

AWS Sales and Profitability Analysis

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AWS (Amazon Web Services) is the world's largest cloud computing provider and a subsidiary of Amazon.

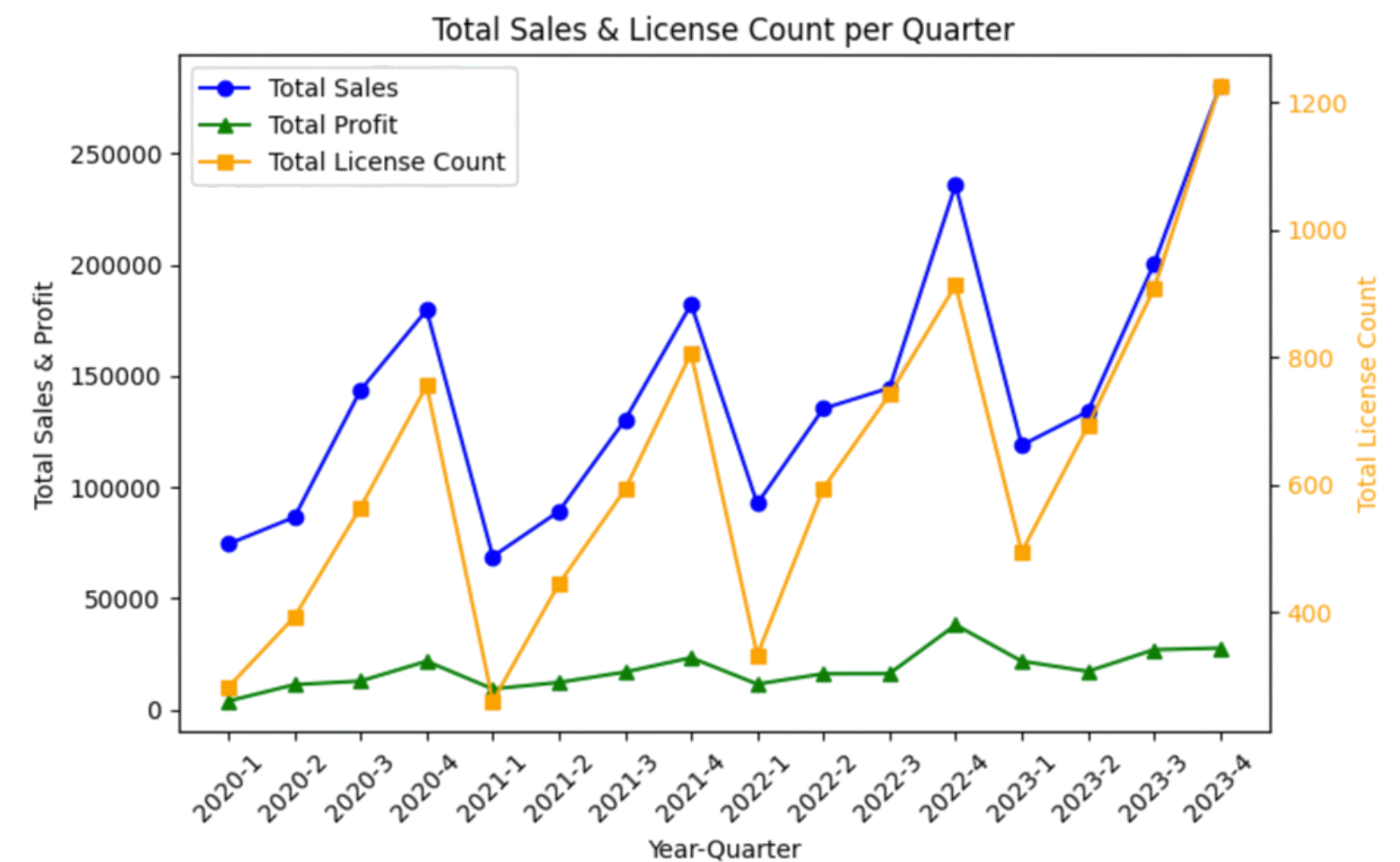
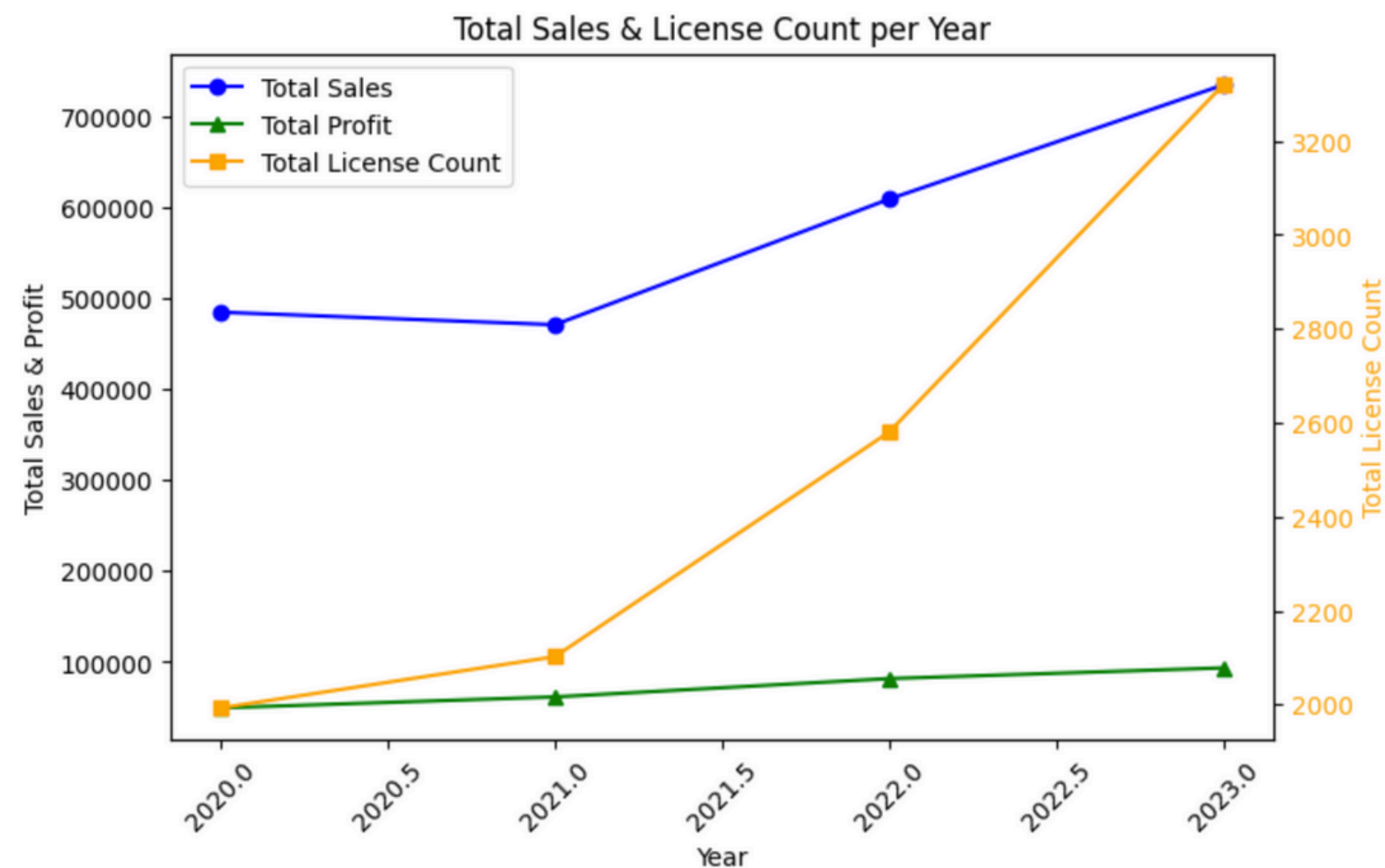
Problem

