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FINANCE DATA ANALYSIS

PROJECT PORTFOLIO



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PROFESSIONAL BACKGROUND

I am an experienced data and BI Analyst with over three years experience in analyzing large, complex datasets and providing valuable insights to stakeholders. With a passion for problem-solving and meticulous attention to detail, I strive to deliver high-quality results in every project.

I possess a strong educational background in chemical engineering, which has equipped me with solid mathematical and statistical skills. This enables me to approach data analysis with rigor and a meticulous mindset. My diverse skillset includes proficiency in various tools and technologies such as Excel, Power BI, Power Automate, SQL, Tableau, Azure, SSIS, and Python, which I use to extract, transform, and analyze data from different sources.

With experience working with large datasets, building data models, master data management, and developing interactive dashboards and reports, I have honed my analytical and problem-solving skills. These abilities enable me to identify trends and patterns in data, providing actionable insights that drive business decisions.

Additionally, my strong communication skills allow me to explain technical concepts to non-technical stakeholders, enabling me to make data-driven recommendations that optimize organizational operations and meet objectives.

Overall, I am a versatile and resourceful data/BI analyst, committed to delivering high-quality work within tight deadlines. I am passionate about solving real-world problems through data analysis and continually learning new technologies and techniques to improve my skills.

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The Problems

- What does the business want to achieve? To increase sales and profit
- What is the cause of the problem? Low profit on sales
- What data should be collected? Finance/Sales dataset having sales, profit, and products details.
- What will be the impact if the problem is not solved? Will lead to reduced profit

The Question

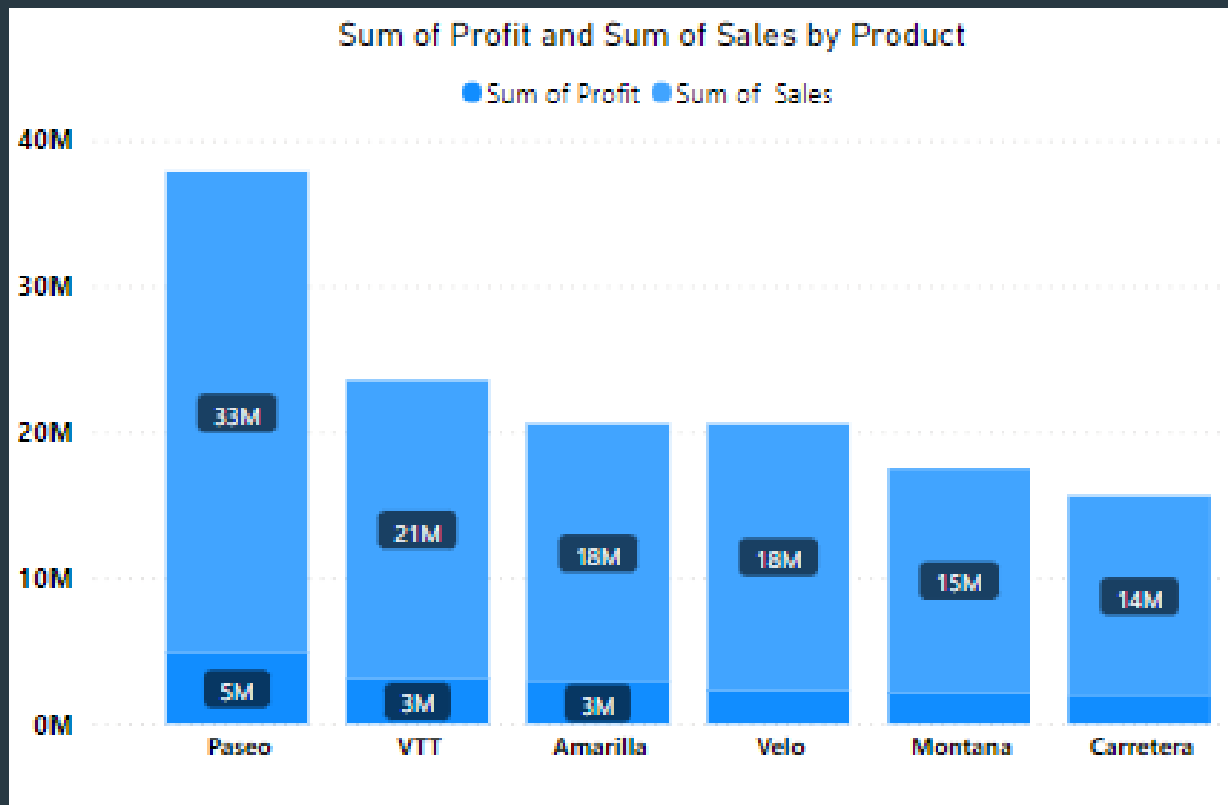
- Which country bought more products
- Which products generated more sales and profit
- Which sector/segment generated more profit
- How many sales did the business generated each year
- How much sales and profits did the company generate

