

SAAS SALES

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INTRODUCTION

Amazon Web Services (AWS), founded in 2006, is a leading cloud platform that offers over 200 services, including computing, storage, and databases, as well as Software as a Service (SaaS). With SaaS, AWS provides ready-to-use applications accessible online, where users can simply use the applications without needing to manage them. Examples of AWS SaaS offerings include Amazon Chime and Amazon QuickSight.

The primary stakeholders of this project are members of the product development team. The project focuses on solving problems and reaching goals to improve products. It includes looking at sales trends, finding ways to make the product better, and creating strong strategies for success.

PROBLEM

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SALES PERFORMANCE

- Analyze monthly/yearly profit trends
- Assess discount impact on margins
- Review product profitability

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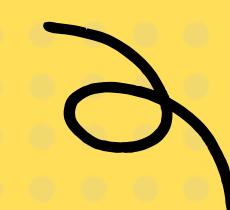
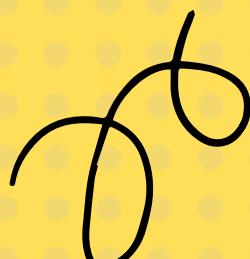
MARKET DISTRIBUTION

- Examine product distribution by region
- Highlight best/worst performing regions

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CUSTOMER SEGMENTATION

Identify top/bottom industries by profit



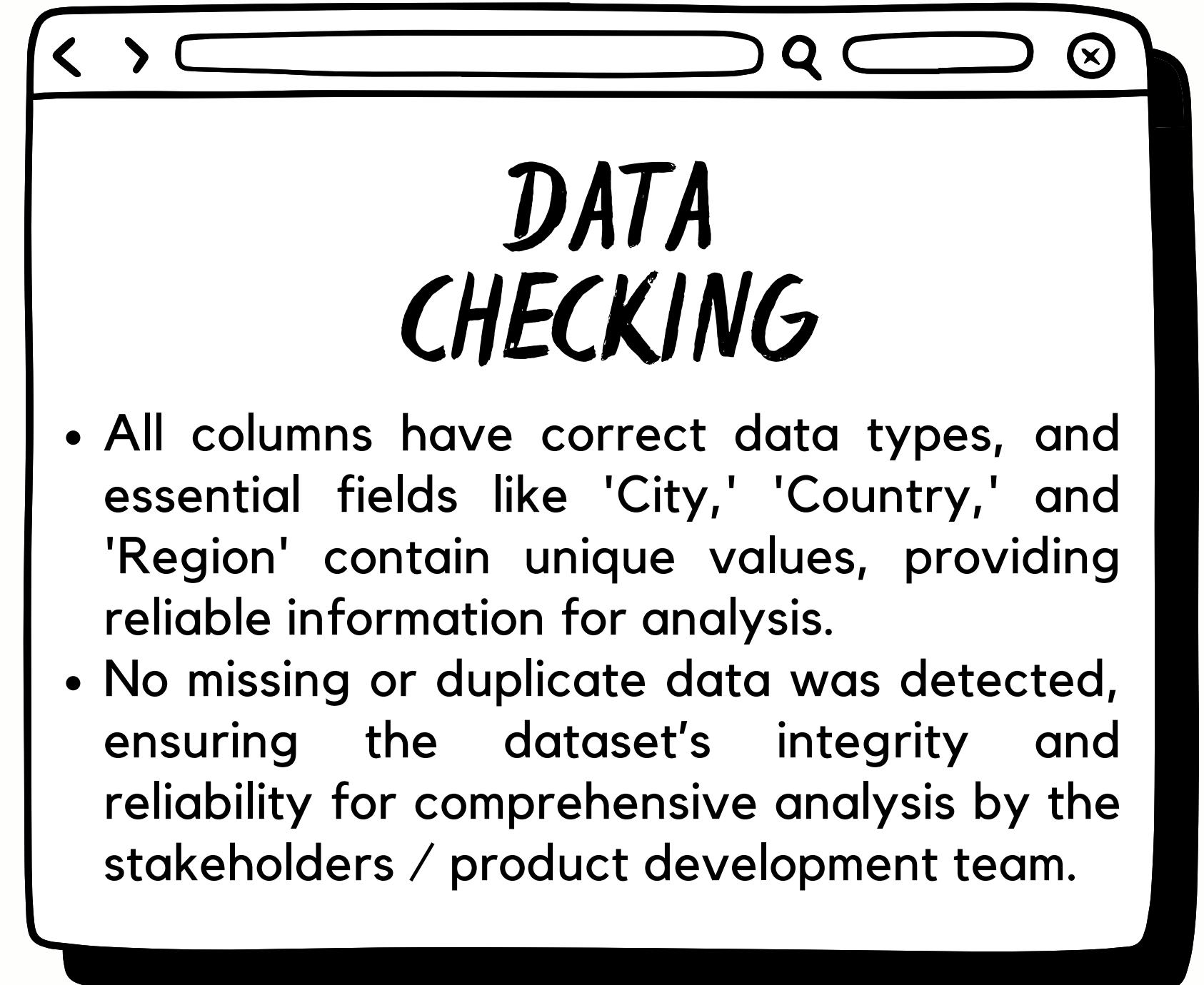
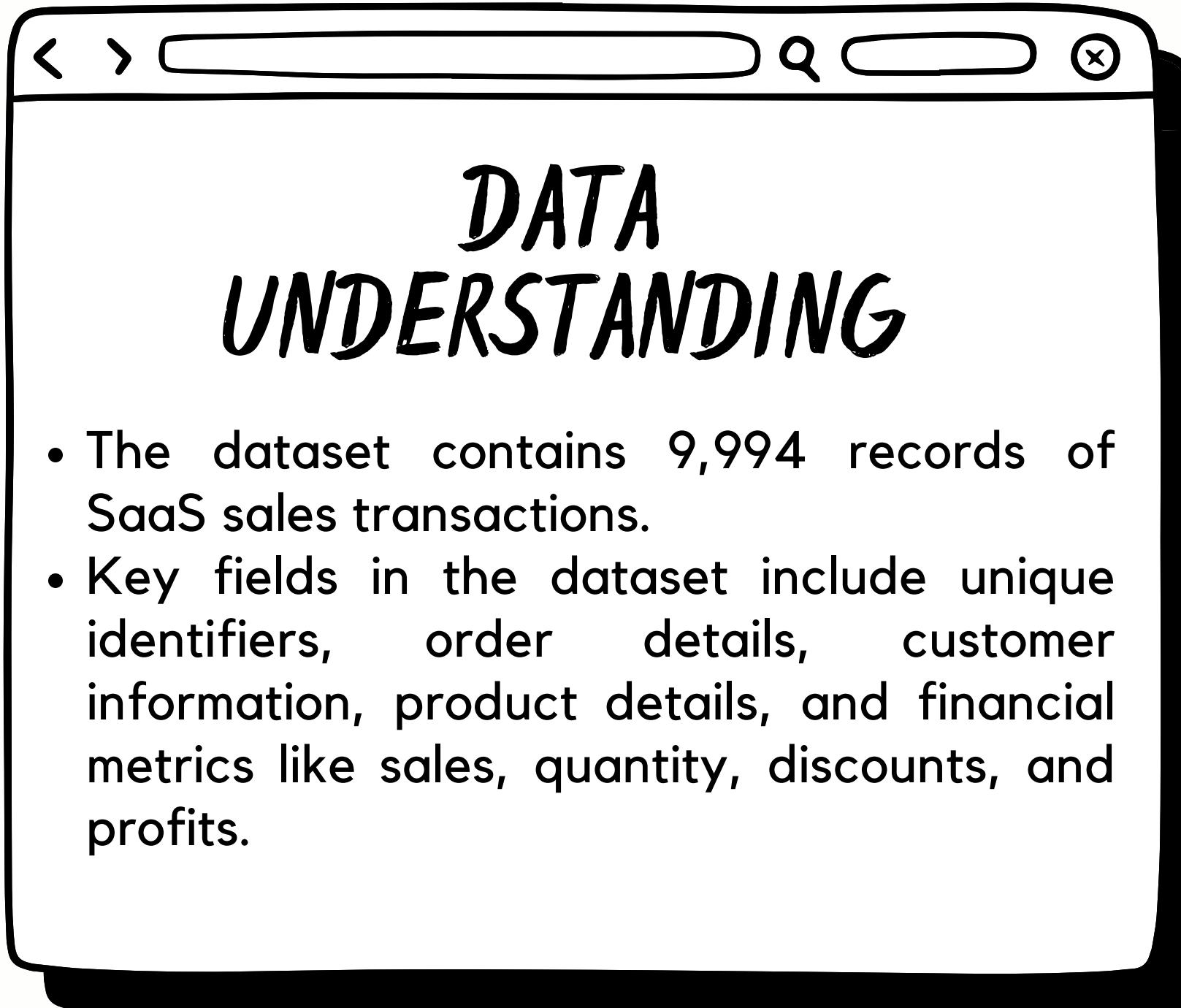


The main goal is to provide stakeholders, particularly for SaaS products, with valuable insights to enhance business performance. By examining sales trends, customer segments, and market distribution, AWS can gain a clear understanding of how these factors impact profitability. This data - driven approach empowers AWS to make informed decisions that increase sales, improve customer satisfaction, and expand into new markets. In the end, this will lead to greater profits and support AWS's overall growth strategy.