We want to **identify the key factors influencing sales and profitability, understand performance differences across segments and regions, and evaluate whether the number of licenses and products purchased has a significant impact on profit growth.**



Sales & licenses peak in Q4 2023, with recurring drops every Q1

Sales, profit, and licenses sold **consistently increased year over year**, rising by **51%**, **88%**, and **66%** respectively from 2020 to 2023 reaching their **peak in Q4 2023**. However, a **recurring seasonal decline is observed in Q1 each year**, indicating weaker demand at the beginning of the year.

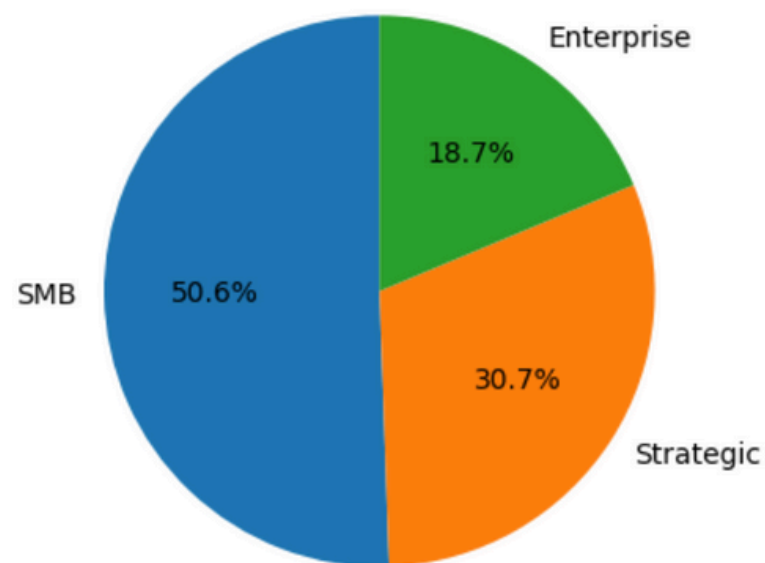


SMBs dominate sales, Finance leads in sales and licenses, while Energy matches profit despite lower sales.

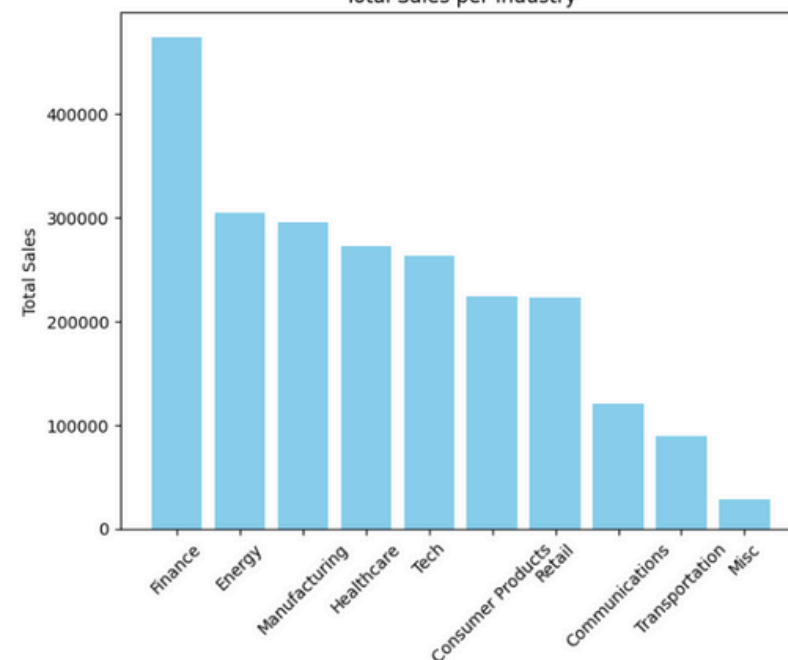
SMBs dominate with around **50% of total sales and profit**, driving the largest share by segment, while **Finance** (by industry) leads in **licenses and sales**, and **Energy** (by industry), despite **lower sales, delivers comparable profit**.

