

FINANCIAL ANALYSIS

INTRODUCTION

- The **Finance Analytics Tableau Project** focuses on analyzing key financial metrics to provide deep insights into the financial health of a company. By examining revenue trends, expenses, and financial ratios, the project aims to support data-driven decision-making processes. This Tableau dashboard will offer visualized financial KPIs and performance indicators, allowing stakeholders to track financial performance over time, compare actual performance against budgets, and ensure financial sustainability. The project is designed to be user-friendly, offering clear, actionable insights into company finances for improved planning and strategy.

OBJECTIVES

- **Analyze Revenue and Expenses:**

Examine how revenue and expenses evolve over time to identify patterns and trends that impact the financial stability of the company.

- **Monitor Key Financial Ratios:**

Track essential financial ratios, including profit margins, return on assets (ROA), and debt-to-equity ratio to measure the company's financial efficiency and leverage.

- **Track Budget vs. Actual Performance:**

Compare the actual financial performance against the budgeted projections to identify gaps and areas for improvement.

- **Visualize Key Financial Metrics:**

Display important financial performance indicators (KPIs) such as gross sales, cost of goods sold (COGS), profit, and more, enabling quicker decisions on company performance.

MAIN KPIS

1. Total Revenue
2. Gross Profit Margin
3. Operating Expenses
4. Net Profit Margin
5. Cost of Goods Sold (COGS)
6. Return on Assets (ROA)
7. Debt-to-Equity Ratio
8. Sales Growth Rate
9. Profit per Unit Sold
10. Discounts Given

TABLEAU DASHBOARD

This Tableau dashboard provides a detailed analysis of the company's financial performance based on key metrics such as revenue, profit, expenses, and sales trends. Using data segmented by product, country, and discount bands, the dashboard visualizes insights into gross sales, costs, and profitability across different regions and time periods. The interactive visualizations enable decision-makers to track performance indicators like gross profit margin, return on assets, and debt-to-equity ratio, facilitating data-driven strategies for optimizing financial health and growth.

Sales

Profit

Units Sold

Profit Margin

Discount

FINANCIAL ANALYSIS

Month Name

(All)

Action (Country)

(All)

