Sales Performance Analysis Report

Overview

This analysis focused on understanding trends, profitability, and performance across products, segments, and countries using a dataset comprising sales, costs, and discount information. The project was executed in three parts:

1. **Excel:** Initial data cleaning and exploratory analysis using Pivot Tables.
2. **SQL:** Deeper data analysis using aggregations, trends, and percentage changes.
3. **Power BI:** Interactive dashboard development for visual storytelling.

SQL Analysis Highlights

Key queries were used to compute the following:

- Gross profit margin trend over time
- Profit margin by product and segment
- Total sales and profit by country and product
- Month-on-month (MoM) changes in sales, profit, and unit economics (COGS/unit vs revenue/unit)
- Product profit contributions (instead of discount correlation)

These queries were optimized using Common Table Expressions (CTEs) and window functions for better scalability.

Power BI Dashboard Features

1. **Line Chart** – Sales and profit trend by year and month

2. **Doughnut Charts** –
   - Product sales contribution
   - Product profit contribution

3. **Bar Charts** –
   - Sales and profits by country
   - Sales and profits by segment

4. **KPI Metrics** –
   - Gross profit margin by segment
   - Sales, profit, and gross profit margin by product

5. **Line Charts** –
   - Sales per unit
   - Gross profit margin over time
   - Units sold
   - COGS per unit

6. **Scatter Plots** –
   - Discount vs Sales
   - Discount vs Profit

Insights

1. **Correlation Analysis**:
   - **Discount vs Sales:** Strong positive correlation (0.74), suggesting discounts drive sales.
   - **Discount vs Profit:** Moderate correlation (0.44), indicating a less direct but positive impact.
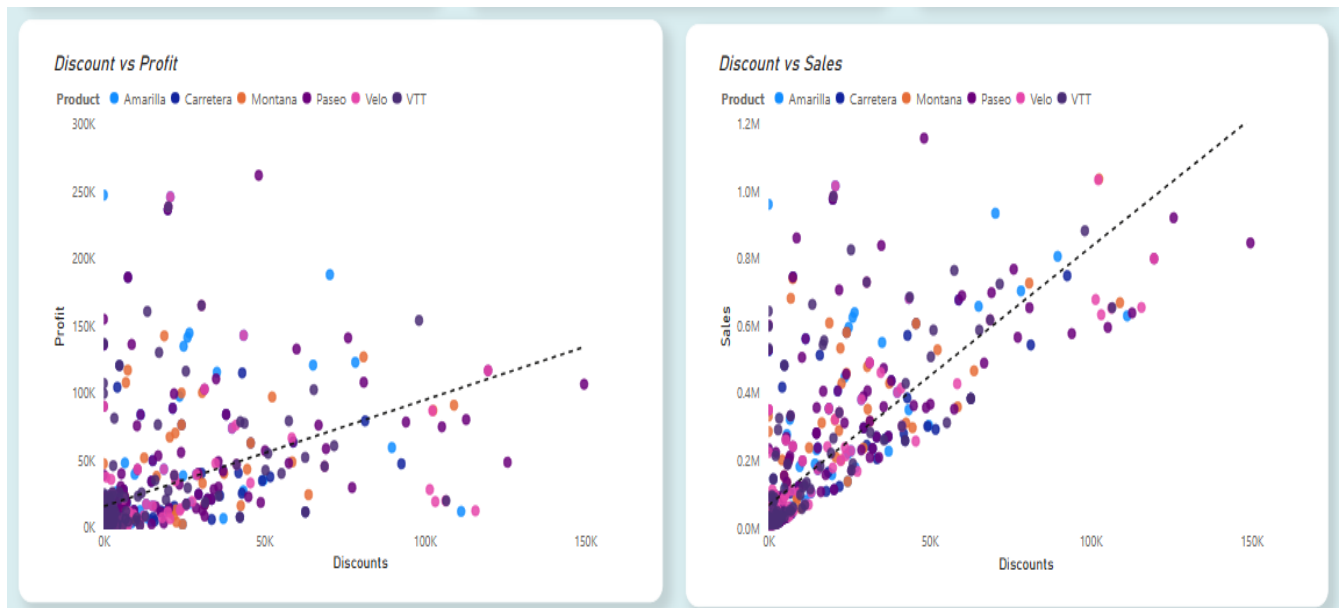
2. **Segment-Level Trends:**
   - An inverse relationship was observed between gross profit margin and both sales and profit across segments.
   - This might suggest higher costs in high-performing segments or cost control challenges.