Sales by Segment & Industry

Proporsi Total Sales per Segment

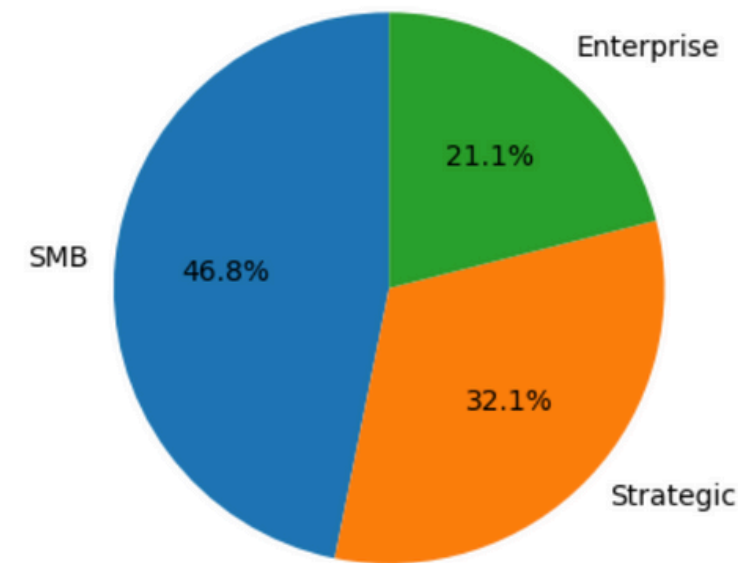


Total Sales per Industry