TOTAL PROFIT

16.89M

TOTAL SALES

118.73M

TOTAL UNITS SOLD

1.13M

TOTAL PROFIT MARGIN

195.3

AVERAGE GROSS PROFIT

30,382

AVERAGE DISCOUNT PERCENTAGE

7.33

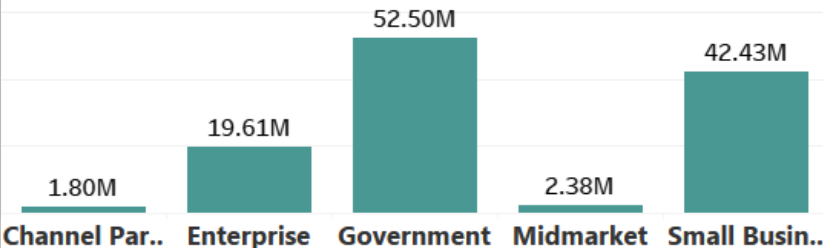
AVERAGE PROFIT MARGIN

0.2790

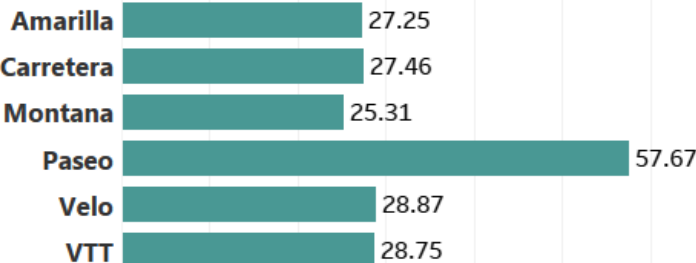
TOTAL GROSS PROFIT

21.27M

SUM OF SALES BY SEGMENT



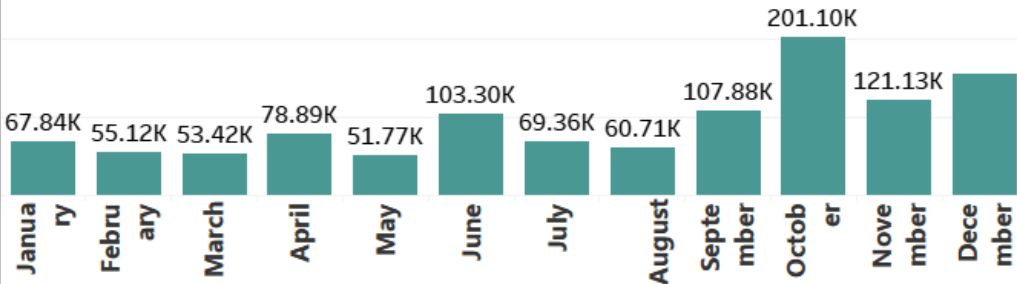
PROFIT MARGIN BY PRODUCT



SUM SALES BY COUNTRY



SUM OF UNITS SOLD BY MONTH



SUM PROFIT BY COUNTRY



SALES

- Dashboard
- Units Sold
- Profit
- Profit Margin
- Discount

TOTAL SALES

118.73M



AVERAGE SALES

169.61K



MAXIMUM SALES

1.16M

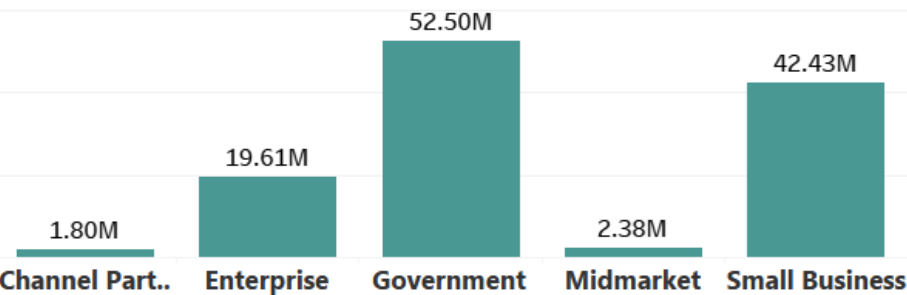


MINIMUM SALES

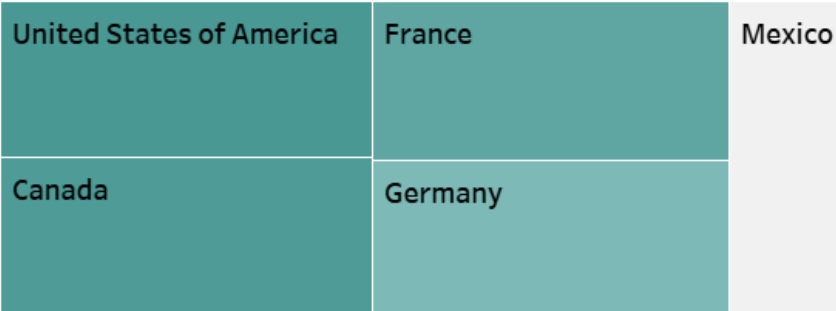
1,655



SUM OF SALES BY SEGMENT



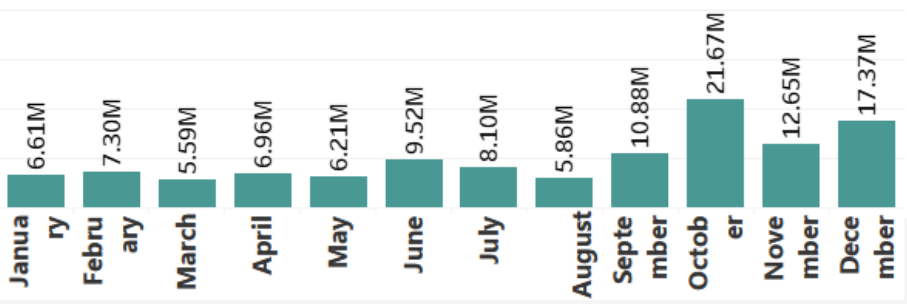
SUM OF SALES BY COUNTRY



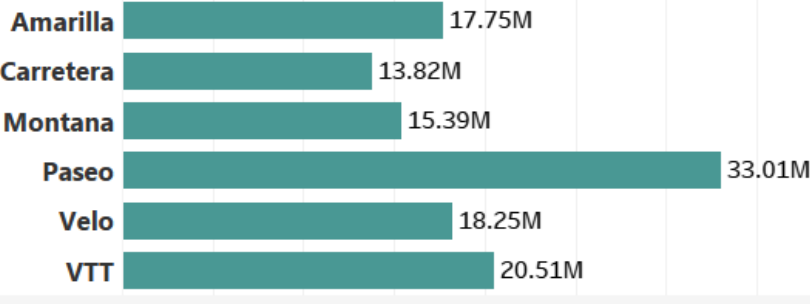
SUM SALES BY COUNTRY



SUM OF SALES BY MONTH



SUM OF SALES BY PRODUCT



PROFIT MARGIN

Dashboard

Units Sold

Profit

Discount

Sales

TOTAL PROFIT MARGIN

195.3



AVERAGE PROFIT MARGIN

0.2790



MAXIMUM PROFIT MARGIN

0.7500

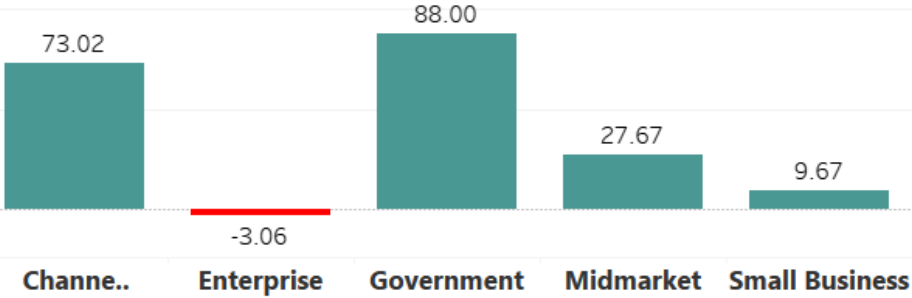


MINIMUM PROFIT MARGIN

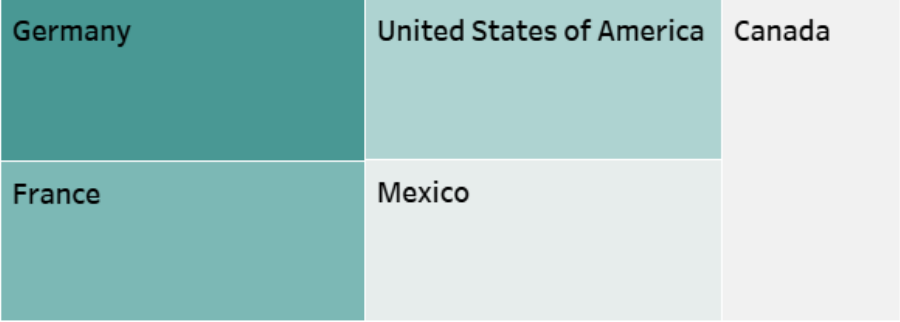
-0.1294



PROFIT MARGIN BY SEGMENT



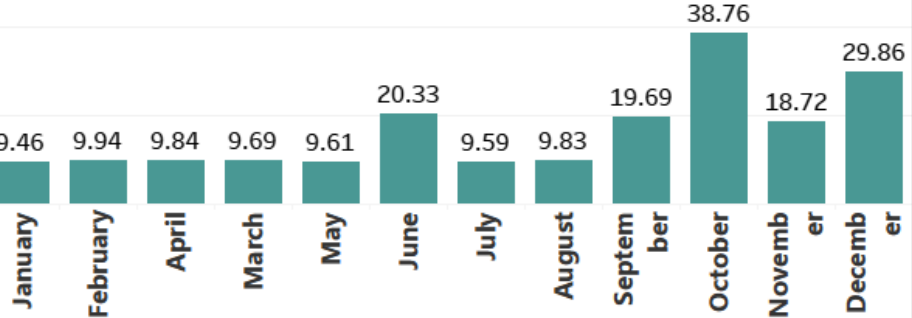
PROFIT MARGIN BY COUNTRY



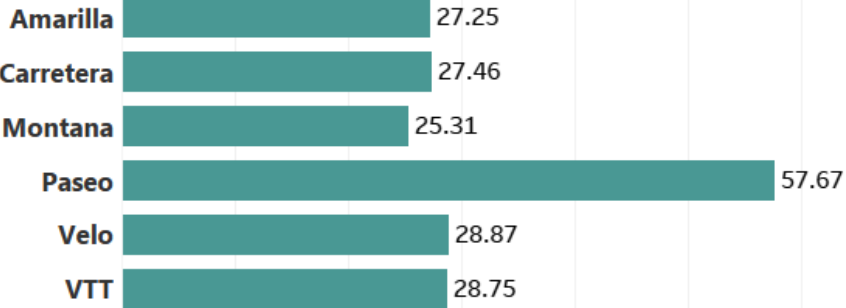
PROFIT MARGIN BY COUNTRY



PROFIT MARGIN BY MONTH



PROFIT MARGIN BY PRODUCT



DISCOUNT

Dashboard

Units Sold

Profit

Profit Margin

Sales

AVERAGE DISCOUNT PERCENTAGE

7.33



MAXIMUM DISCOUNT PERCENTAGE

15.00

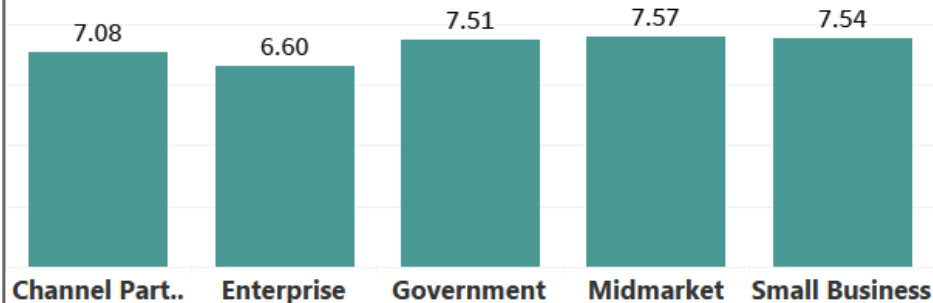


MINIMUM DISCOUNT PERCENTAGE

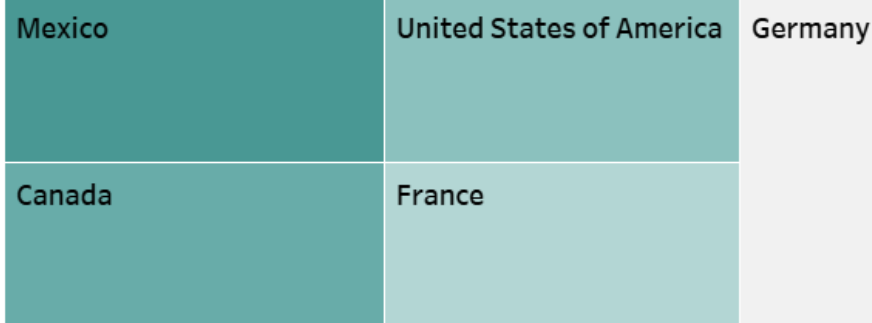
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AVERAGE DISCOUNT PERCENTAGE BY SEGMENT