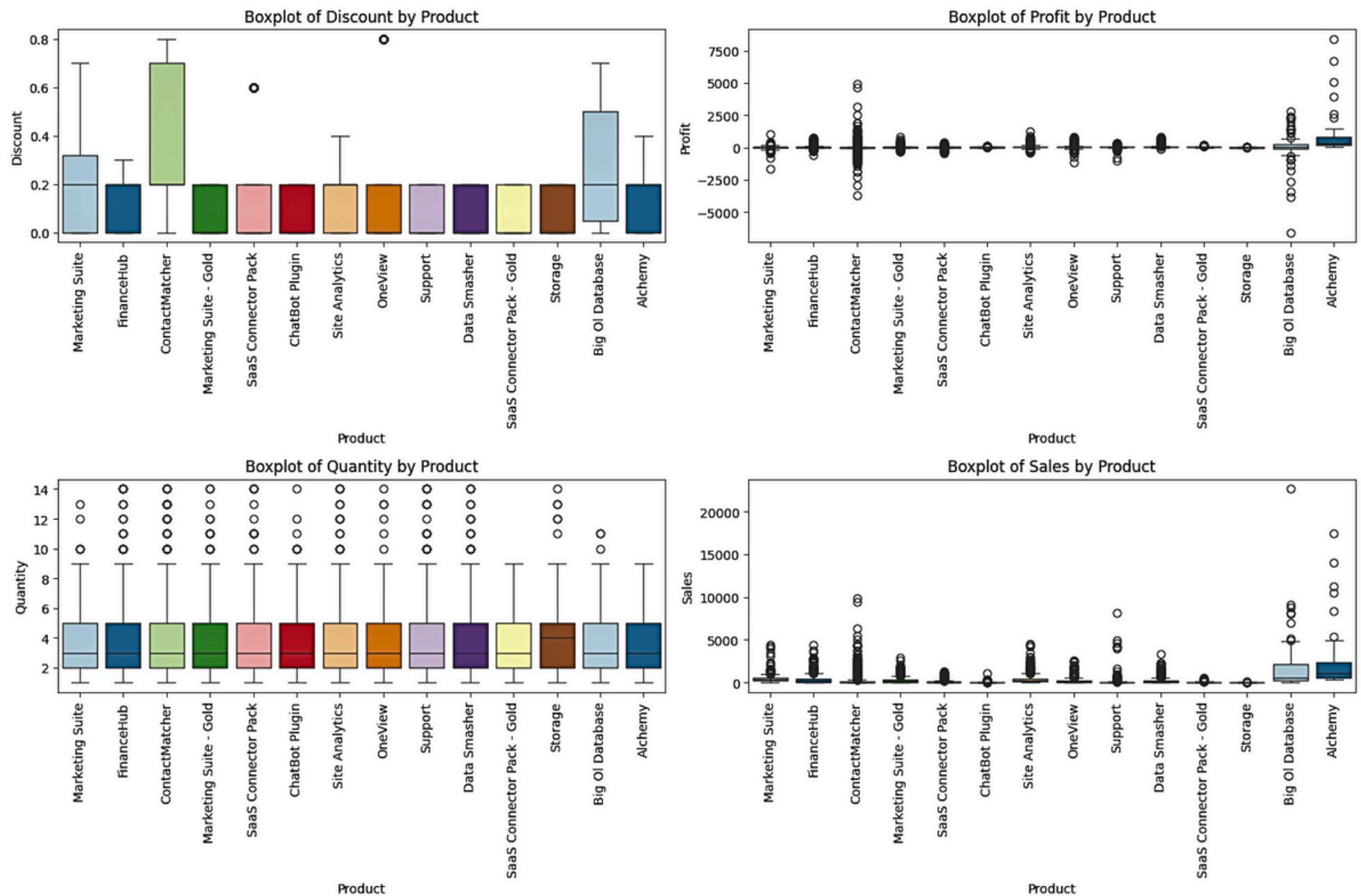
GOALS



DATA



OUTLIER CHECKING



	Outlier Count	Outlier Percentage
Discount	856.0	8.565139
Profit	1881.0	18.821293
Quantity	170.0	1.701021
Sales	1167.0	11.677006

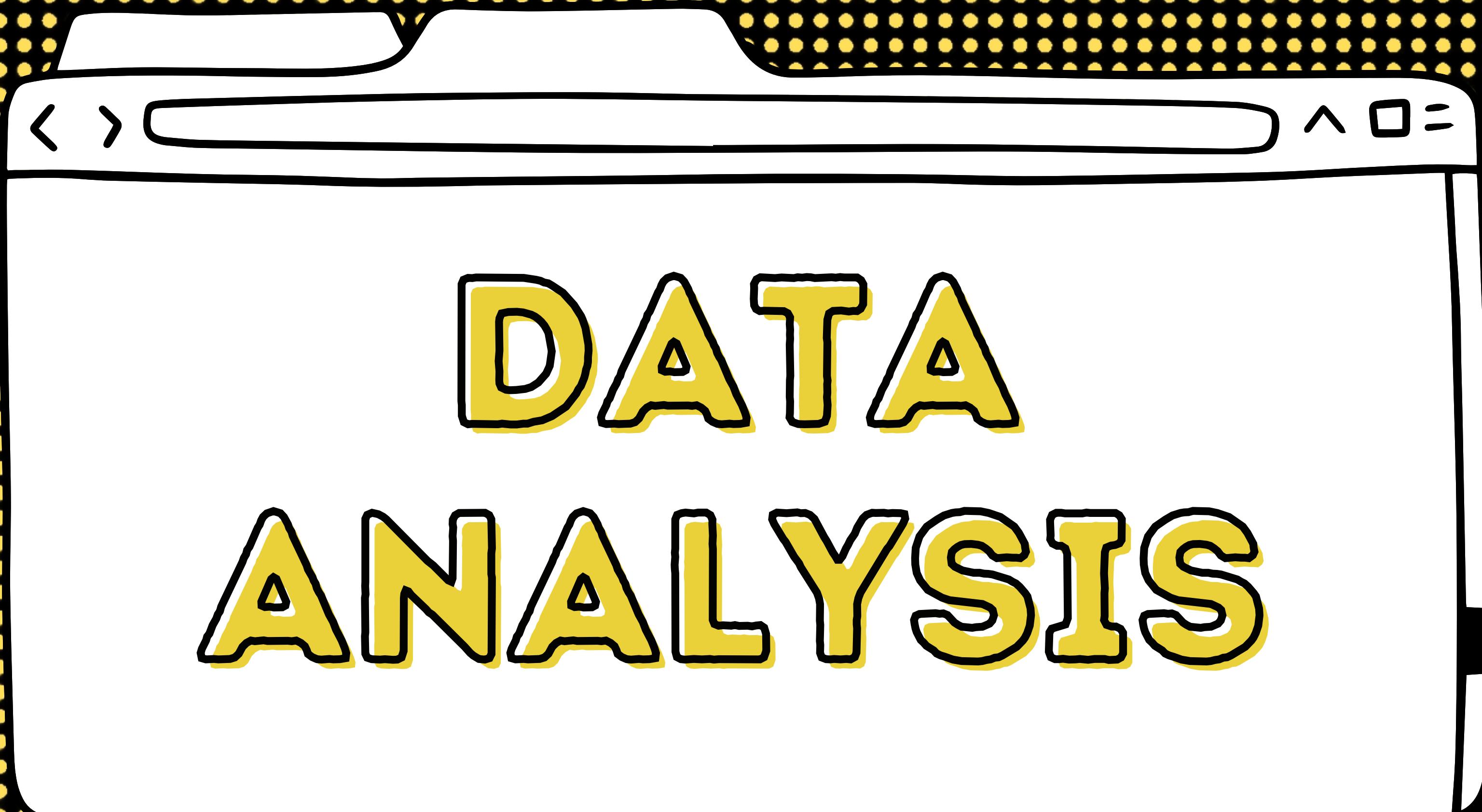
- Outliers in Sales (11%) and Profit (18%) retained for potential insights on losses or profit spikes.
- Contact Matcher and Big Ol Database show notable profit outliers.
- Alchemy Product has strong positive outliers, indicating high profitability.