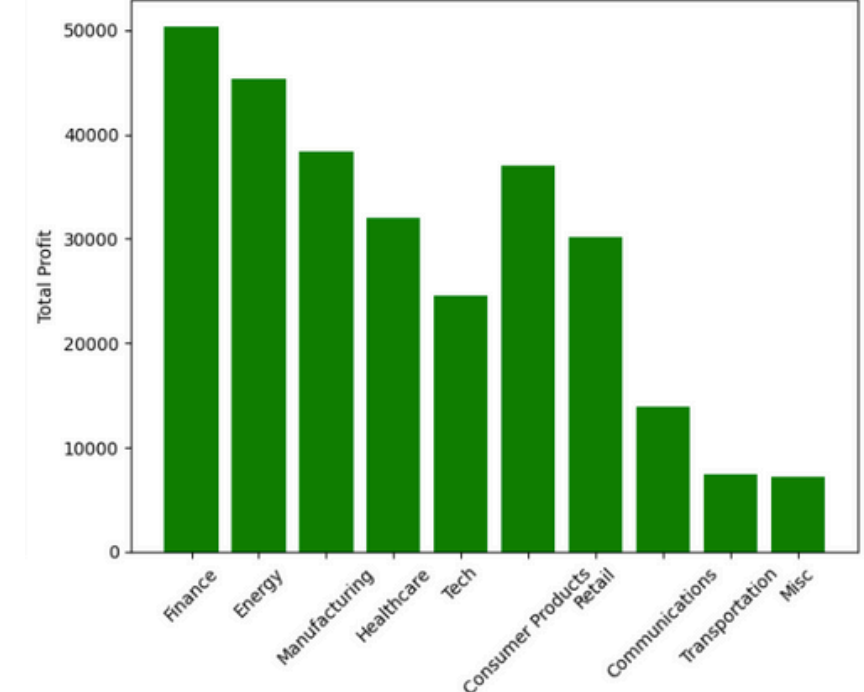


Profit by Segment & Industry

Proporsi Profit per Segment