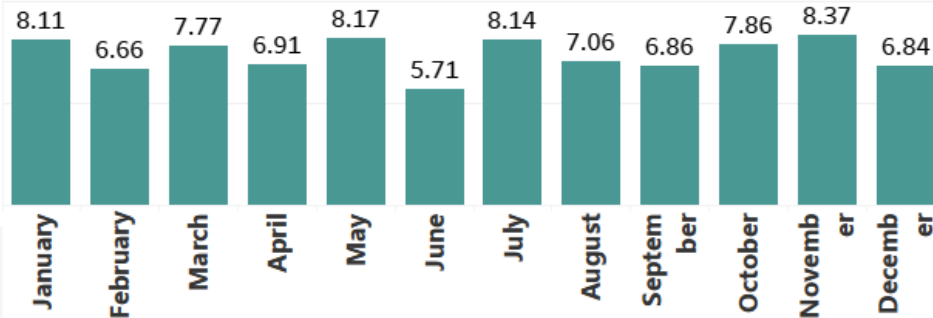
AVERAGE DISCOUNT PERCENTAGE BY COUNTRY



SUM DISCOUNT PERCENTAGE BY COUNTRY



AVERAGE DISCOUNT PERCENTAGE BY MONTH



AVERAGE DISCOUNT PERCENTAGE BY PRODUCT



UNITS SOLD

Dashboard

Sales

Profit

Profit Margin

Discount

TOTAL UNITS SOLD

1.13M



AVERAGE UNITS SOLD

1,608



MAXIMUM UNITS SOLD

4,493

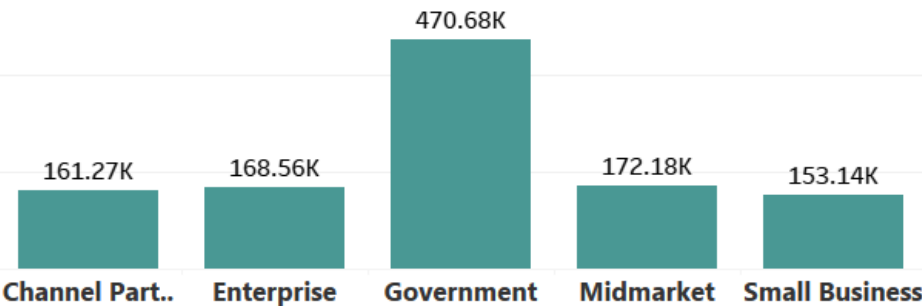


MINIMUM UNITS SOLD

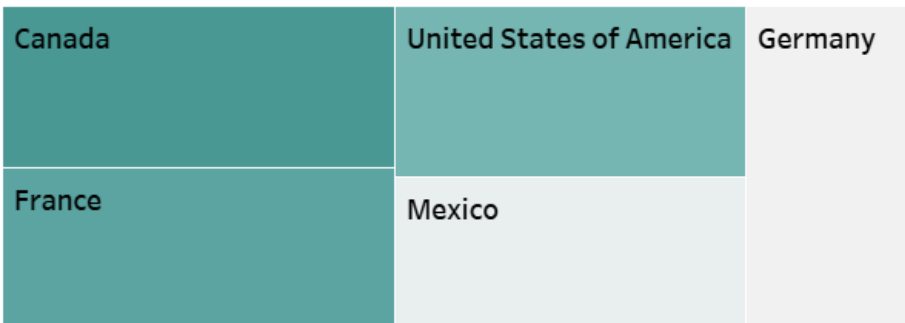
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SUM OF UNITS SOLD BY SEGMENT



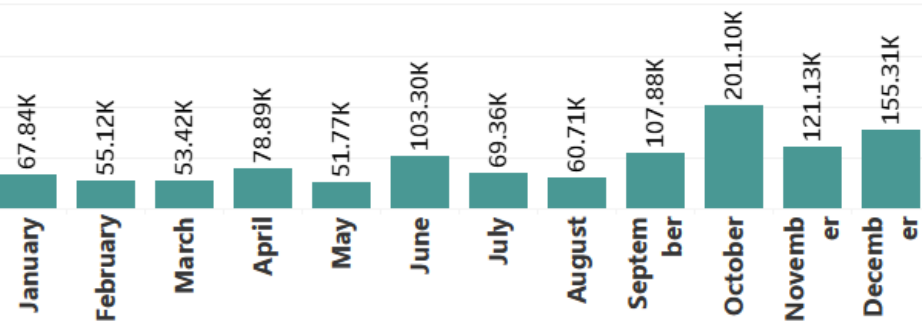
SUM OF UNITS SOLD BY COUNTRY



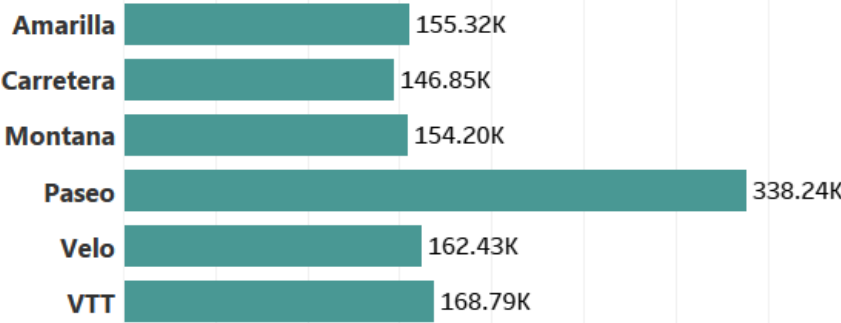
SUM UNITS SOLD BY COUNTRY



SUM OF UNITS SOLD BY MONTH



SUM OF UNITS SOLD BY PRODUCT



PROFIT

- Dashboard
- Units Sold
- Sales
- Profit Margin
- Discount

TOTAL PROFIT

16.89M



AVERAGE PROFIT

24,134



MAXIMUM PROFIT

262.20K

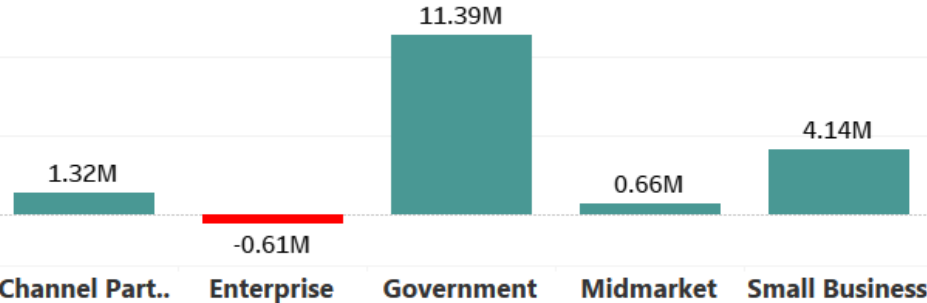


MINIMUM PROFIT

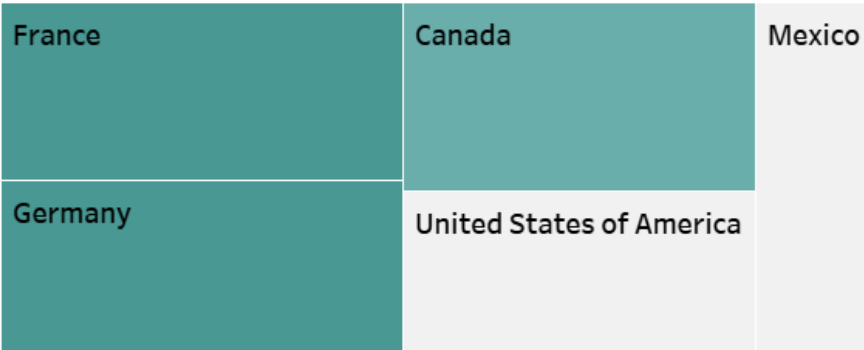
-40,618



SUM PROFIT BY SEGMENT



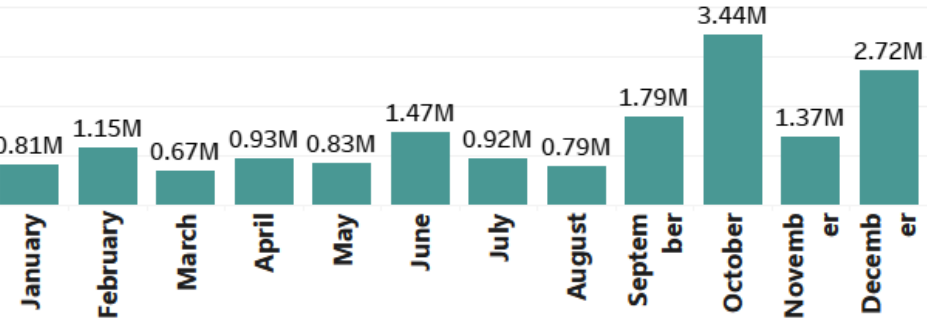
SUM PROFIT BY COUNTRY



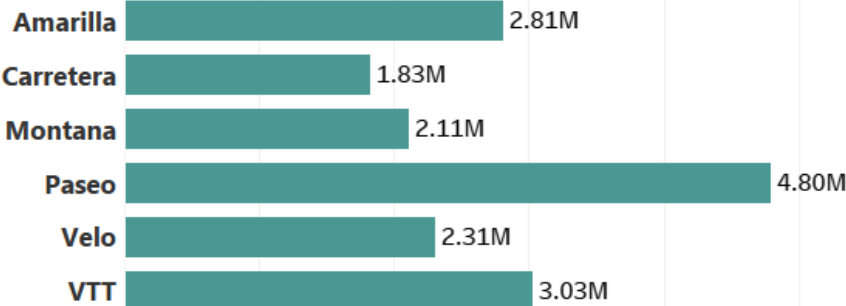
SUM PROFIT BY COUNTRY



SUM PROFIT BY MONTH



SUM PROFIT BY PRODUCT



POWER BI DASHBOARD

This Power BI dashboard offers a comprehensive view of the company's financial performance by visualizing key metrics such as revenue, expenses, profit, and sales trends. The dataset, segmented by product, country, and discount bands, enables detailed analysis of gross sales, COGS, and profit margins across various regions and time frames. The interactive features in Power BI allow stakeholders to monitor important financial KPIs, including gross profit margin, return on assets, and debt-to-equity ratio, supporting informed decision-making and strategic planning to enhance financial efficiency and growth.