DATA DISTRIBUTION CHECKING

- Used D'Agostino's K-squared test (ideal for large datasets) on numerical columns.
- Sales, Quantity, Discount, and Profit show non-normal distributions, indicating skewness or irregularities.

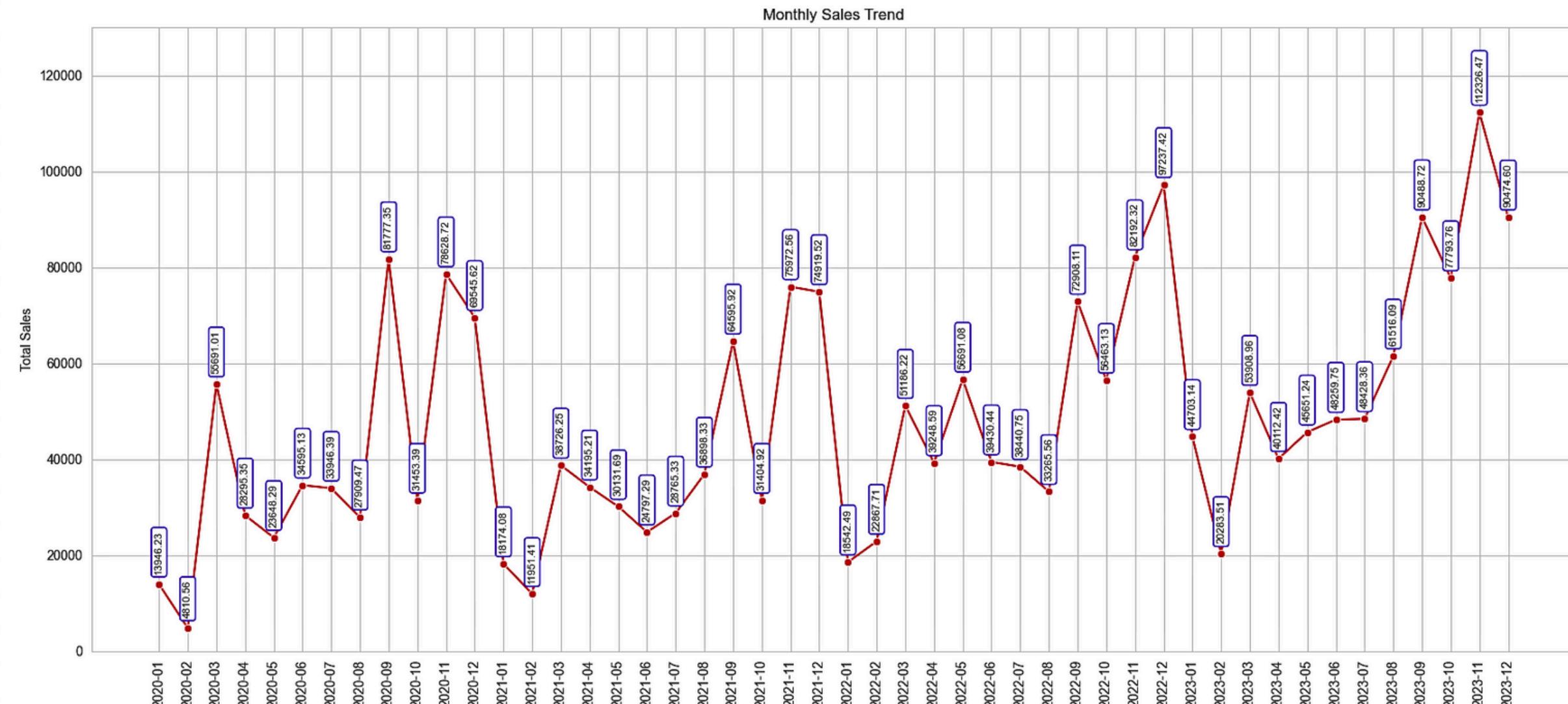
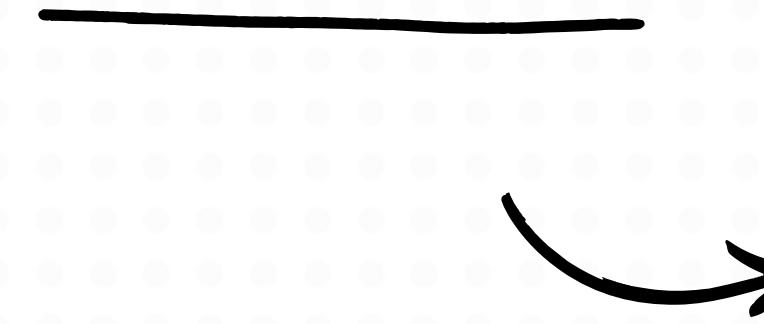
DATA TYPE CONVERSION

Converted Order Date from 'mm/dd/yyyy' string format to datetime using %Y/%m/%d for easier analysis.



DATA
ANALYSIS

MONTHLY SALES TRENDS

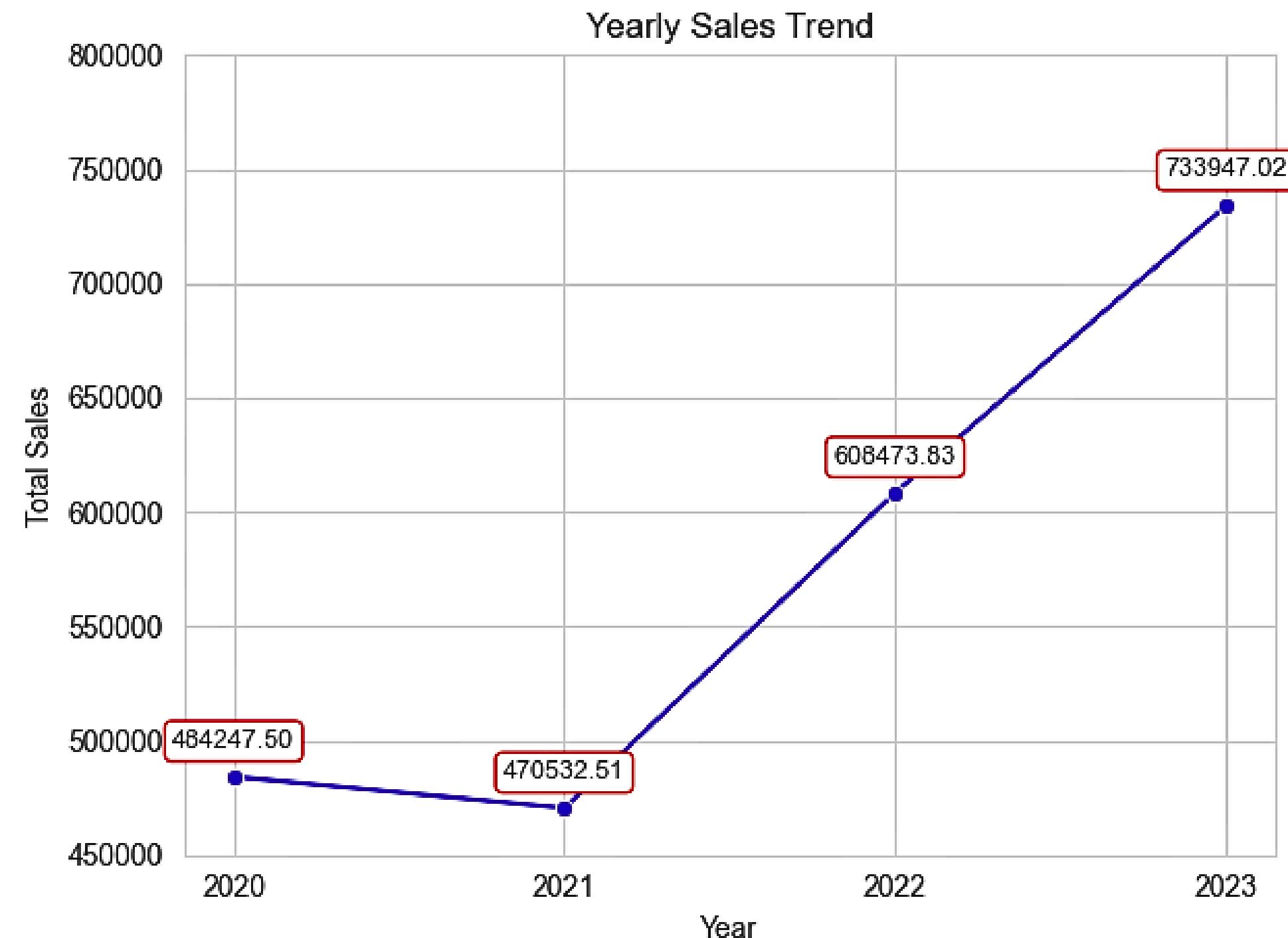


Monthly Sales Trends (2020-2023)

- Seasonal Pattern: Sales go up and down in a regular pattern, likely due to seasons.
- High Sales in Late 2023: December 2023 had the highest sales.
- Big Monthly Changes: Sales rose or fell quickly some months, probably because of special events, promotions, or seasons.