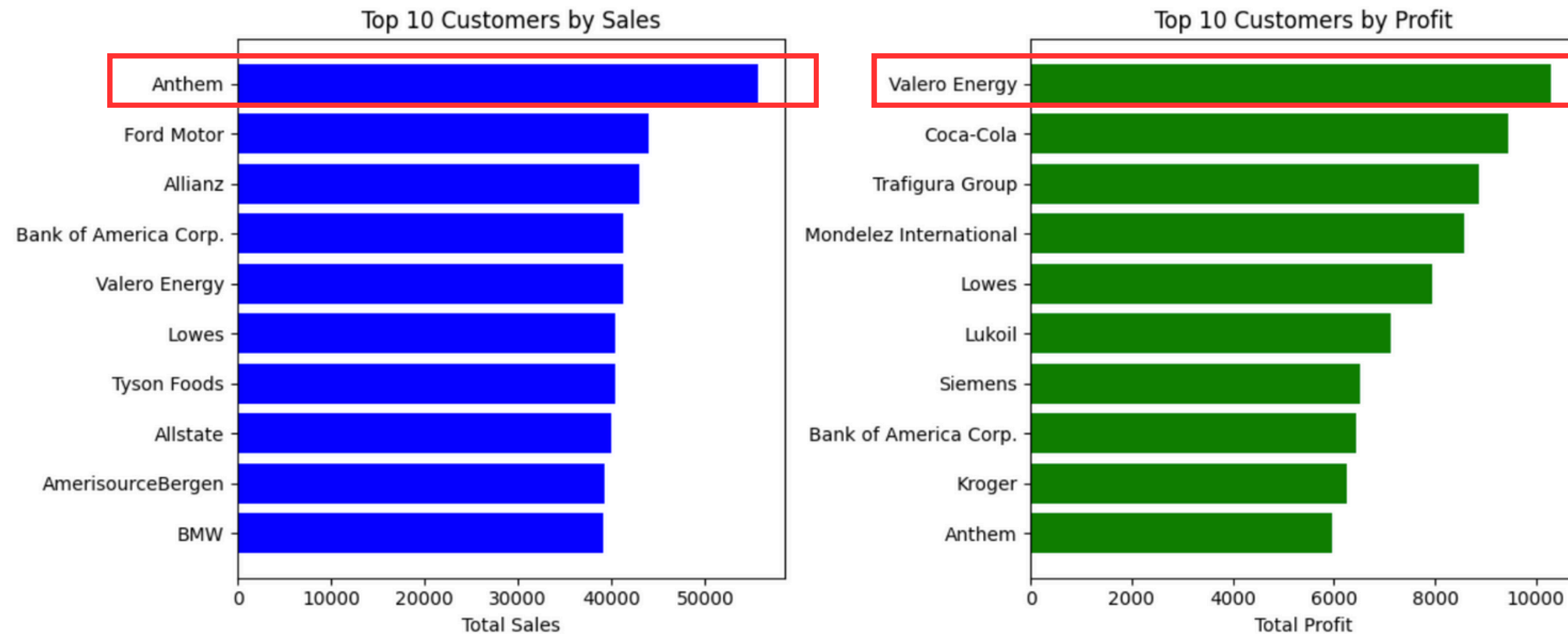


Total Profit per Industry



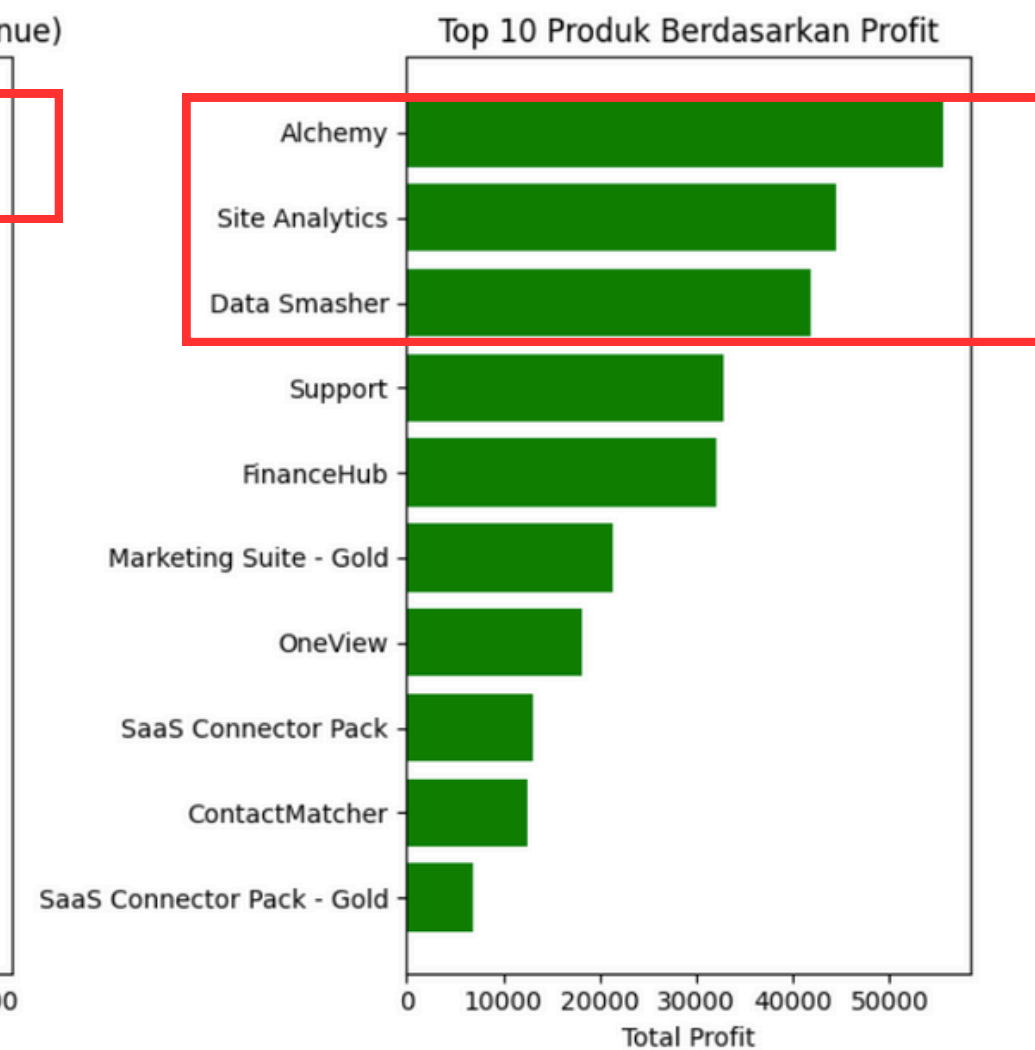
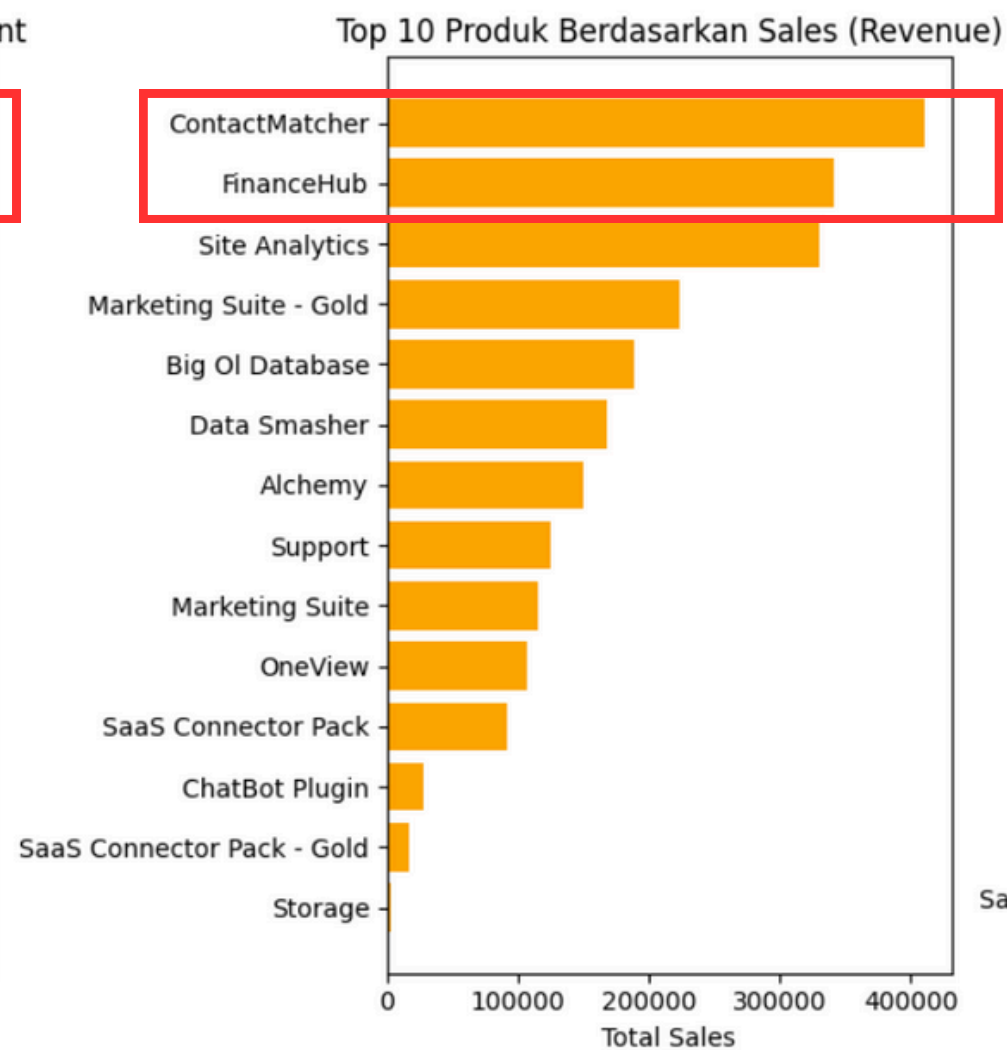