FINANCIAL

Segment

All

Country

All

Month

All

Product

All

Year

2013

2014

119M

Sum of Sales

17M

Sum of Profit

%GT Profit Growth % by Date

57.49%

1M

Sum of Units_Sold

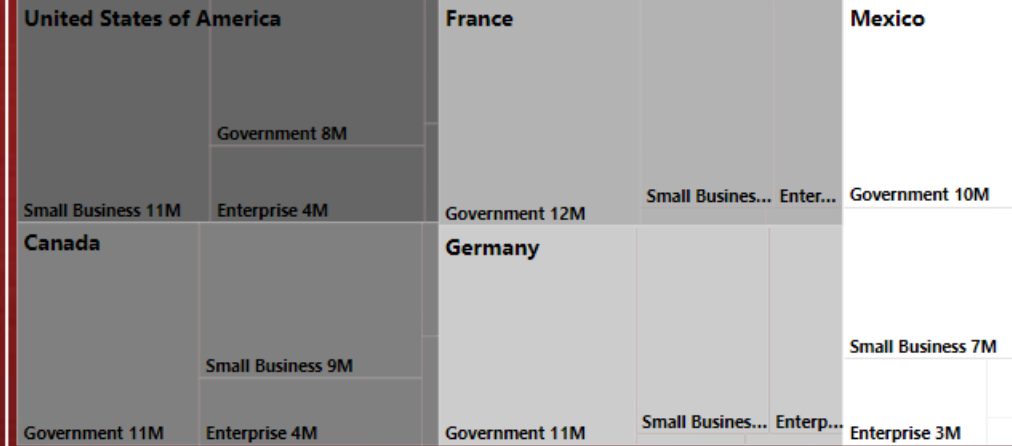
24.13K

Average of Profit

%GT Sales Growth % by Date

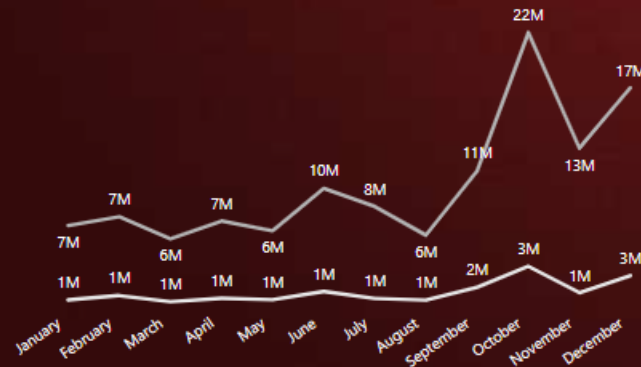
35.34%

Sum of Sales by Country and Segment



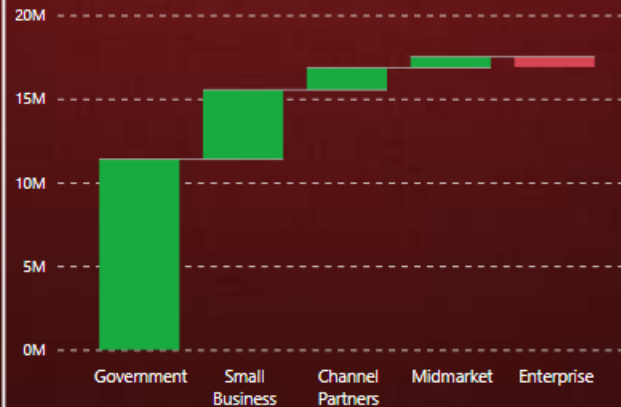
Sum of Sales and Sum of Profit by Month

● Sum of Sales ● Sum of Profit

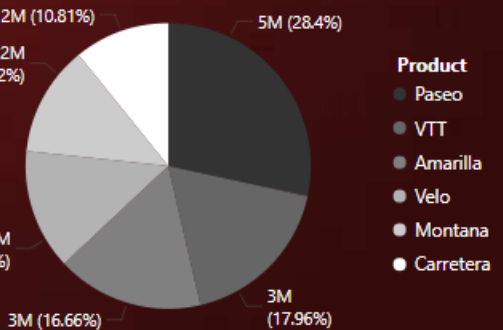


Sum of Profit by Segment

● Increase ● Decrease

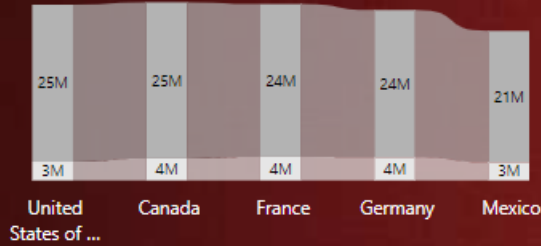


Sum of Profit by Product

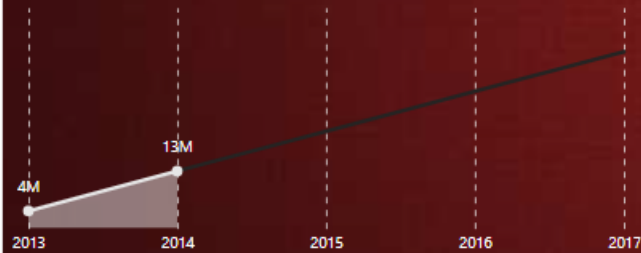


Sum of Sales and Sum of Profit by Country

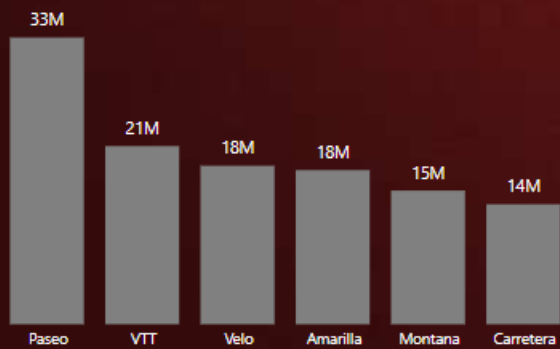