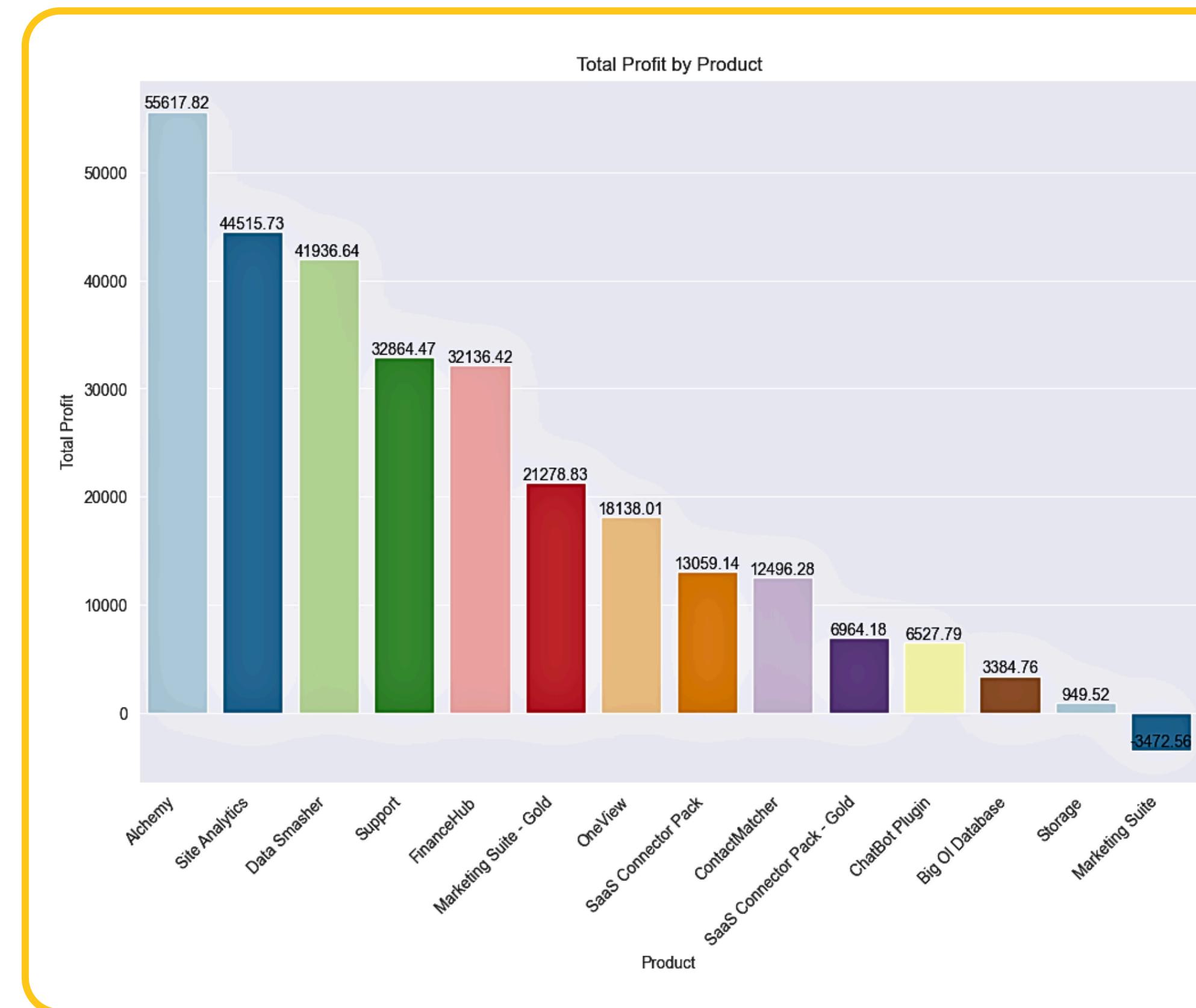
YEARLY SALES TRENDS

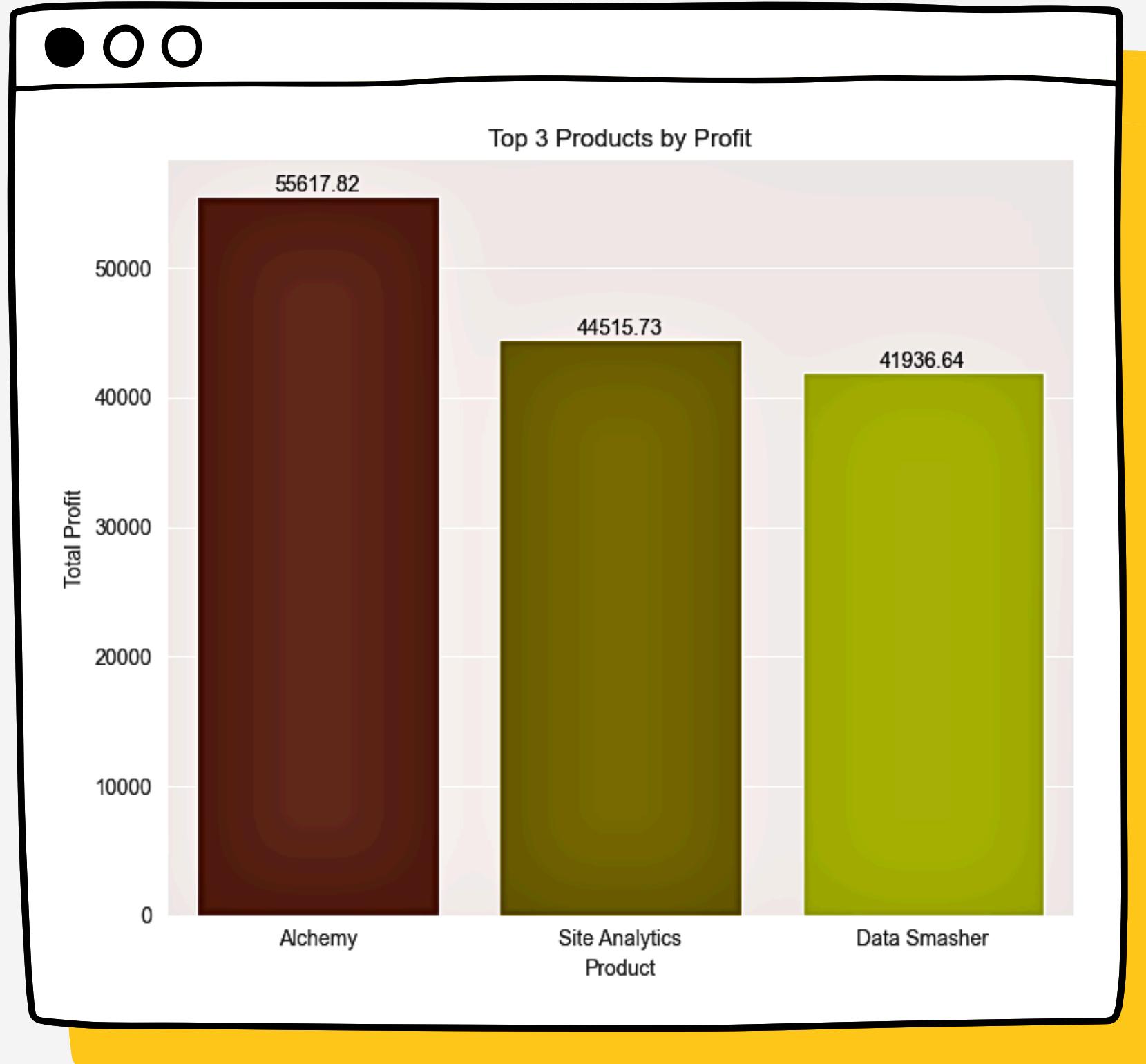
- Overall Increase: Sales grew steadily, especially from 2021 to 2023.
- Small Drop in 2021: Sales fell slightly from 484,000 in 2020 to 470,000 in 2021.
- Big Growth in 2022-2023: Sales jumped to over 600,000 in 2022 and reached about 734,000 in 2023.