Approach And Analysis

- Downloaded the dataset from Microsoft website as an excel sheet (primary source).
- Formatted, compiled, and cleaned data to create a single, unified dataset.
- Conducted exploratory data analysis to understand the structure, distribution, and quality of the data
- Identified missing, incomplete, or inconsistent data and addressed them through data cleaning and imputation techniques.
- Created calculated columns and DAX measures to calculate relevant metrics such as Total Sales, Total Profit, percentage, Year, Average Sale Price, and Total Units Sold to answer specific questions or objectives.
- Conducted statistical analysis to identify trends and patterns in the data.
- Visualized the data through various graphical visualization techniques to communicate insights and findings effectively.
- Design a dashboard using Microsoft Power BI to provide an interactive and user-friendly way of accessing and exploring the data.

Findings

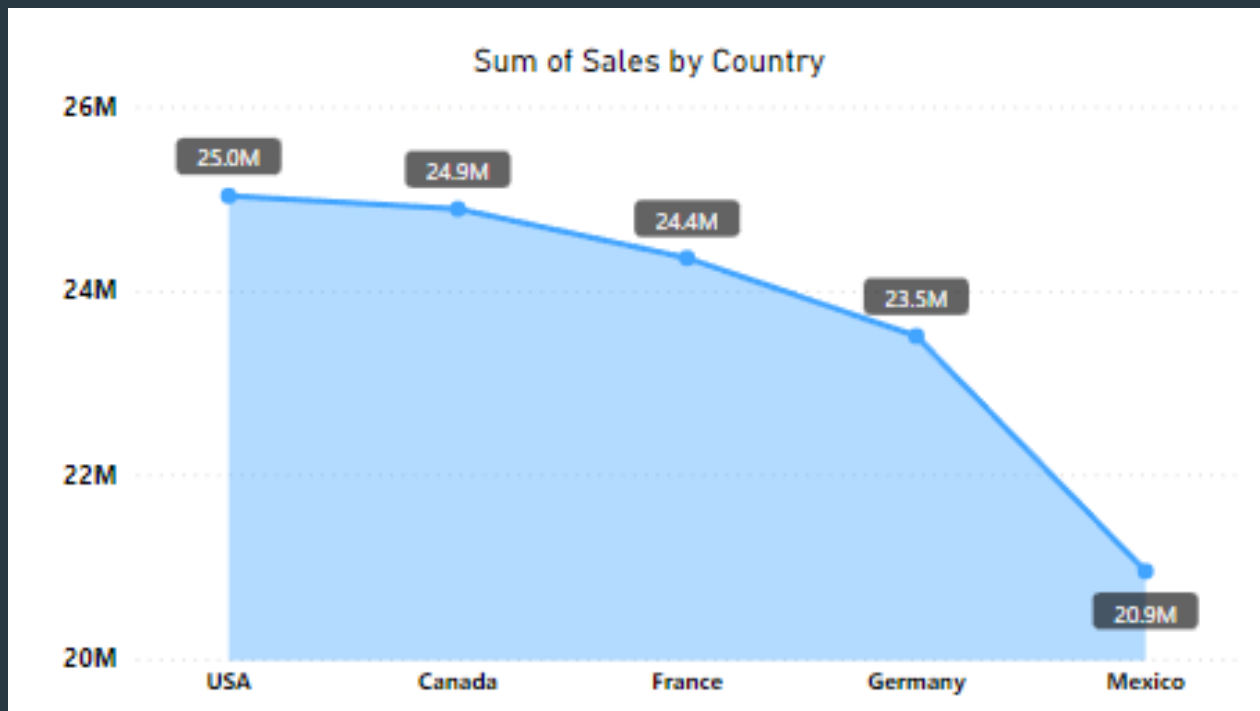
Fig 1: Total Sales and Profit by Product



