lowest monthly sales is in February 2020 at $12,211
- The highest monthly sales is in November 2022 at $112,326

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Total Sales by Region and Category (4)

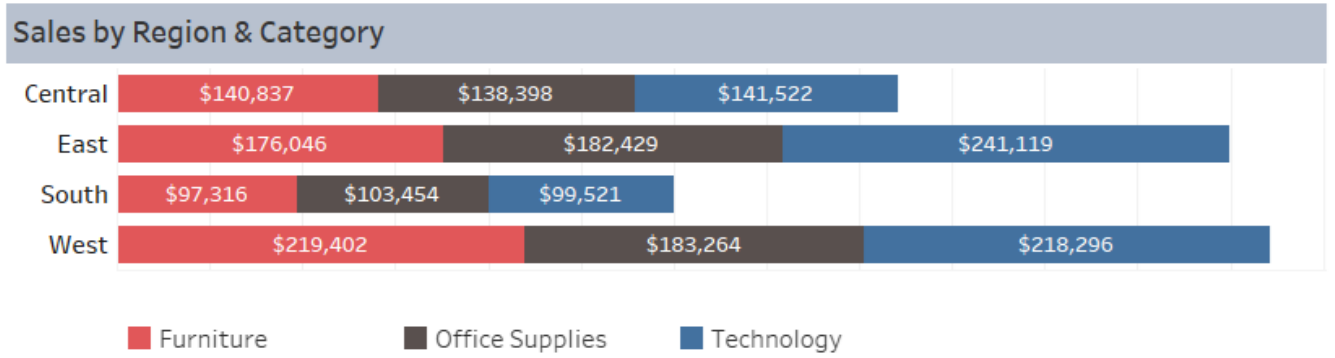
Category	Central	East	South	West
Furniture	✓	✓	✗	✓
Office Supplies	✓	✓	✓	✓
Technology	✓	✓	✗	✓

KPI

✓ Above Benchmark

✗ Below Benchmark

Benchmark : $100,000



The graph on the left shows total sales by region and category with Benchmark = $100,000.

KPIs used:

- The green check mark indicates total sales are Above Benchmark
- The red cross mark indicates total sales are Below Benchmark

The bar graph on the right shows total sales by region and category in numerical form.

So, total sales for the Furniture category in the South region are $97,316, which is below the Benchmark ($100,000)

→ look at the graph on the left so it is marked with a red cross.

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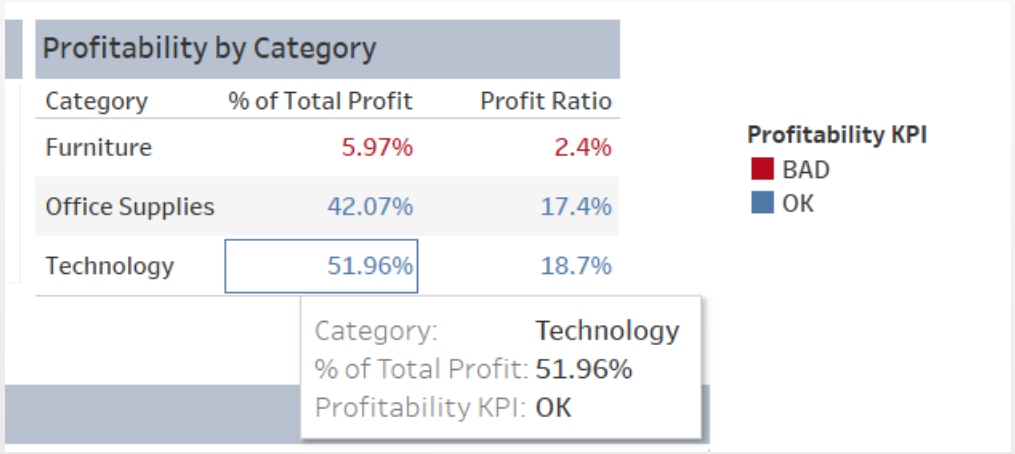
Profitability by Category (5)



The table above shows profitability per category.