PROFIT TRENDSPOTTING

- Top Performer: **Alchemy** leads with \$55,617.82 in profit.
- Strong Profits: **Site Analytics** (\$44,515.73) and **Data Smasher** (\$41,936.64).
- Losses: **Marketing Suite** (-\$3,472.56) and **Storage** (-\$949.52).
- Additional Contributors: **FinanceHub**, **Marketing Suite - Gold**, and **OneView** add positively to profits.

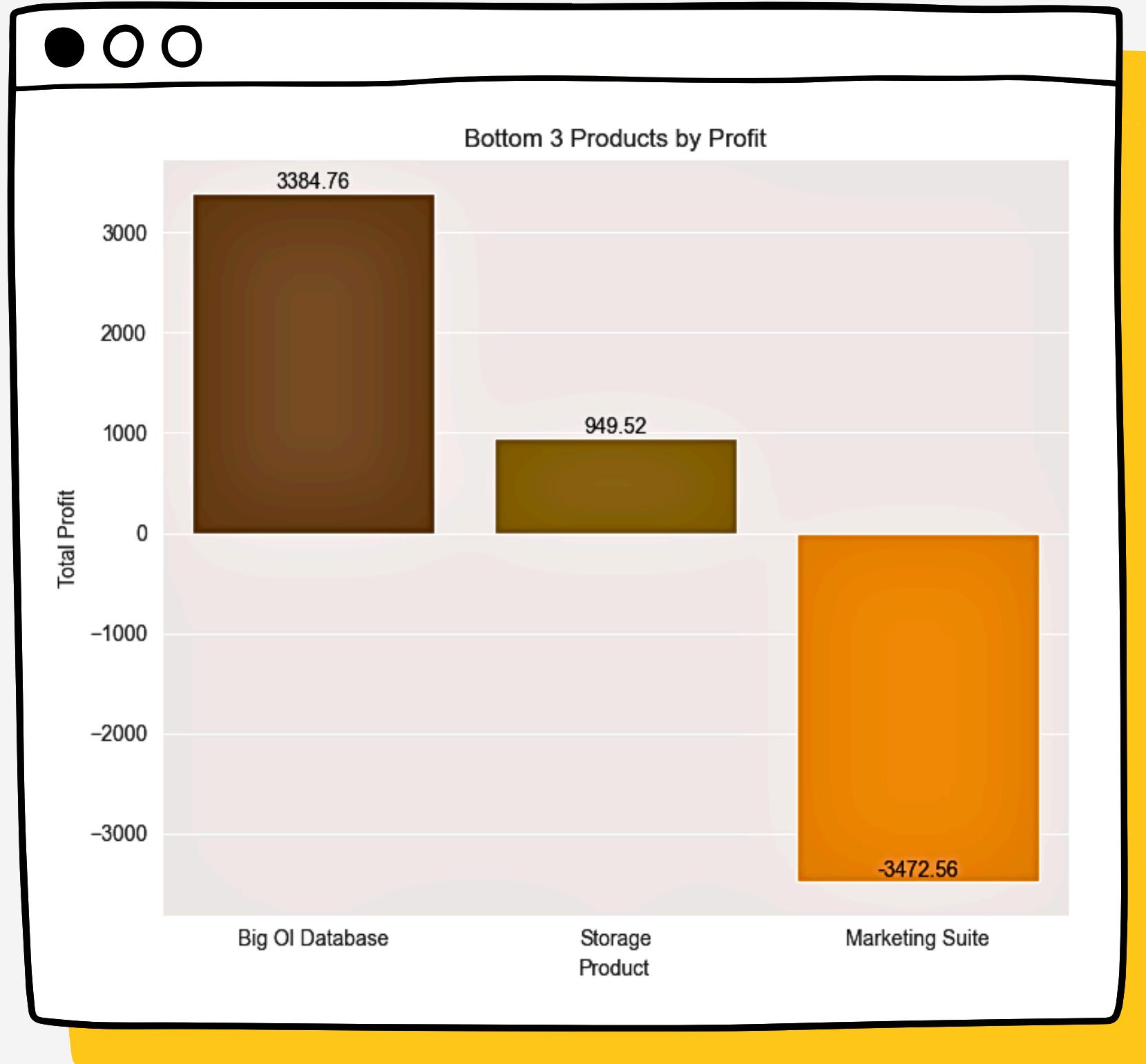




TOP 3 PROFITABLE PRODUCTS

Top 3 Profitable Products: Alchemy, Site Analytics, Data Smasher

- High profitability suggests strong market demand.
- Recommend further investment, feature upgrades, and targeted marketing to maximize success.



3 LOW-PROFIT PRODUCTS

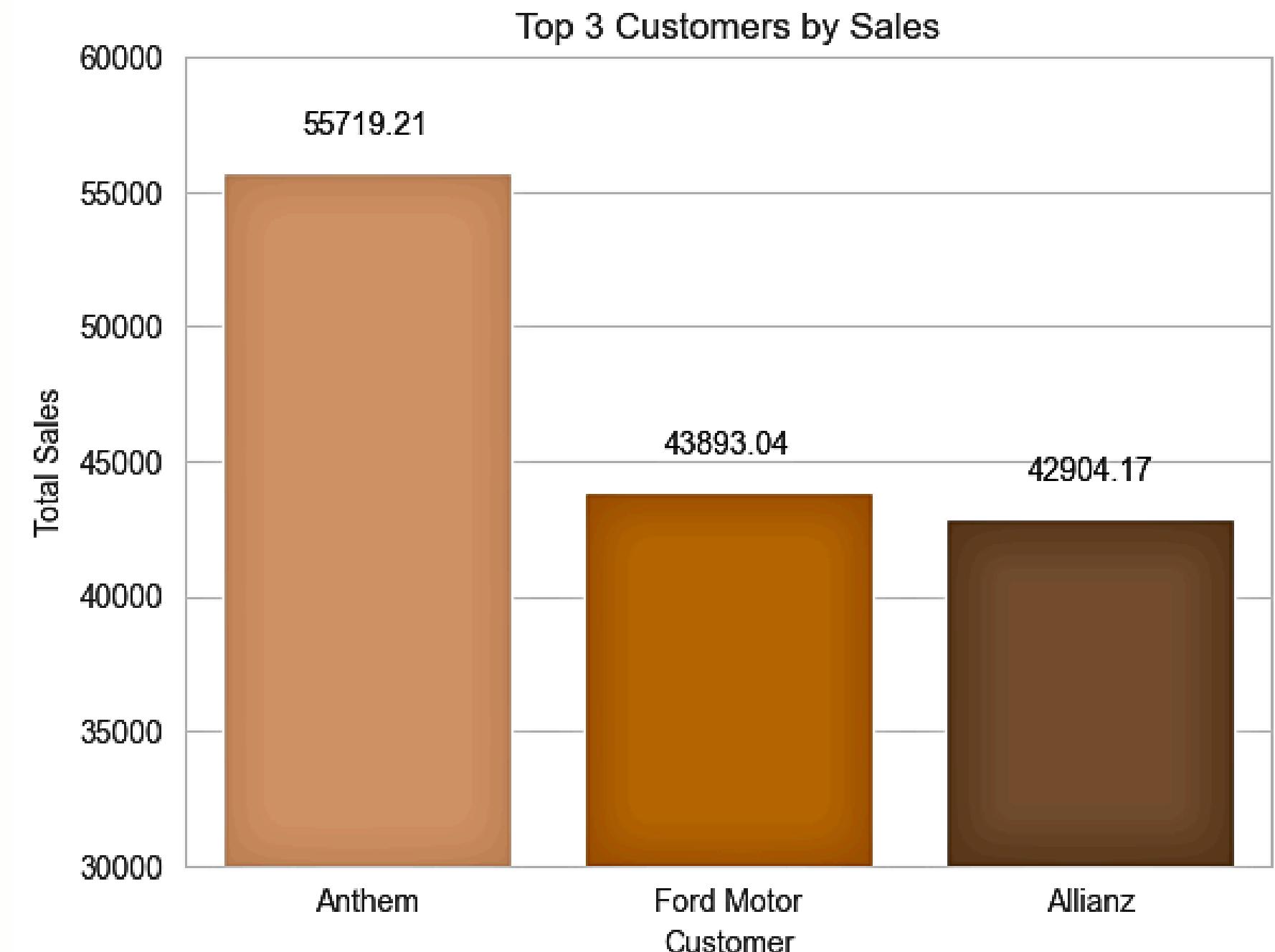
- Big OI Database, Storage, Marketing Suite
- Highlights market challenges; suggest review for enhancement strategies.

CUSTOMER ANALYSIS

Top 3 Customers by Sales

- Anthem leads with the highest sales at \$55,719.21.
- Ford Motor follows with \$43,893.04 in sales.
- Allianz ranks third with \$42,904.17.