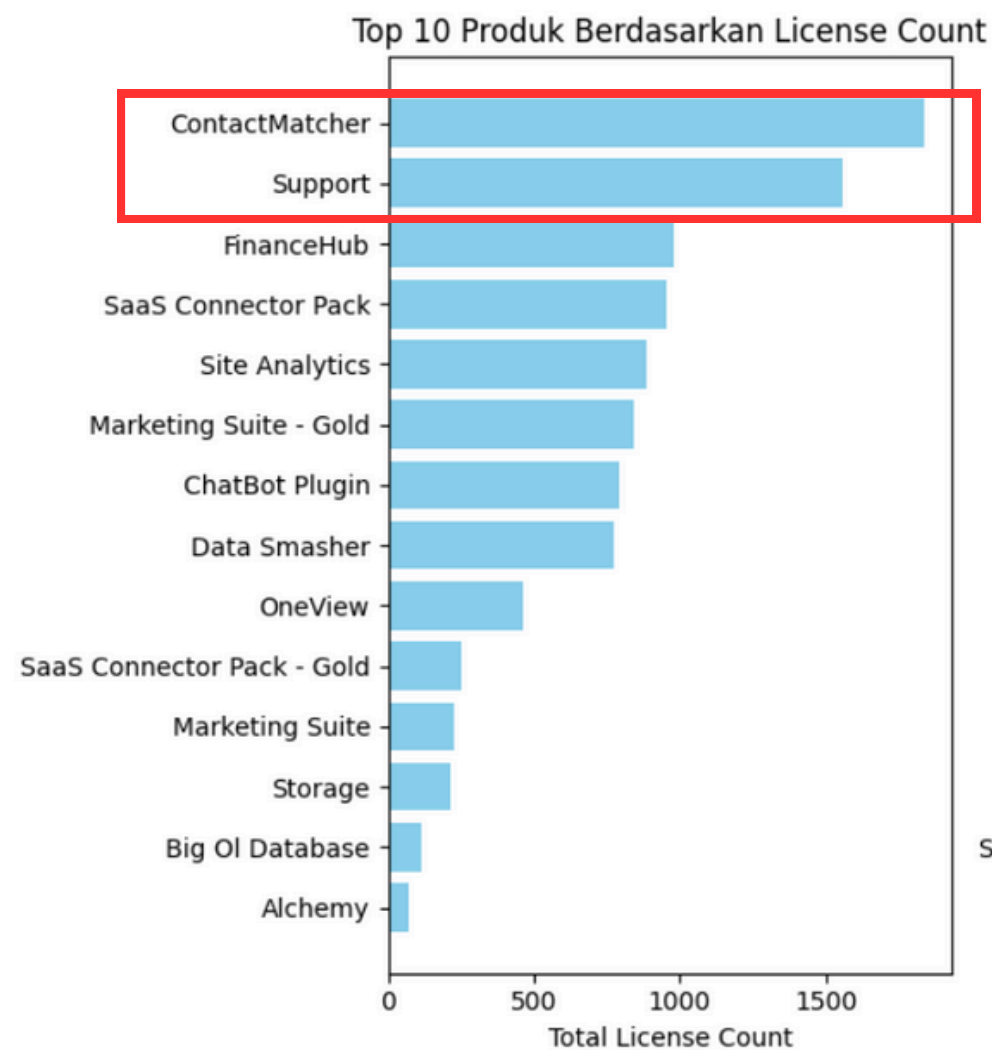
Anthem Leads in Sales, but Valero Energy Delivers the Highest Profit