3. **Product Performance:**
   - **Paeso** had the highest sales (27.80%) and highest profit contribution (27.31%), but only average profit margins. This may reflect high operating costs or pricing strategy trade-offs.
   - The narrow margin range (3.22%) suggests that while sales vary, profitability is relatively uniform, indicating tight control or uniform cost structure.
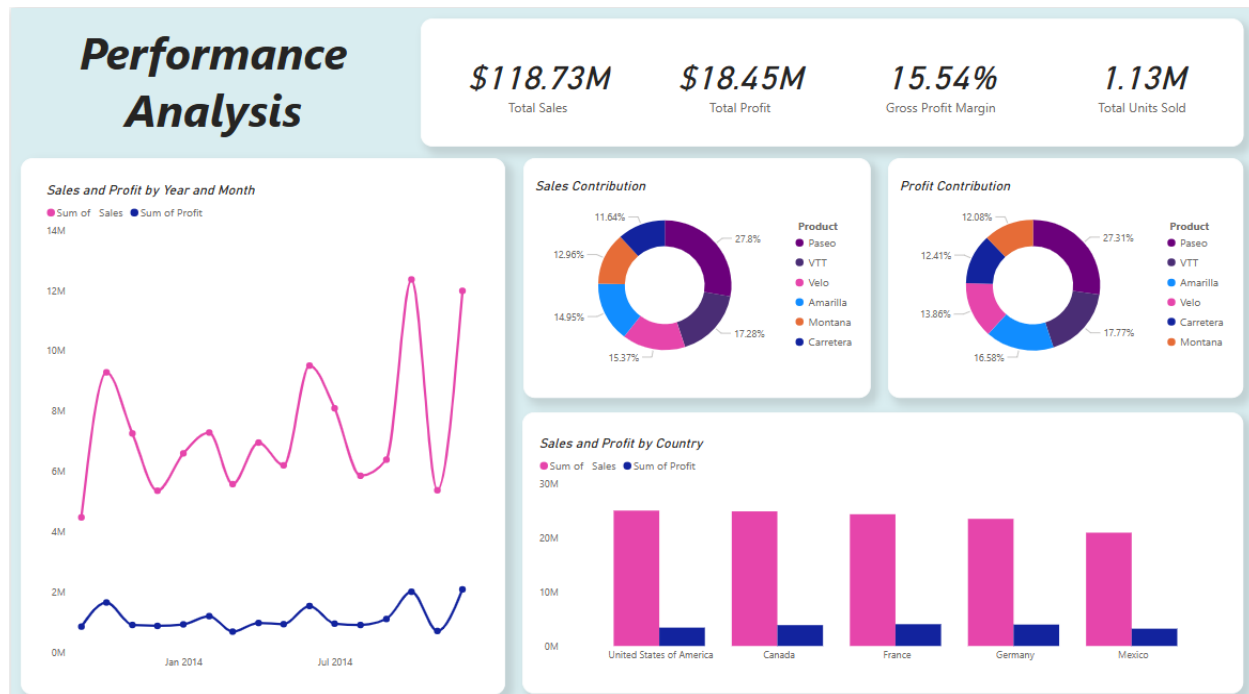
o   Trends remain consistent across filters like country and time, reinforcing their reliability.

4. **Product Profit Contribution:**
   - o   **Paeso** – 27.31%
   - o   **VVT** – 17.77%
   - o   **Amarilla** – 16.58%
   - o   **Velo** – 13.86%
   - o   **Carretera** – 12.41%
   - o   **Montana** – 12.08%

5. **Product Sales Contribution:**
   - o   **Paeso** – 27.80%
   - o   **VVT** – 17.28%
   - o   **Amarilla** – 15.37%
   - o   **Velo** – 14.95%
   - o   **Carretera** – 12.96%
   - o   **Montana** – 11.64%

6. **Unit Economics:**
   o COGS per unit remained **constant** across time periods, even as units sold fluctuated.
   o This indicates that variations in gross profit margin are primarily due to **fluctuations in sales volume or pricing**, rather than cost inefficiencies.

Recommendations

1. **Evaluate Paeso's Efficiency** – Despite strong sales, its average profit margin suggests room for cost optimization or pricing strategy review.
2. **Reassess Discount Strategy** – The positive correlation with sales is notable, but the weaker correlation with profit warns against over-discounting. Consider testing different discount levels by segment or product.
3. **Focus on Segment Cost Controls** – Investigate high-performing segments for potential cost inefficiencies that could be harming margins.
4. **Continue Monitoring Unit Economics** – Stability in COGS per unit is positive. Keep tracking this alongside revenue per unit to ensure gross margin health.
5. **Explore Predictive Modelling** – Now that baseline trends are understood, consider time-series forecasting for sales and profits to support proactive decision-making.

Conclusion

This multi-tool approach provided a full-cycle data analysis workflow:

- Excel for quick insights
- SQL for structured analysis
- Power BI for interactive reporting and storytelling

Each stage added depth to the insights, enabling better understanding of sales performance and profitability levers. Future work could involve integrating more granular cost data or applying forecasting models.