These top customers contribute significantly to overall sales, highlighting their importance in revenue generation.

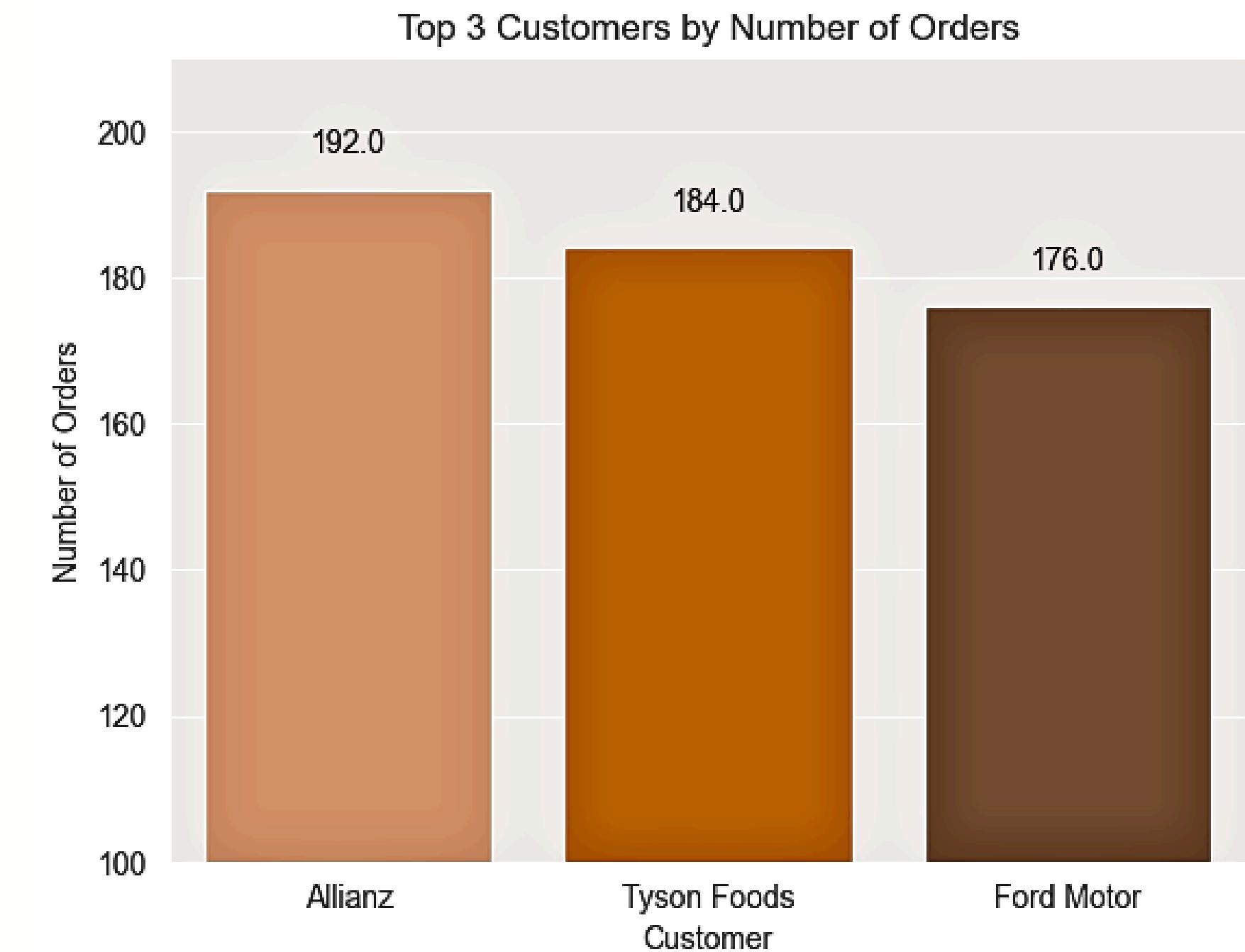


CUSTOMER ANALYSIS

Top 3 Customers by Number of Orders

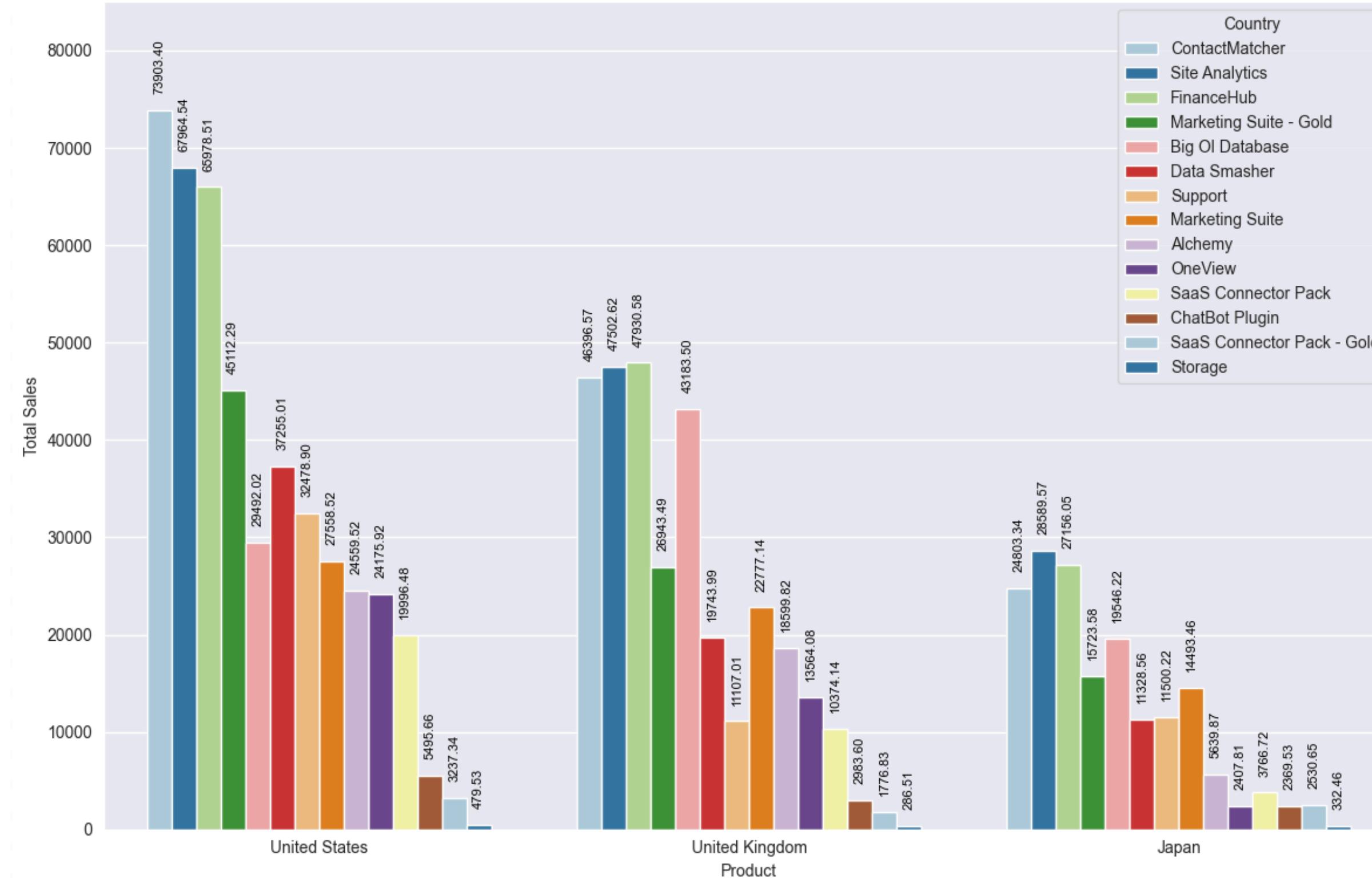
- Allianz leads with 192 orders.
- Tyson Foods follows with 184 orders.
- Ford Motor has 176 orders.

These customers show high engagement through frequent orders, indicating strong loyalty and consistent demand.