● Sum of Sales ● Sum of Profit



Total Profit by Year



Total Sales by Product

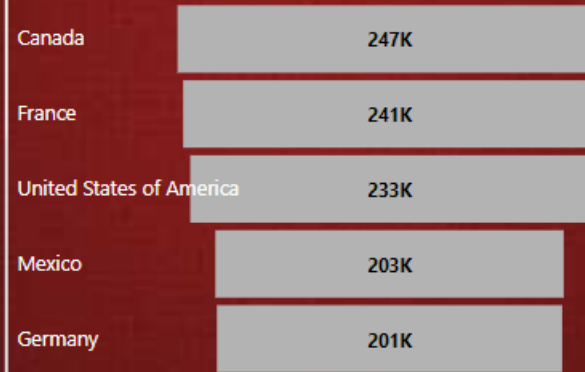


Year

2013

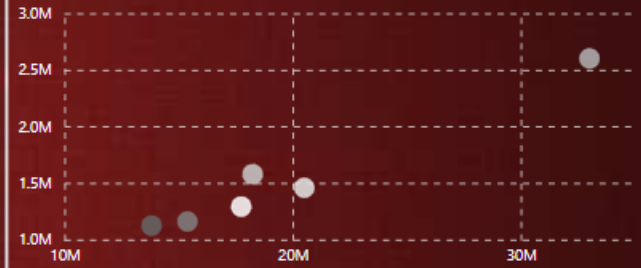
2014

Sum of Units Sold by Country

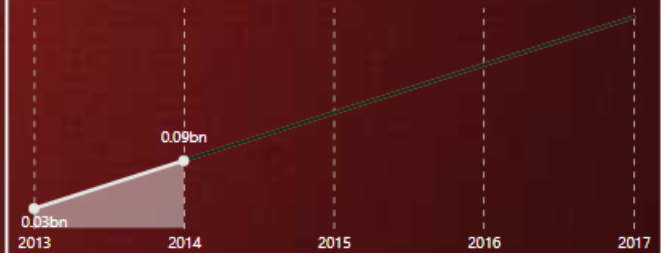


Sum of Sales and Sum of Discounts by Product

Product ● Amarilla ● Carretera ● Montana ● Paseo ● Velo ● VTT



Total Sales by Year



Sum of Sales of Year by Month

January

6607763 Sum of Sales 70490 Sum of Year

February

7297532 Sum of Sales 70490 Sum of Year

March

5586864 Sum of Sales 70490 Sum of Year

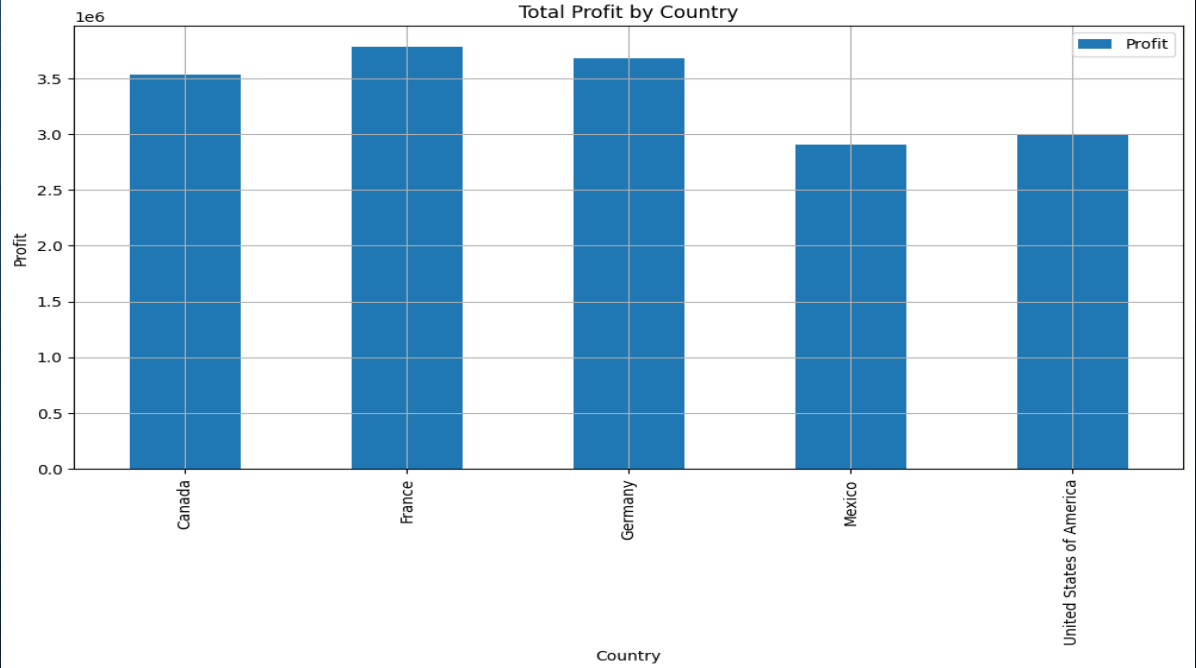
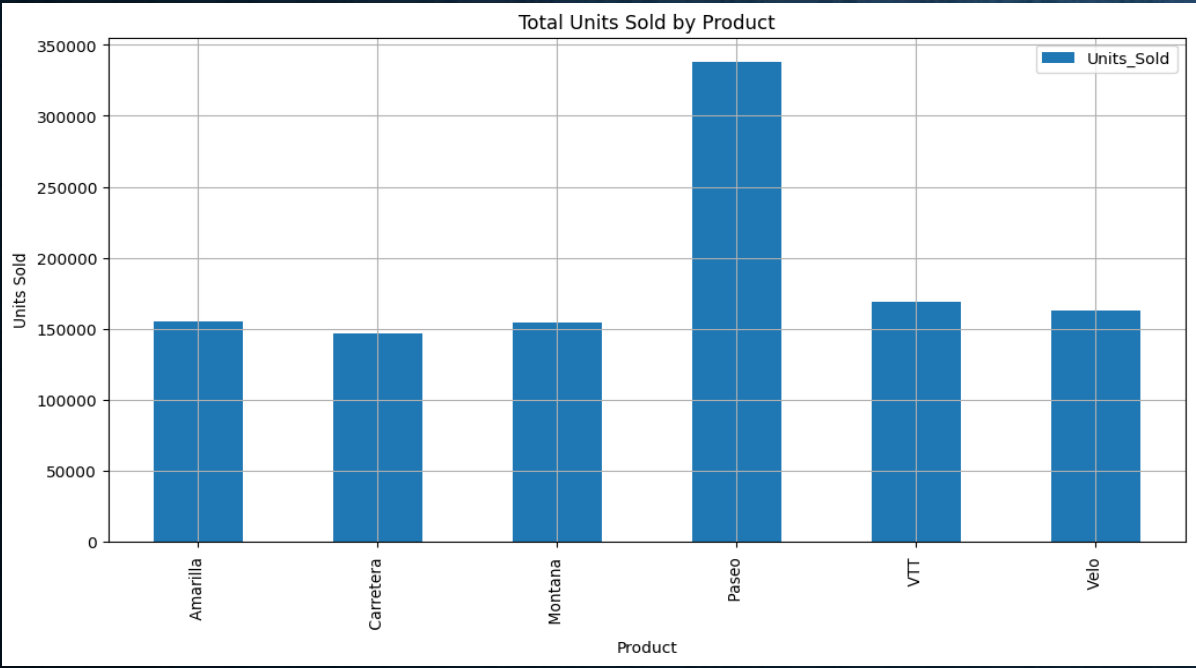
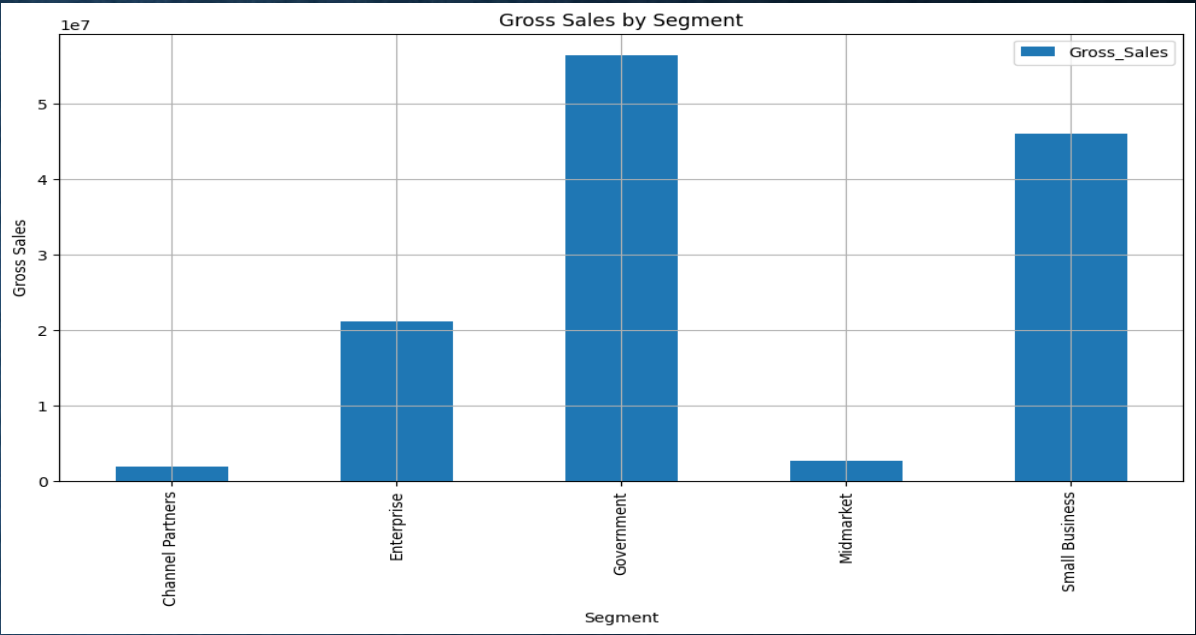
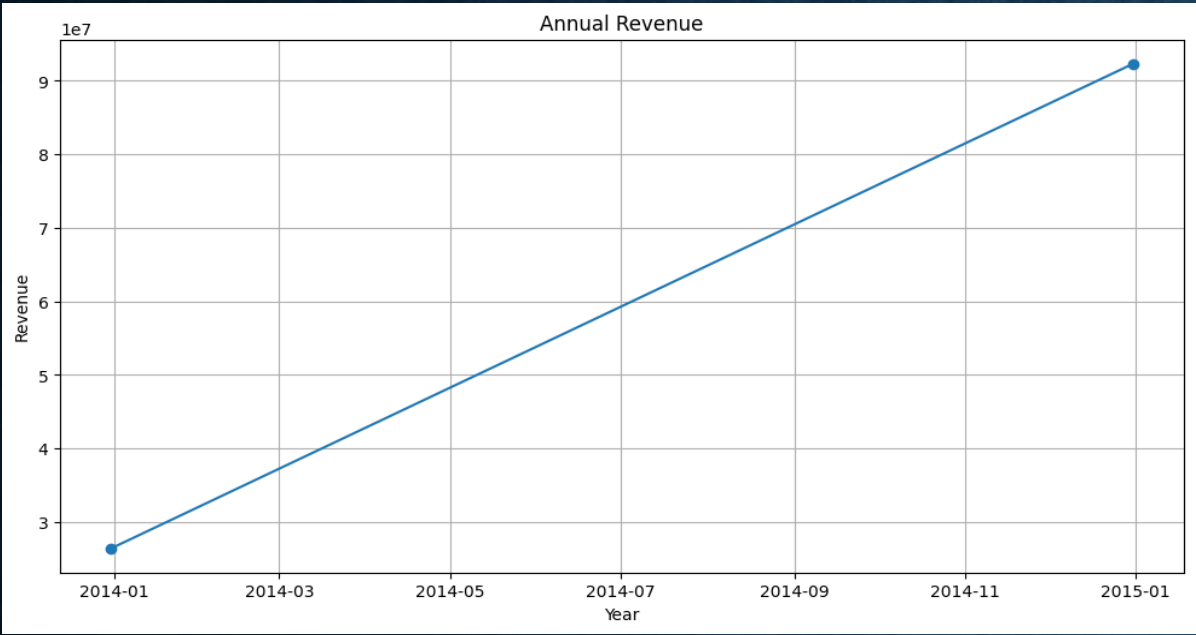
Abril