Paseo was the most profitable product, accounting for 28.40% of the total profits. Its profit of \$4,797,437.95 was significantly higher than that of Carretera, which had the lowest profit at \$1,826,804.89 - a difference of 162.61%.

Furthermore, the sum of profits and total sales are positively correlated, which means that as the total sales increase, so does the total profit. This suggests that increasing sales can lead to higher profits, which can be a key consideration for businesses looking to improve their financial performance. However, it's important to note that there are many factors that can impact profit margins, such as costs, pricing strategies, and competition, so businesses need to carefully evaluate their overall financial performance to make informed decisions.

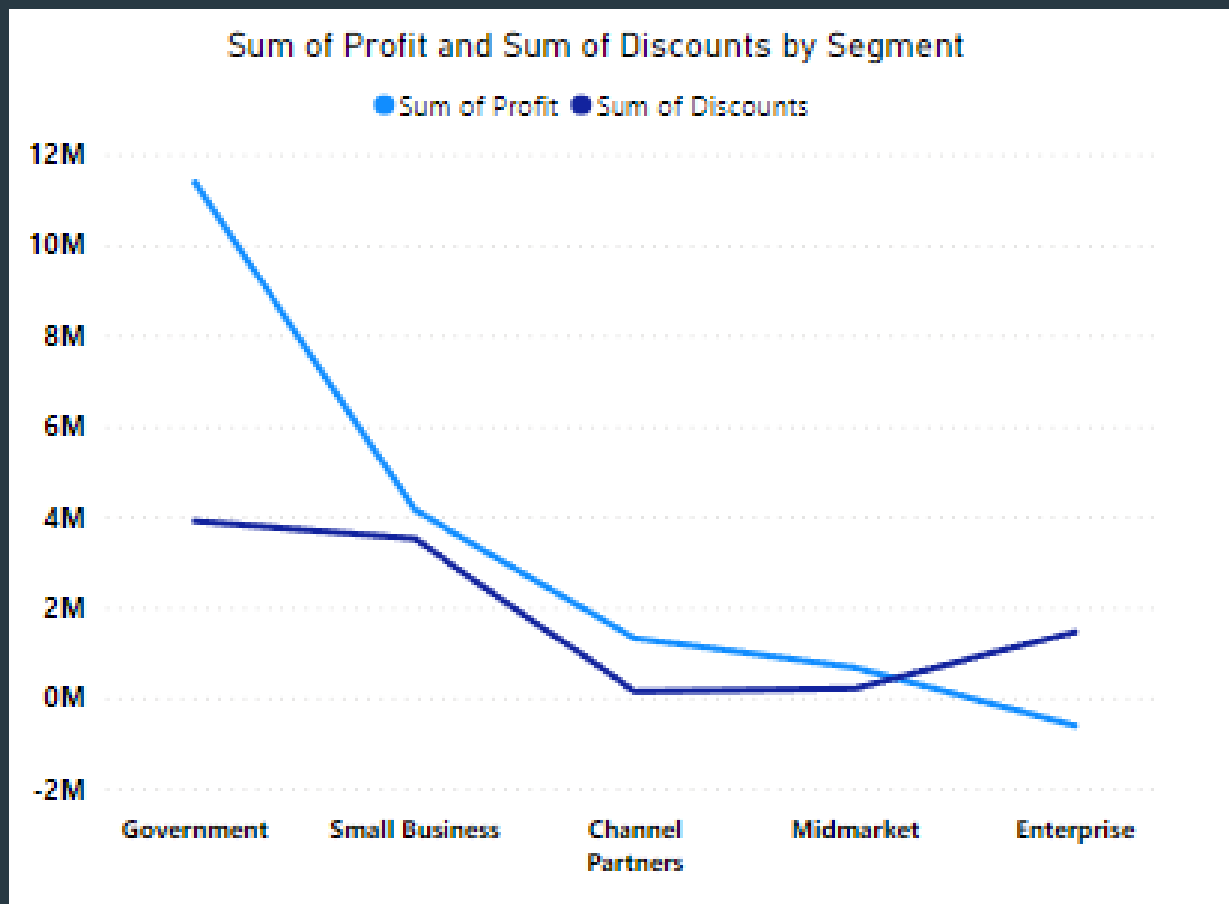
Fig 2: Total Sales by Country



The USA had the highest sales among the five countries, with a total of \$25,029,830.17, which was 19.48% higher than the lowest sales in Mexico at \$20,949,352.11. The USA's sales also accounted for 21.08% of the total sales across all five countries. It's worth noting that while there was a significant difference between the highest and lowest sales figures, the range of total sales across all five countries was relatively narrow, falling within the \$20,949,352.11 to \$25,029,830.17 range. This suggests that there may be similar market conditions across the different countries, or that the products being sold have consistent demand across borders.

However, it's important to keep in mind that sales figures are just one aspect of a business's financial performance, and other factors such as costs, profit margins, and customer acquisition costs also need to be considered to get a complete picture of a business's financial health.