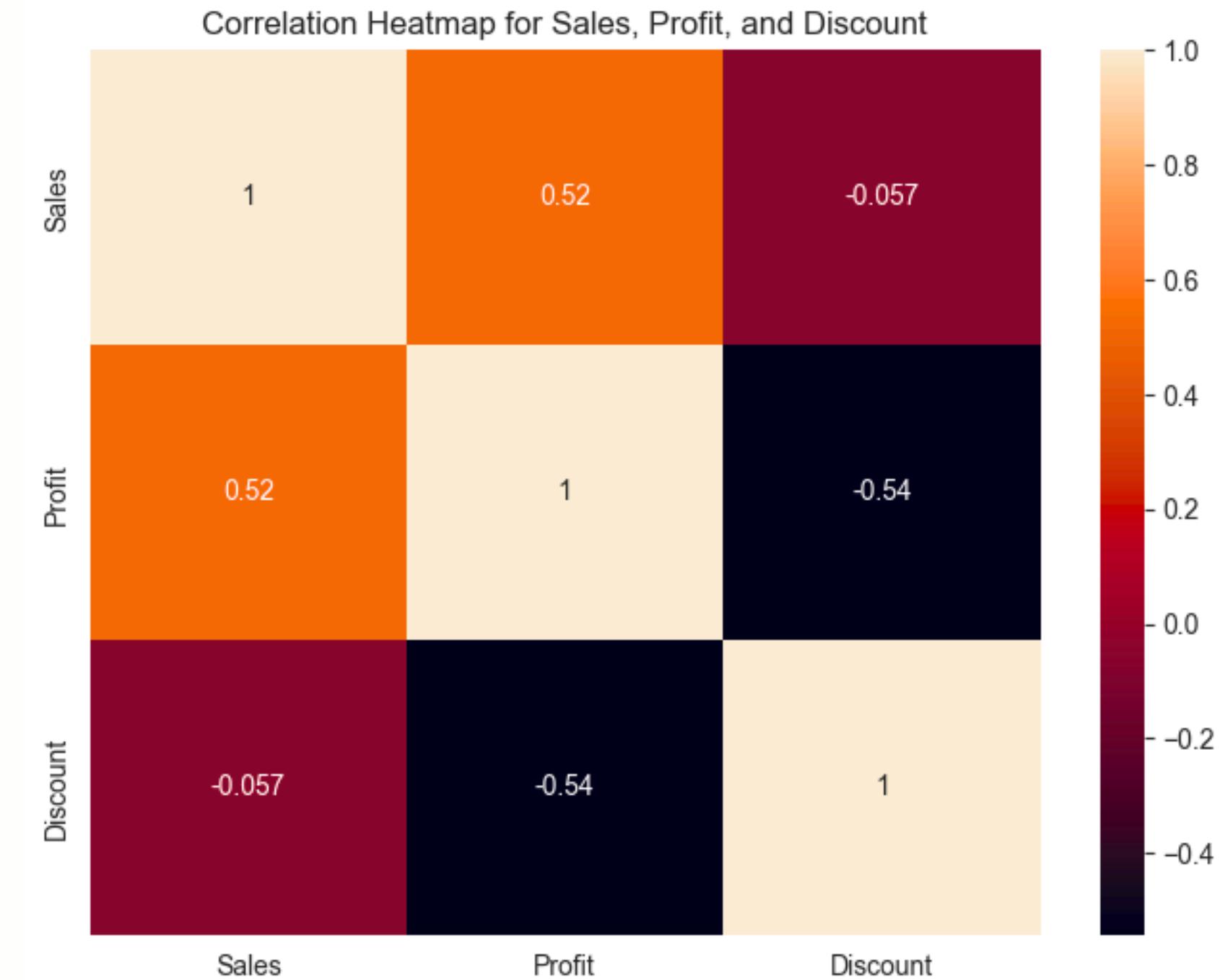
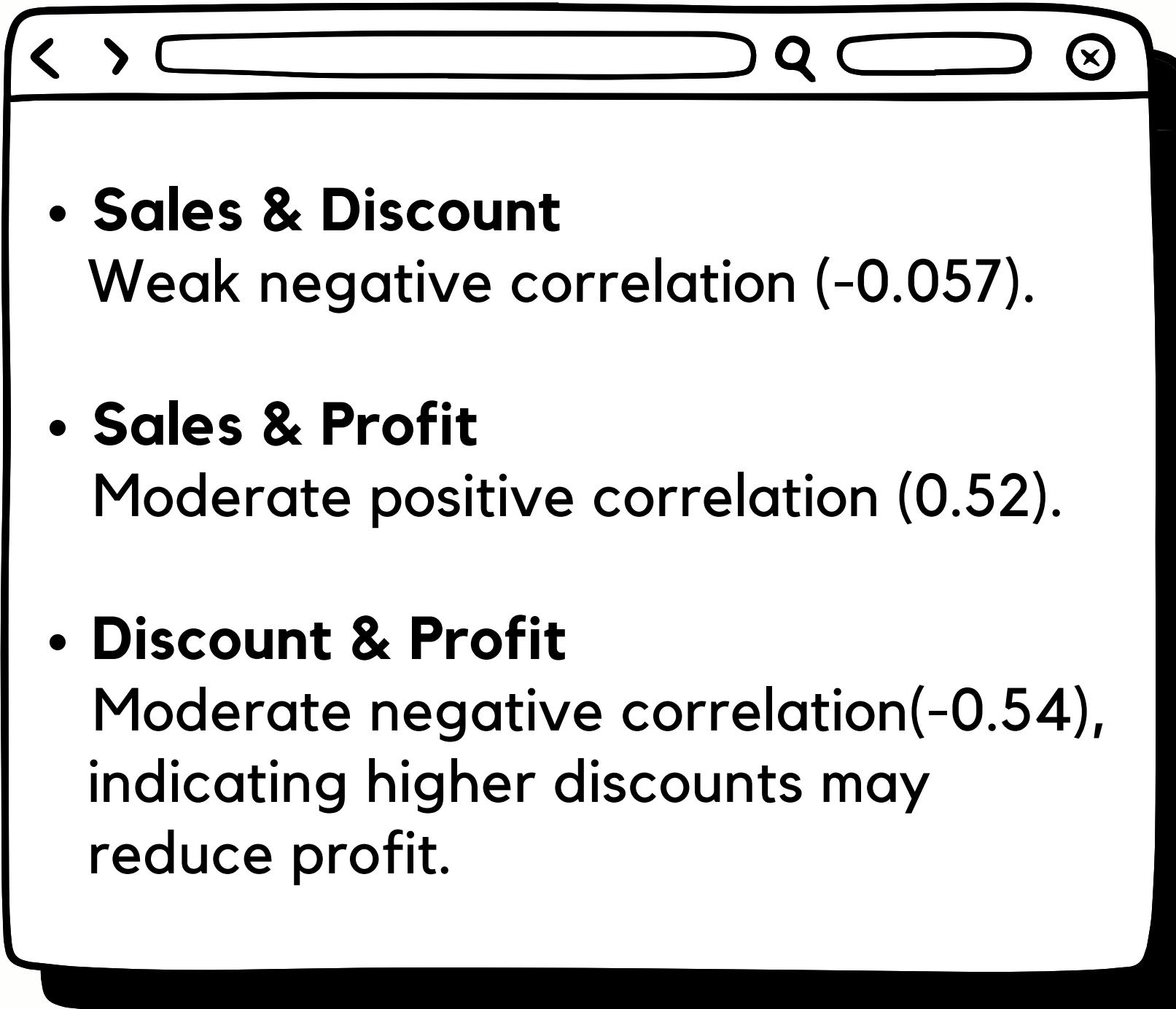
GEOGRAPHICAL ANALYSIS