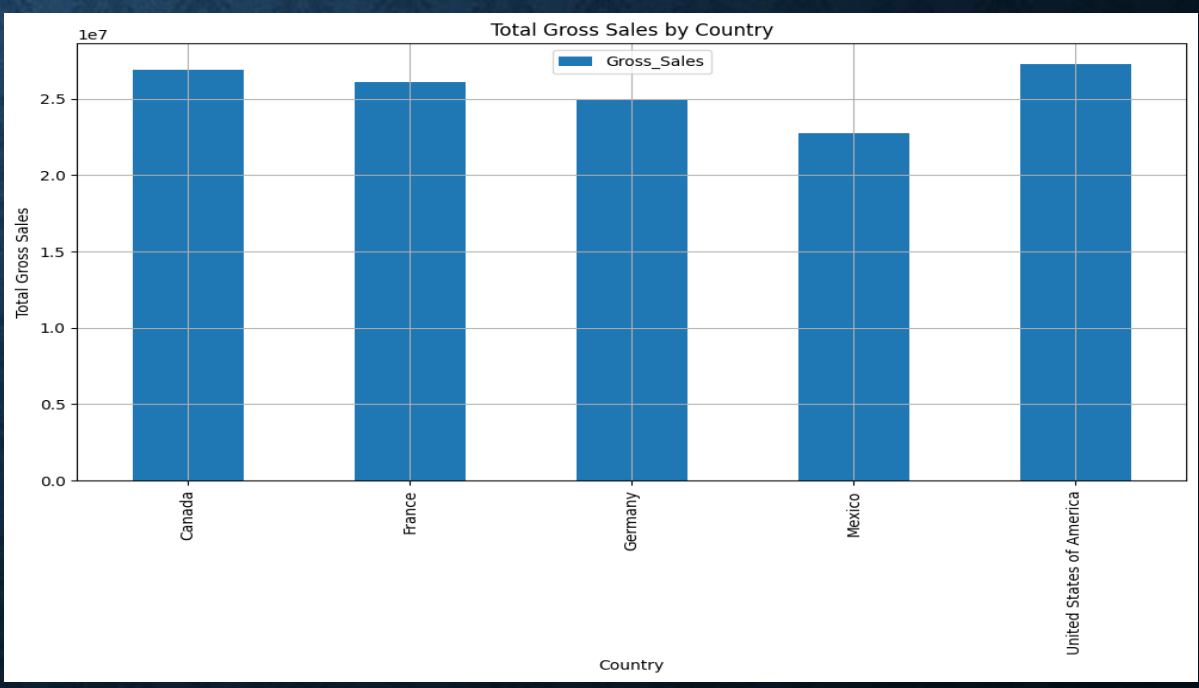
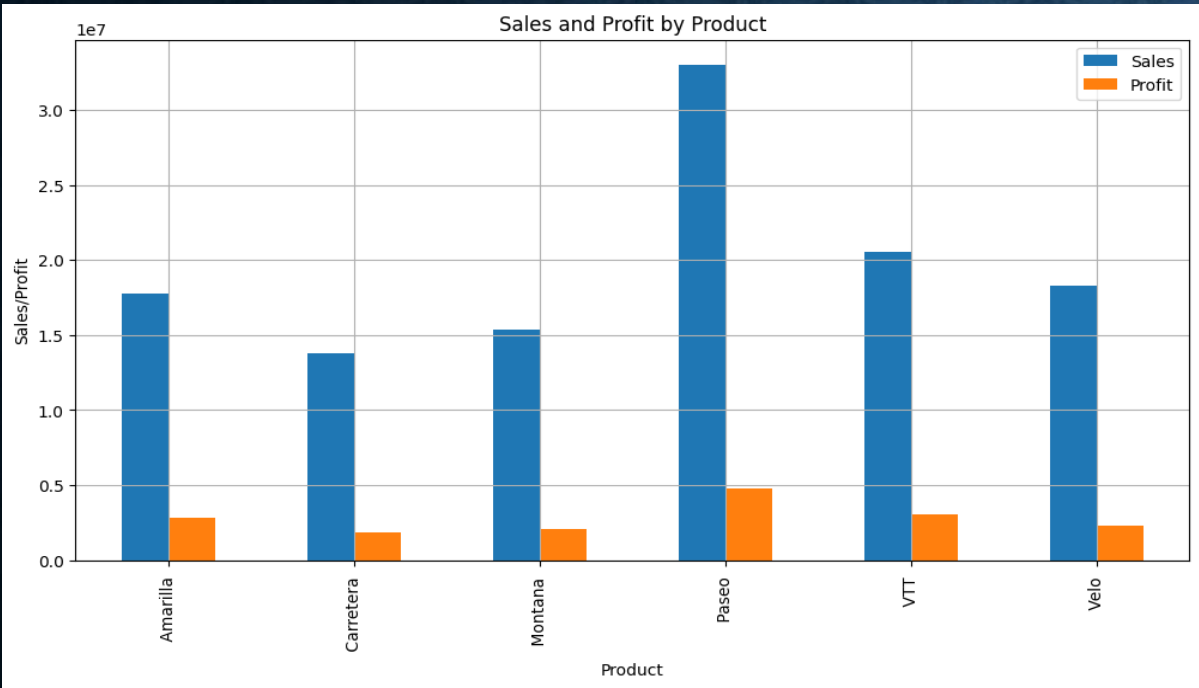
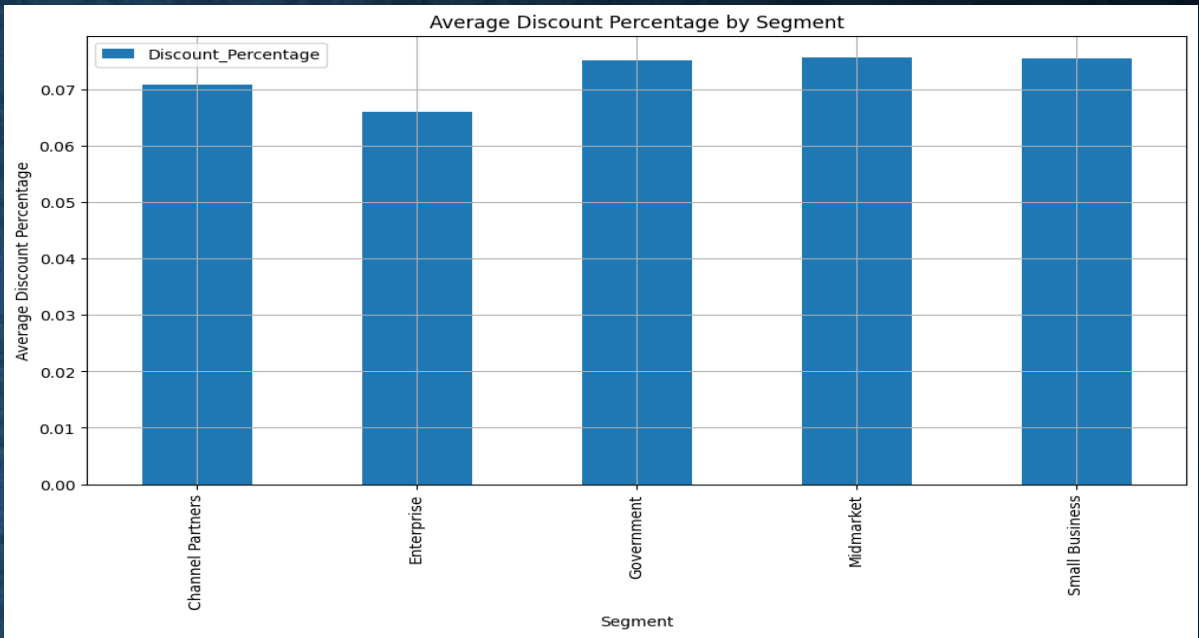
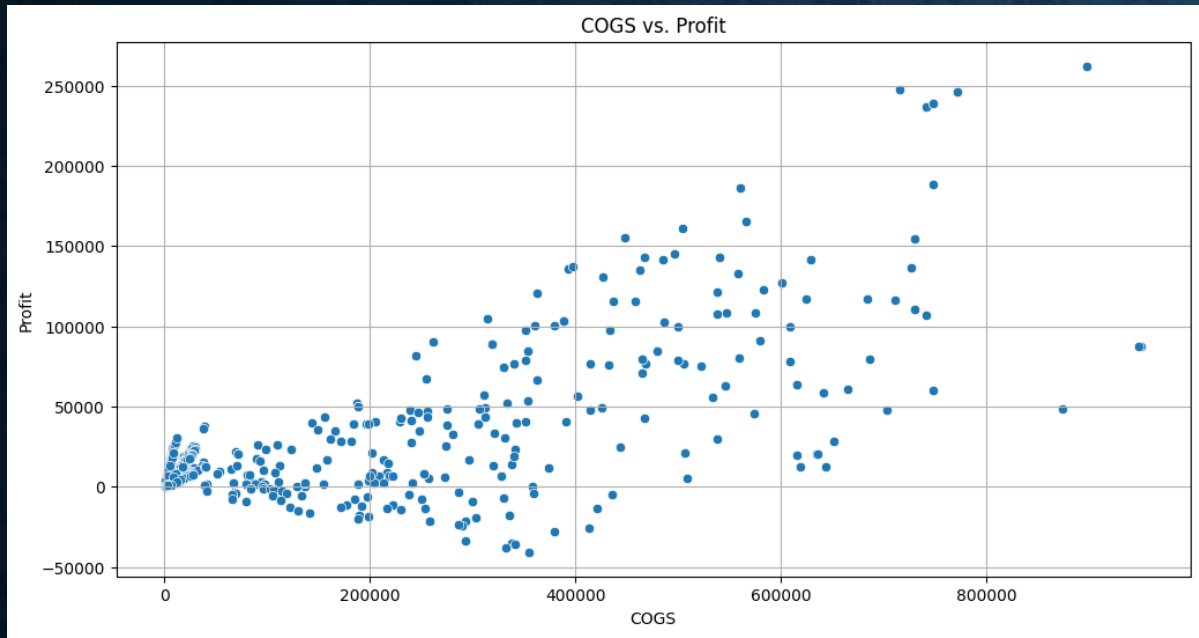
Sum of Sales by Segment