Fig 3: Total Profits and Discounts by Segment

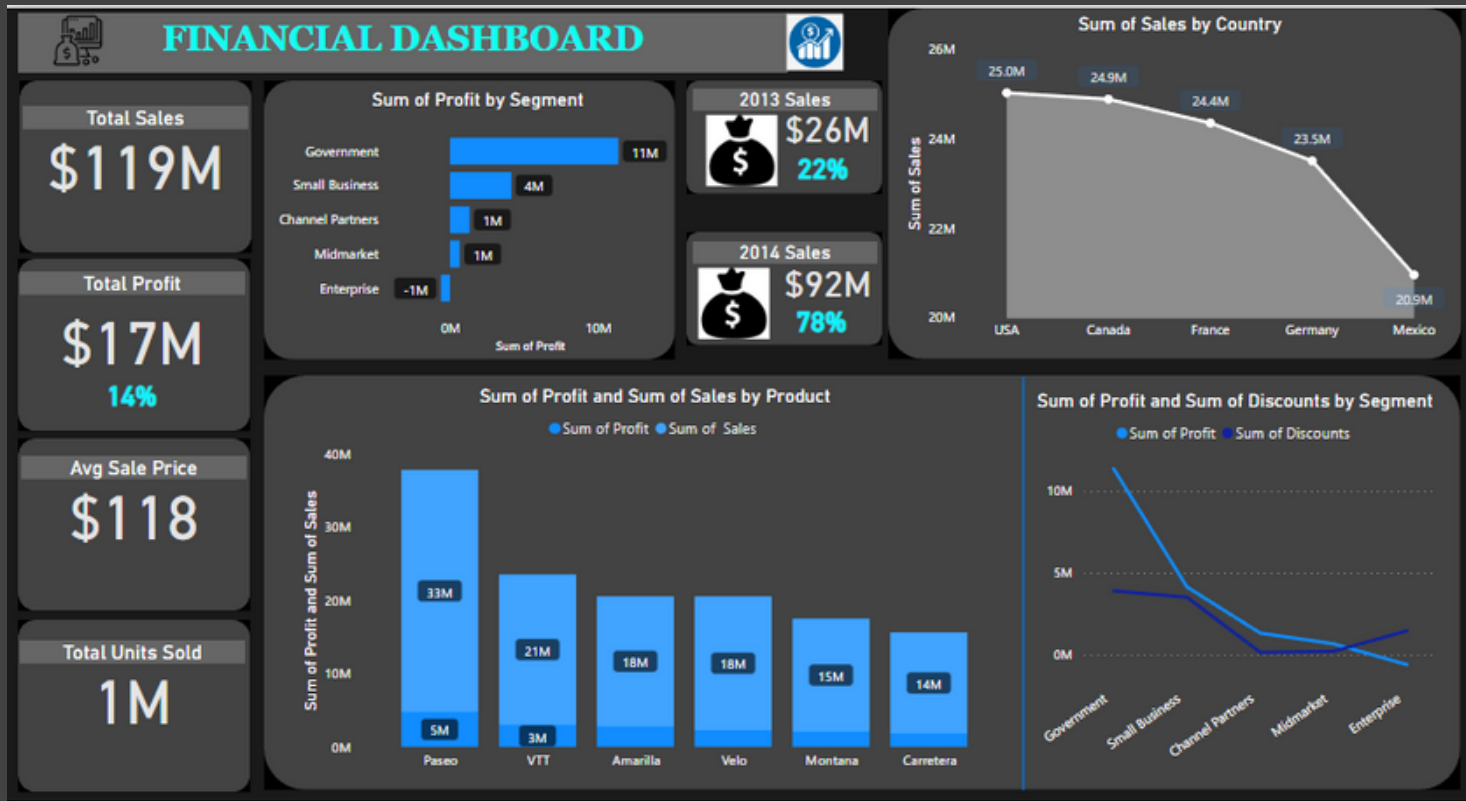


The Government segment had the highest sum of profit at \$11,388,173.17, which was 1,953.10% higher than the lowest sum of profit in the Enterprise segment at -\$614,545.63. Government also accounted for 62.84% of the total sum of profit.

Additionally, there was a positive correlation between the sum of profit and the total sum of discounts, meaning that as discounts increased, profits also tended to increase. However, the divergence between the sum of profit and the sum of discounts was greatest in the Government segment, where the sum of profit was \$7,489,367.34 higher than the sum of discounts. This suggests that the Government segment had a strong profit margin, while other segments may need to improve their discounting strategies.

Final Result

Fig 4: Dashboard



- From the dashboard, the total sales is \$119m
- The total profit is \$17m which is 14% of the total sales, hence should be increased.
- The average sale price per product \$118
- The total units of products sold is \$1m
- The total sales in 2013 was \$26m which accounts 22% of the total sales while the total sales in 2014 is \$92 which accounts 78% of the total sales.

Answers

- Which country bought more products? The USA bought more products worth \$25,029,830.17 followed by Canada
- Which products generated more sales and profit? Paseo generated more sales of approximately \$33m and profits which accounted for over 28.40%
- Which sector/segment generated more profit? The Government sector generated more profits of over \$11,388,173.17
- How many sales did the business generated each year? In 2013, the business generated over \$26M, and in 2014, the business generated over \$92M which accounted for 78% overall profit.
- How much sales and profits did the company generate? The business generated over \$119M sales over the two year period and a profit of \$17M.

Conclusion

Overall, these insights highlight the importance of analyzing various financial metrics to fully understand a business's performance. While the Government segment had the highest sum of profit, there may be opportunities for growth and improvement in other segments such as Enterprise. Additionally, businesses should consider the profitability of their products and evaluate strategies for increasing sales and improving profit margins. Ultimately, a comprehensive evaluation of all aspects of a business's financial performance is necessary to make informed decisions and drive growth.

THE END