Sales by Product in Top Countries

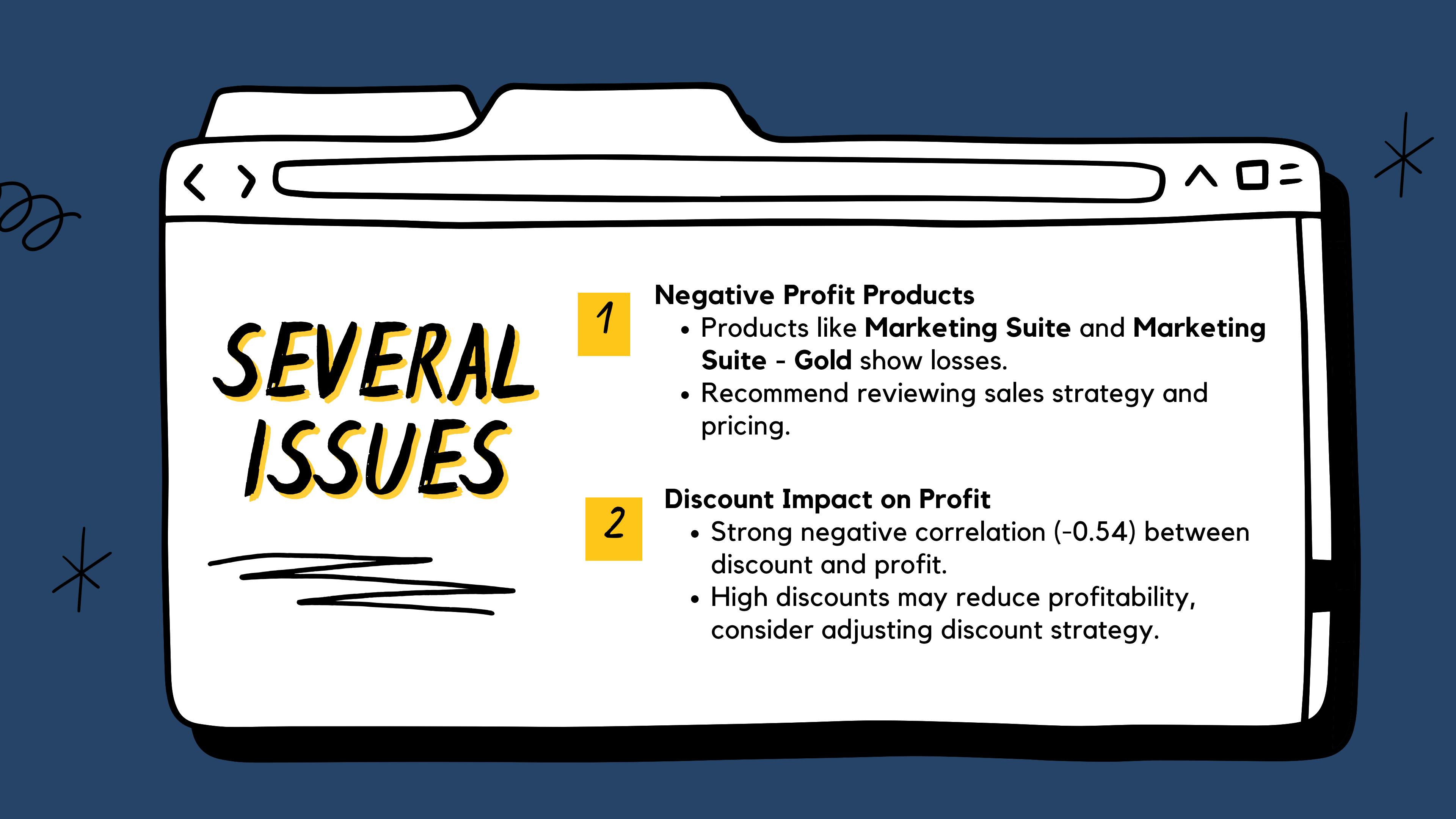


The U.S. is the leading market in terms of sales volume, followed by the U.K. and then Japan. The high performance of products like ContactMatcher and Site Analytics in all three countries suggests they are well-received, while products with lower sales might need additional marketing or improvements to increase their appeal.

CORRELATION ANALYSIS



SEVERAL ISSUES



1

Negative Profit Products

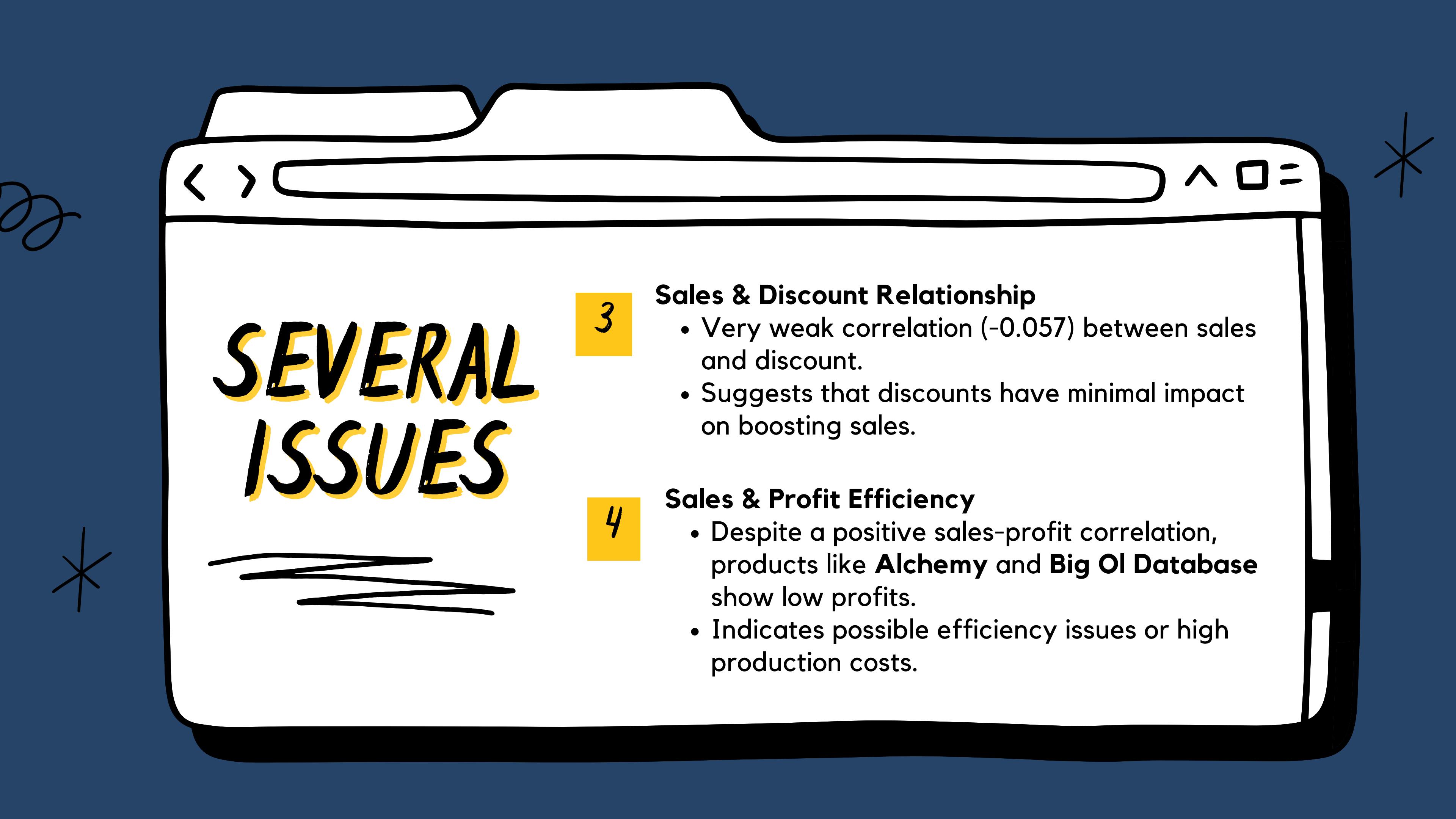
- Products like **Marketing Suite** and **Marketing Suite - Gold** show losses.
- Recommend reviewing sales strategy and pricing.

2

Discount Impact on Profit

- Strong negative correlation (-0.54) between discount and profit.
- High discounts may reduce profitability, consider adjusting discount strategy.

SEVERAL ISSUES



Sales & Discount Relationship

- Very weak correlation (-0.057) between sales and discount.
- Suggests that discounts have minimal impact on boosting sales.

Sales & Profit Efficiency

- Despite a positive sales-profit correlation, products like **Alchemy** and **Big Ol Database** show low profits.
- Indicates possible efficiency issues or high production costs.

CONCLUSION

SALES PATTERNS

- Strong sales for Alchemy, Big Ol Database, and Marketing Suite.
- Seasonal peaks in December (2020, 2021, 2022) suggest holiday influence.
- Overall sales trend is upward with some fluctuations, indicating growth.

PRODUCT PERFORMANCE

- Top performers: Alchemy, Big Ol Database, Marketing Suite.
- Improvement needed: SaaS Connector Pack
 - Gold, ChatBot Plugin, Storage.
- Losses in "Marketing Suite" highlight areas for strategic adjustments to boost profitability.

CONCLUSION

CUSTOMER ANALYSIS

Top Customers: Allianz, Ford Motors, Anthem
(high sales volume and loyalty).

INDUSTRY DEMAND

- Key sectors: Energy, Finance, Manufacturing.
- Finance prefers ContactMatcher, Support, and FinanceHub.

CORRELATION ANALYSIS

Positive correlation between Sales and Profit, indicating that higher sales drive higher profits.

GEOGRAPHICAL SALES

- Largest markets: **USA, UK, Japan**.
- Top products by region: USA: **ContactMatcher**, UK: **FinanceHub**, Japan: **Site Analytics**

RECOMMENDATION

- **Price Adjustment:** Adjust pricing for Marketing Suite to reduce losses.
- **Marketing Boost:** Offer targeted discounts in low-performing regions/industries.
- **Financial Optimization:** Align financial policies with seasonal sales trends.
- **Operational Efficiency:** Lower costs and improve efficiency for top products like Alchemy and Big Ol Database.