Top customers differ in their contributions, sales volume does not always translate to profit leadership



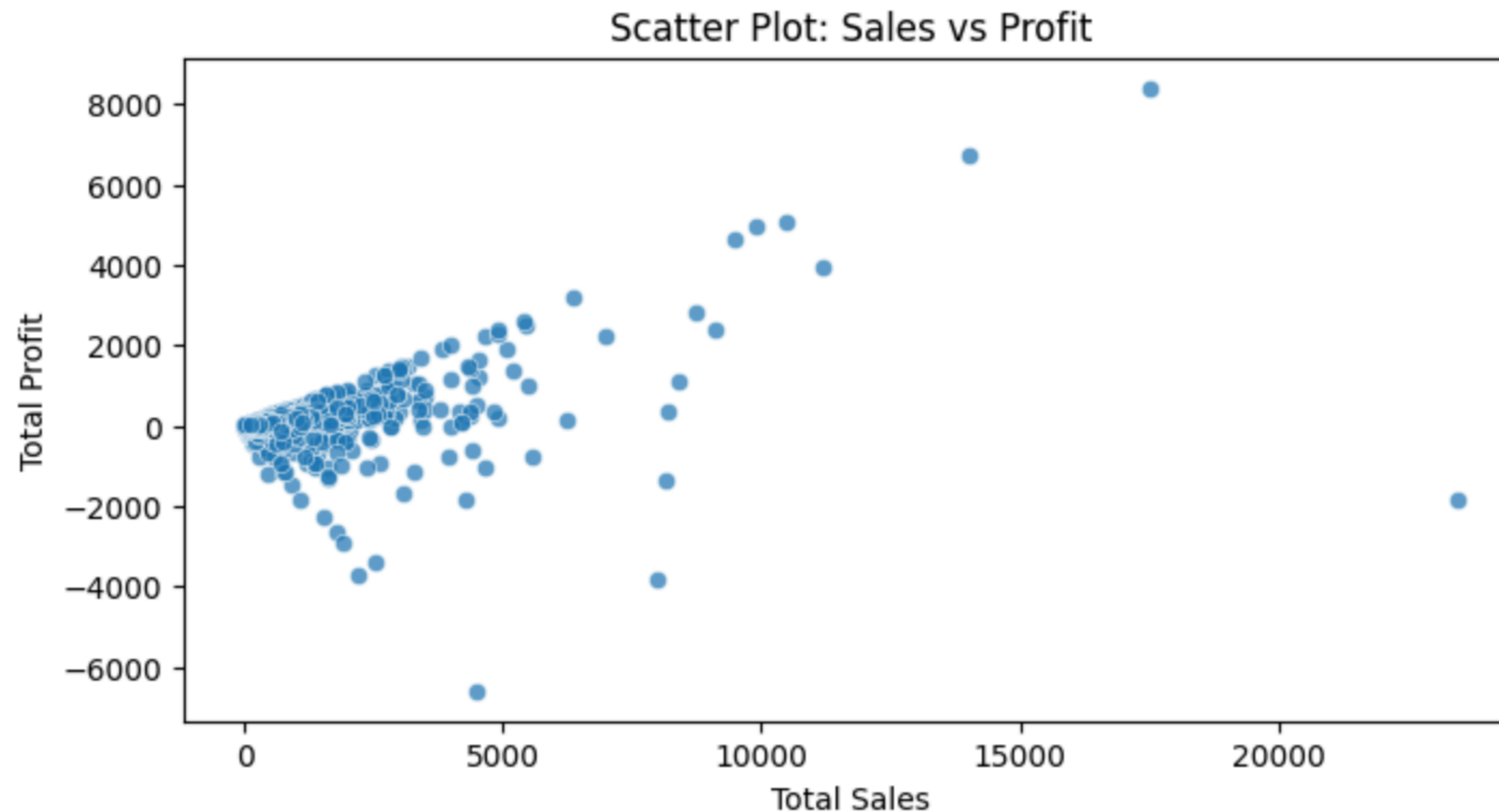
Product with High Sales Don't Always Mean High Profit