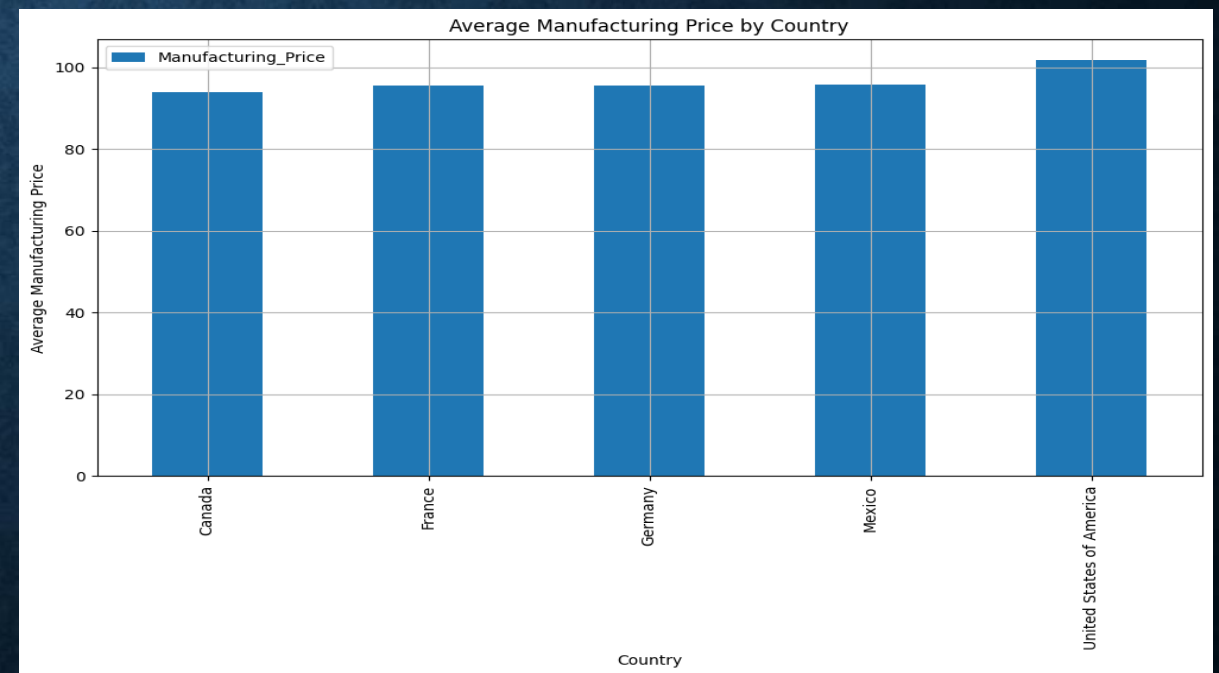
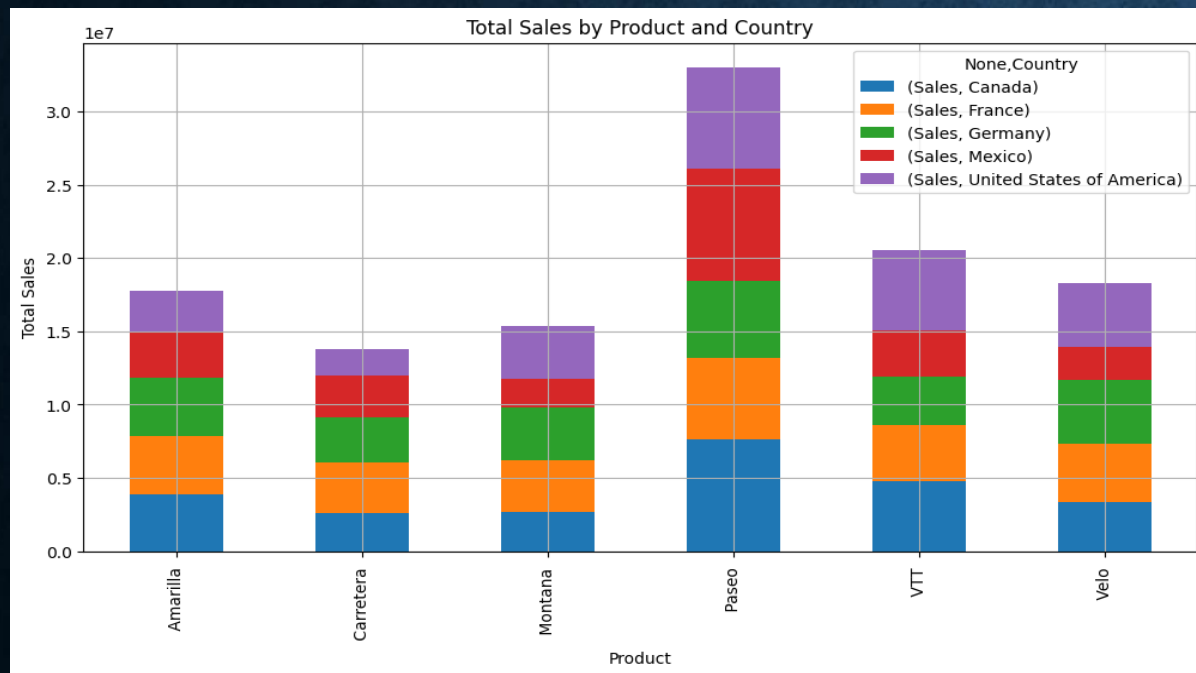
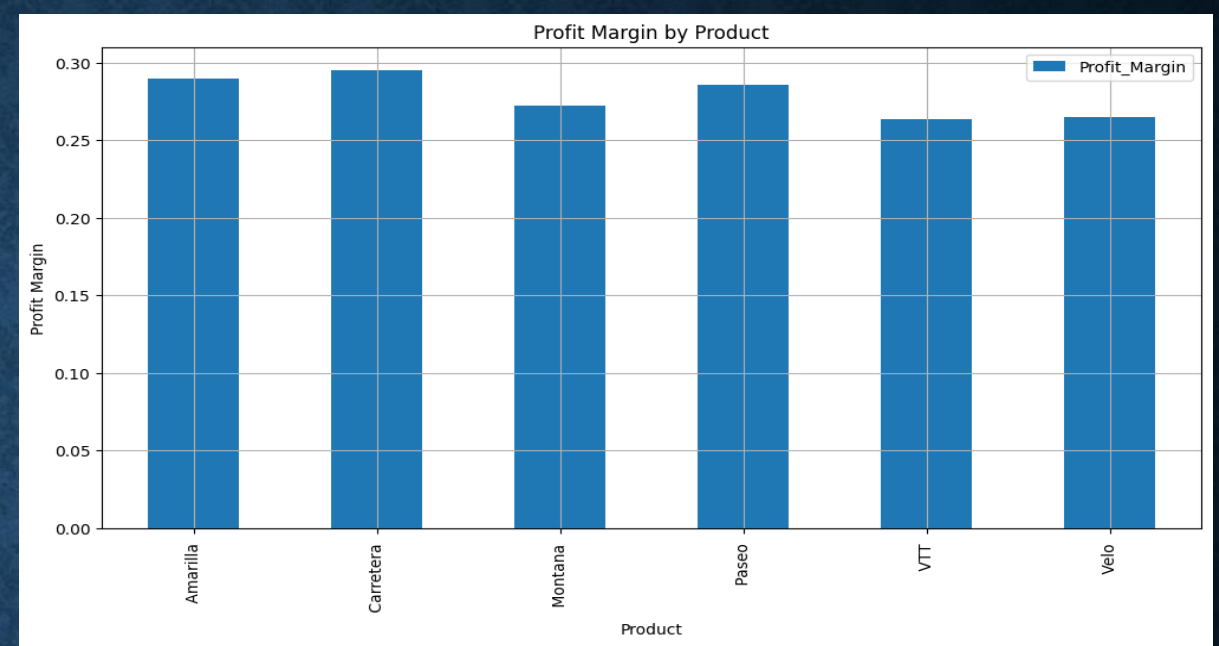
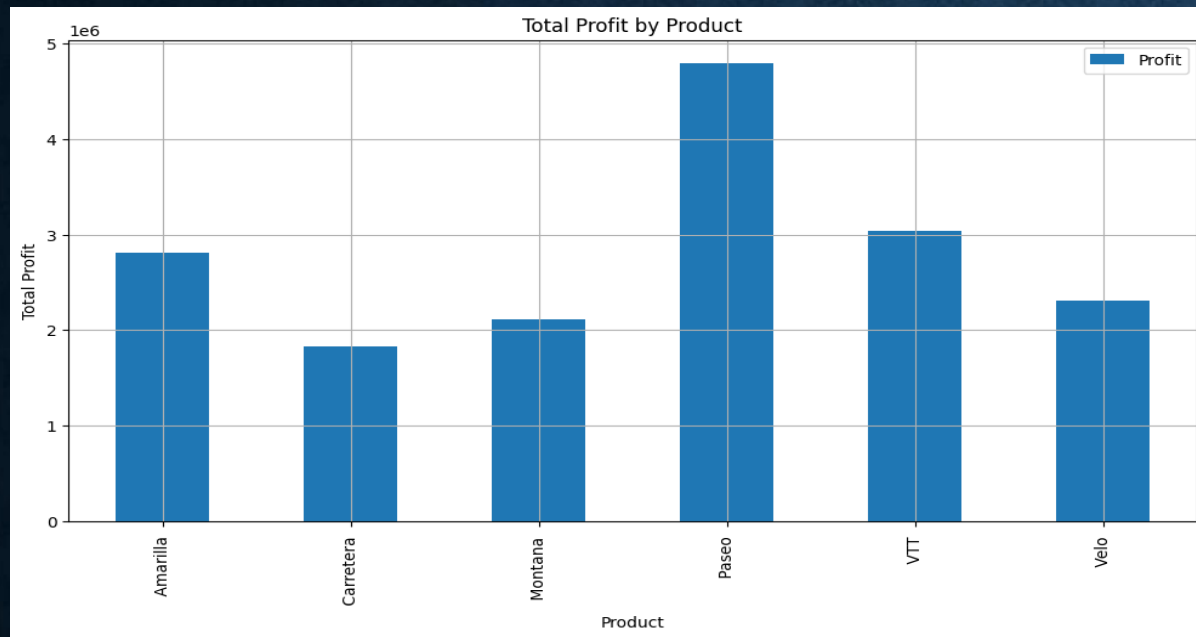