Profitability KPI is divided into 3 categories: BAD, OK, GREAT

With the following criteria:

BAD: [Profit Ratio] <= 0.1 | OK: 0.1 < [Profit Ratio] < 0.33 | GREAT: [Profit Ratio] > 0.33

- The lowest Profitability KPI is the Furniture category with a Profit Ratio of 2.4%, and is categorized as BAD
- The highest Profitability KPI is the Technology category with a Profit Ratio of 18.7%, and is categorized as OK

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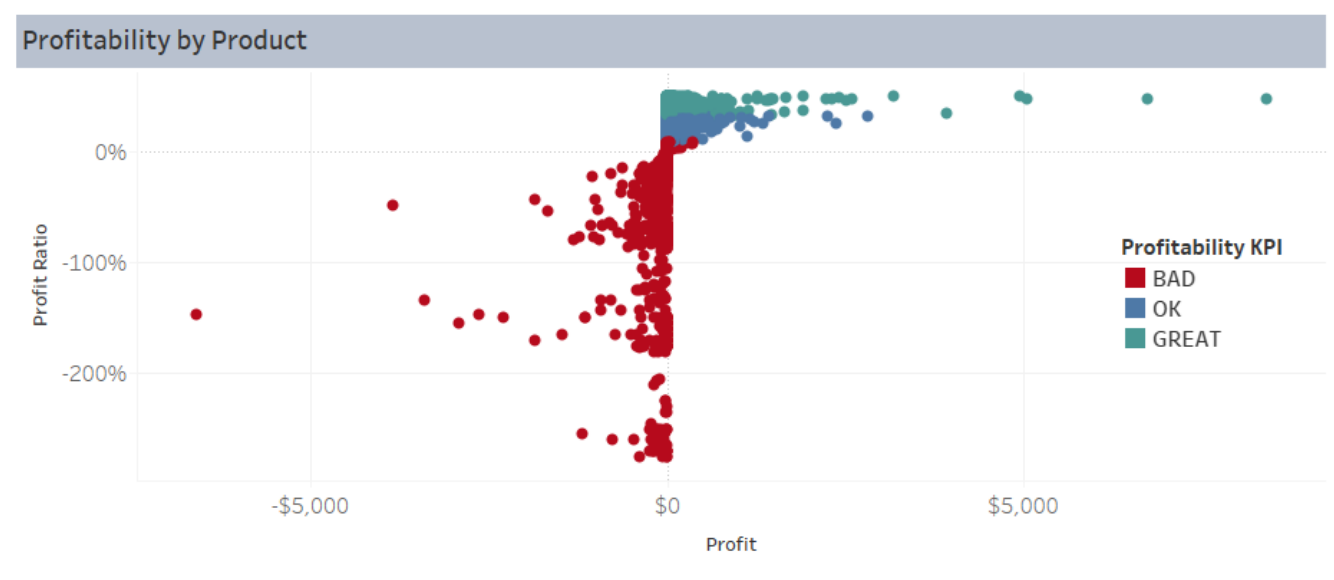
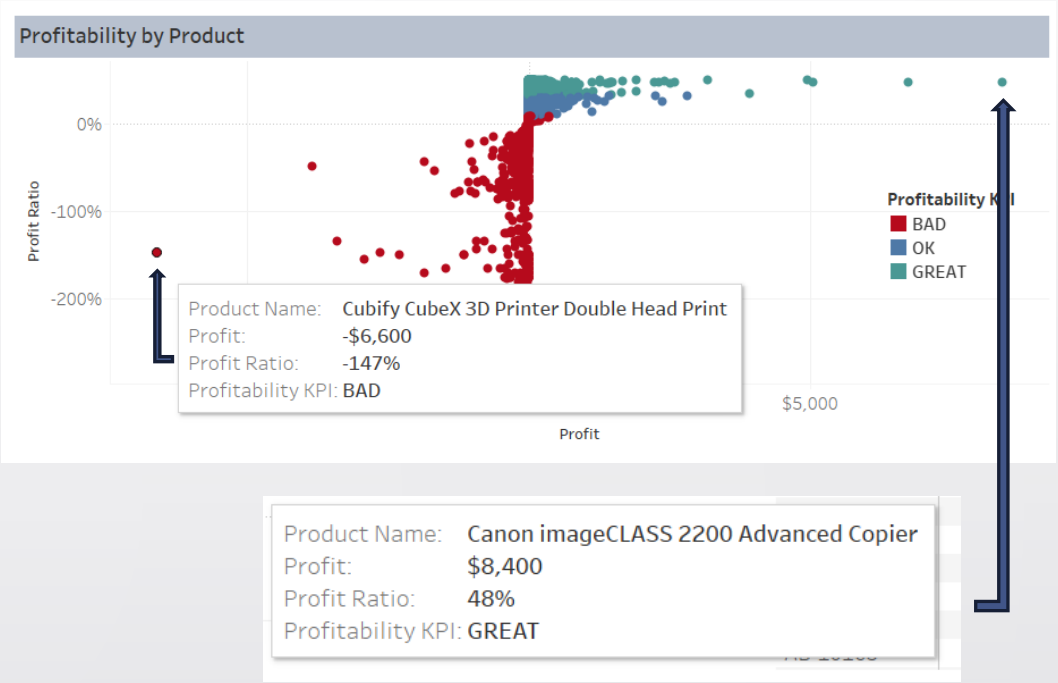
Profitability by Product (6)





The graph above shows profitability per product.