ContactMatcher and Support drive the highest license sales, but Alchemy, Site Analytics, and Data Smasher lead in profit showing that **top-selling products are not always the most profitable**



Sales Growth Translates into Higher Profit

A clear positive correlation between total sales and total profit, indicating that **customers with higher sales volumes tend to generate higher profitability.**



APJ Outperforms Other Regions in Profit

Tukey's test confirms that **APJ has a significantly higher average profit compared to both AMER and EMEA**, while no significant difference exists between AMER and EMEA.

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Hasil ANOVA Profit berdasarkan Region
F-statistic: 13.276361719308488
p-value: 1.7483742903881823e-06
Tolak H0 : Terdapat perbedaan signifikan rata-rata profit antar Region
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Multiple Comparison of Means – Tukey HSD, FWER=0.05
=====
group1 group2 meandiff p-adj lower upper reject
-----
AMER    APJ    -32.559   0.0  -49.1971 -15.9208  True
AMER    EMEA     0.4331  0.997 -13.3734  14.2396  False
APJ     EMEA    32.992   0.0   16.744   49.24   True
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```


APJ vs EMEA: Significant Gap in Sales Performance

ANOVA shows overall **significant differences in regional sales**. Tukey's test confirms the gap lies only between APJ and EMEA, while AMER shows no significant difference compared to either region.

Hasil ANOVA Sales berdasarkan Region
F-statistic: 5.107283738362201
p-value: 0.006070046858737812
Tolak H0 : Terdapat perbedaan signifikan rata-rata Sales antar Region

Multiple Comparison of Means – Tukey HSD, FWER=0.05						
group1	group2	meandiff	p-adj	lower	upper	reject
AMER	APJ	-37.1221	0.1275	-81.9658	7.7216	False
AMER	EMEA	22.5048	0.3318	-14.7068	59.7165	False
APJ	EMEA	59.6269	0.0041	15.8347	103.4191	True

Conclusion & Recommendation

CONCLUSIONS

- Sales & Licenses grow yearly, peaking in 2023, while Profit is stable with recurring Q1 dips.
- SMB (~50%) dominates; Finance leads Sales & Licenses, but Energy achieves strong Profit despite lower Sales.
- EMEA drives Sales & Profit, while APJ outperforms in Profit.
- Top customers differ: Sales (Anthem, Ford, Allianz) vs. Profit (Valero, Coca-Cola, Trafigura).
- ContactMatcher & Support lead in Licenses; Alchemy, Site Analytics & Data Smasher lead in Profit → top-selling ≠ most profitable.
- Stats: Sales ↔ Profit (positive correlation). Regional differences exist (APJ leads Profit; Sales gap only APJ vs. EMEA).

RECOMMENDATION

- Launch Q1 campaigns (discounts & bundling) to offset seasonal dips.
- Expand beyond SMB with value-based offerings and pricing strategy.
- Focus on Energy for profit growth while maintaining Finance dominance.
- Keep Support & Storage as cash cows, boost high-profit products, and improve margins on top sales.
- Shift low-profit big clients to higher-margin products, reward high-profit clients.
- Grow sales via cross/upselling and stronger salesforce KPIs.
- Prioritize APJ expansion, boost sales in EMEA, and retain clients in AMER.

Thank You