PYTHON

This Python analysis uses the provided financial dataset to generate comprehensive insights into the company's performance. By leveraging libraries like Pandas, Matplotlib, and Seaborn, we explore key metrics such as revenue, expenses, profit, and sales trends. The data is segmented by product, country, and time, allowing for detailed analysis of gross sales, costs, and profitability. Through visualizations and statistical analysis, we can track key financial KPIs such as gross profit margin, return on assets, and debt-to-equity ratio, empowering data-driven decision-making for optimizing financial performance.







MY SQL

Developed a financial analytics solution using SQL to preprocess and analyze company financial data. The project involved querying datasets with columns such as Segment, Country, Product, Units Sold, Sale Price, COGS, and Profit. I implemented advanced SQL queries to track key financial metrics, including **Sales Trends**, **Profitability**, **Cost of Goods Sold (COGS)**, and **Discounts** across various segments. These insights were further visualized in Tableau to support data-driven decision-making.

-- Calculate Total Profit for Each Segment:

- ```
SELECT Segment, SUM(Profit) AS Total_Profit
FROM Financial_data
GROUP BY Segment;
```

-- Average Units Sold Per Product:

- ```
SELECT Product, AVG(Units_Sold) AS Average_Units_Sold
FROM Financial_data
GROUP BY Product;
```

-- Yearly Sales Trend:

- ```
SELECT Year, SUM(Sales) AS Total_Sales
FROM Financial_data
GROUP BY Year
ORDER BY Year;
```

-- Month-wise Sales Distribution:

- ```
SELECT Month_Name, SUM(Sales) AS Total_Sales
FROM Financial_data
GROUP BY Month_Name
ORDER BY Month_Name;
```


-- Highest Gross Sales in Each Country:

- ```
SELECT Country, MAX(Gross_Sales) AS Max_Gross_Sales
FROM Financial_data
GROUP BY Country;
```

-- Top 5 Products by Total Profit:

- ```
SELECT Product, SUM(Profit) AS Total_Profit
FROM Financial_data
GROUP BY Product
ORDER BY Total_Profit DESC
LIMIT 5;
```

-- Calculate Gross Margin for Each Product:

- ```
SELECT Product, (SUM(Gross_Sales) - SUM(COGS)) / SUM(Gross_Sales) AS Gross_Margin
FROM Financial_data
GROUP BY Product;
```

-- Quarterly Sales by Segment:

- ```
SELECT Segment,
       CASE
         WHEN Month_Number IN (1, 2, 3) THEN 'Q1'
         WHEN Month_Number IN (4, 5, 6) THEN 'Q2'
         WHEN Month_Number IN (7, 8, 9) THEN 'Q3'
         ELSE 'Q4'
       END AS Quarter,
       SUM(Sales) AS Total_Sales
FROM Financial_data
GROUP BY Segment, Quarter;
```

-- Total Units Sold by Country:

- ```
SELECT Country, SUM(Units_Sold) AS Total_Units_Sold
FROM Financial_data
GROUP BY Country;
```

-- Profit Contribution by Product Type:

- ```
SELECT Product, (SUM(Profit) / (SELECT SUM(Profit) FROM Financial_data)) * 100 AS Profit_Contribution_Percentage
FROM Financial_data
GROUP BY Product;
```

-- Sales Performance Comparison Between Years:

- ```
SELECT Year, SUM(Sales) AS Total_Sales
FROM Financial_data
GROUP BY Year
ORDER BY Year;
```

-- Identify Months with the Highest Discounts:

- ```
SELECT Month_Name, SUM(Discounts) AS Total_Discounts
FROM Financial_data
GROUP BY Month_Name
ORDER BY Total_Discounts DESC;
```

-- Average Manufacturing Price by Segment:

- ```
SELECT Segment, AVG(Manufacturing_Price) AS Avg_Manufacturing_Price
FROM Financial_data
GROUP BY Segment;
```

-- Sales Growth Rate by Year:

- ```
SELECT Year,
       (SUM(Sales) - LAG(SUM(Sales)) OVER (ORDER BY Year)) / LAG(SUM(Sales)) OVER (ORDER BY Year) AS Growth_Rate
FROM Financial_data
GROUP BY Year;
```


-- Segment-Wise Profitability Index:

- ```
SELECT Segment, (SUM(Profit) / SUM(COGS)) AS Profitability_Index
FROM Financial_data
GROUP BY Segment;
```

-- Country-wise Sales Distribution:

- ```
SELECT Country, SUM(Sales) AS Total_Sales
FROM Financial_data
GROUP BY Country
ORDER BY Total_Sales DESC;
```

-- Product Performance Over Time:

- ```
SELECT Product, Year, SUM(Sales) AS Total_Sales
FROM Financial_data
GROUP BY Product, Year
ORDER BY Product, Year;
```

-- Average Profit Margin by Country:

- ```
SELECT Country, AVG((Profit / Sales) * 100) AS Avg_Profit_Margin
FROM Financial_data
GROUP BY Country;
```


CONCLUSION

The analysis of the company's financial data using Python and Tableau provides valuable insights into its overall financial health. Key performance indicators like total revenue, gross profit margin, and return on assets highlight the company's efficiency and profitability across various segments and regions. By tracking expenses, sales trends, and financial ratios, we can identify areas for cost optimization and revenue growth. The combination of Python's robust data analysis and Tableau's interactive visualizations allows stakeholders to make informed, data-driven decisions to improve financial strategies and drive long-term success.

VISIT FOR DETAILED PROJECT



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