Profitability KPI is divided into 3 categories: BAD, OK, GREAT

BAD: [Profit Ratio] <= 0.1 | OK: 0.1 < [Profit Ratio] < 0.33 | GREAT: [Profit Ratio] > 0.33

The numbers shown in the graph on the right are profitability with the lowest and highest numbers (not profit ratios):

- The lowest profitability is the Cubify CubeX 3D Printer Double Head Print with a profit of -$6,600, Profit Ratio -147%
- The highest profitability is the Canon imageCLASS 2200 Advanced Copier with a profit of $8,400, Profit Ratio 48%

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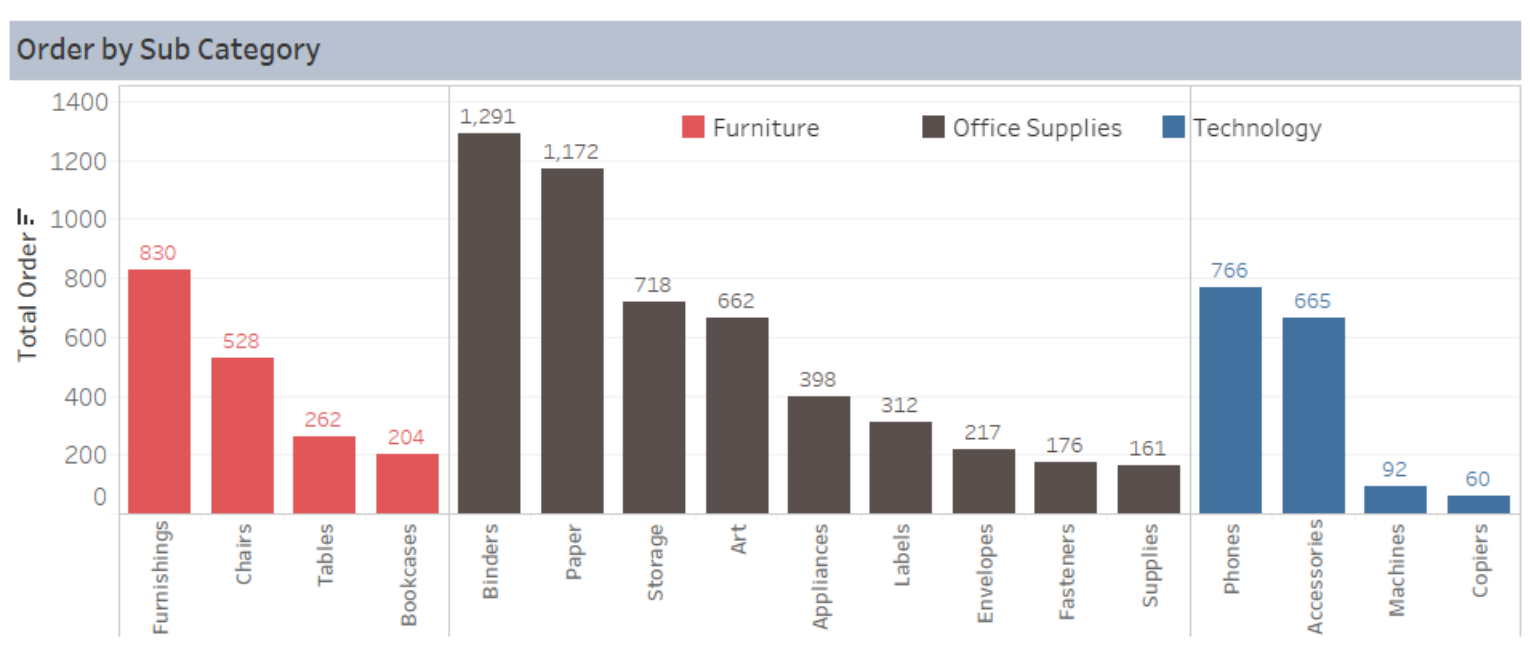
Order by Sub Category (7)



The graph above shows the total orders per sub category of each category (differentiated by color).

Sorted from highest total orders to lowest total orders.

- The highest order in the Technology category is Phones (766 orders)
- The lowest order in the Technology category is Copiers (60 orders)

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Conclusion

- Marketing data analysis interactive dashboard has been successfully implemented.
- From the test results, it can be seen that the functions provided by the marketing data analysis interactive dashboard are working correctly and as desired.

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That is an explanation of the marketing data analysis interactive dashboard created using Tableau.

Thank You.

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