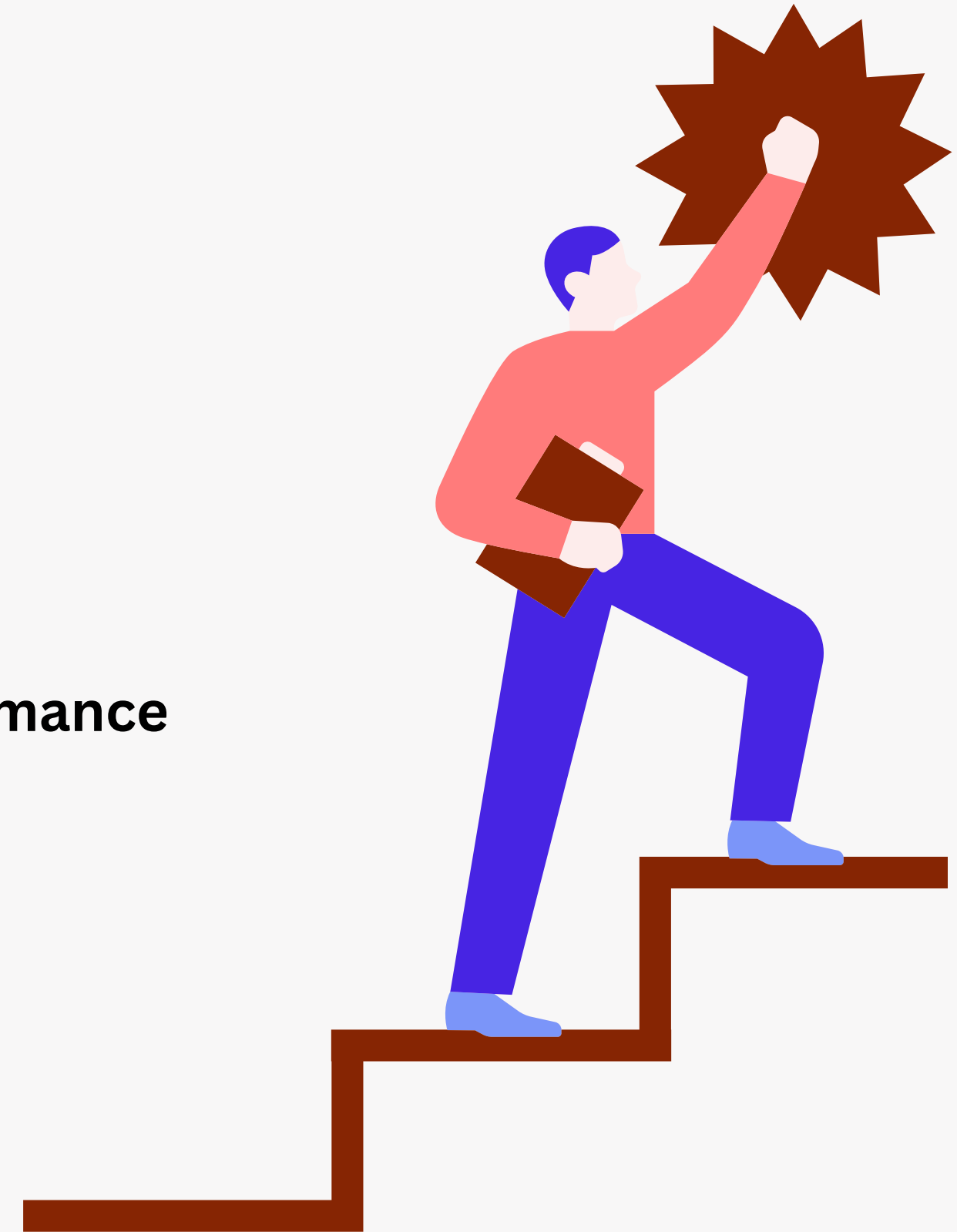# Sales Performance Analysis

- A comprehensive analysis of global sales performance based on historical transactional data.

Prepared by: Aya Tallah | June 2025

Key Highlights (KPIs)

1. Total Revenue:

with outliers: 44912130253.92
without outliers: 24976136167.140003

2. Total Profit:

with outliers: 13258985378.57
without outliers: 7897614105.59

3. Total Units Sold:

with outliers: 167810878
without outliers: 121731013

4. Average Profit per Unit:

with outliers: 79.01147730464767
without outliers: 64.87758469232487

5. Average order value :

with outliers: 1337227.7214887154
without outliers: 932049.7132940256

6. Number of Orders:

with outliers: 33586
without outliers: 26797

KPI BREAKDOWN

2025

1. Total Revenue & Total Profit:

These metrics reflect the overall financial performance of the business. Total Revenue captures the gross income generated from all sales, while Total Profit measures the earnings after deducting costs.
We calculated them both with and without outliers to understand the real impact of extremely large transactions, which could skew overall results and lead to misleading insights.

2.Total Units Sold:

This metric shows the total volume of items sold and helps assess operational scale. While outliers are less likely to impact unit counts drastically, large bulk orders can still affect this metric.

3. Average Profit per Unit:

This metric highlights the profitability per item, helping identify high-margin products.
Extreme profit values from outlier orders can significantly deviate the average, so we compared both datasets to gain a more accurate perspective.

4. Average Order Value:

This shows the average revenue earned per order, which is a key indicator of customer purchasing behavior and sales efficiency.
Outlier orders with unusually high values could create a false impression of regular order size. Calculating AOV with and without outliers provides a clearer benchmark.

5. Number of Orders:

This simple count reflects data volume. Comparing the number of orders before and after cleaning shows the percentage of potentially anomalous records that were exclude

Product 01

Product 02

Product 03

Top Selling Item Types (Best Sellers):

We found that the most 2 sold item types based on total units sold are "cereal" and "baby food".

These products have high customer demand, possibly due to affordability, everyday use, or market trends.

Understanding top-selling items helps in optimizing stock and promotions.

Sales by Region (Regional Performance):

It highlights where the business generates the most income which "Sub-Saharan Africa" is on the top.
These insights help identify strong markets and growth opportunities in underperforming regions.

Average Profit per Unit (Unit Profitability):

This analysis shows the average profit earned per unit sold for each item type like "Cosmetics".
It helps identify the most profitable products regardless of total sales volume.
Useful for pricing strategies and product prioritization

Exceptional Deals

We investigated unusual or bulk orders that caused sudden spikes in profit or units sold.

These deals often reflect business clients, wholesale orders, or special campaigns.

Analyzing them helps us understand their impact and whether they are repeatable.

Channel Performance

Why Do Offline Orders Have Shipping Time?
Even though "Offline" refers to the sales channel (not ordered online), that doesn't mean the product is delivered immediately as in bulk purchases /B2B.

We compared Online vs Offline channels based on total profit and number of orders.

"We used the clean dataset to compare online vs offline channels because extreme values could distort actual performance."

Profit: Offline slightly more profitable (6.714 Billion vs 6.54B)
Orders: Offline > Online

But, "Why might Offline outperform Online?

Although online and offline sales channels had similar performance, offline showed slightly higher revenue and profit.

Possible reasons why some regions/customers prefer offline:

1. Trust and habit   **2. Limited internet access**   **3. Large or complex orders**   **4. Cash payments**

Improving the online experience in these regions could help increase overall revenue and expand customer reach.

Monthly Sales Trend

"We included outliers to better capture seasonal peaks and major bulk sales trends."

"We found that the first quarter of the year shows consistently high revenue, likely due to post-holiday demand, start-of-year budgets, and large-volume orders. These insights can help identify the best months for promotions or product launches."
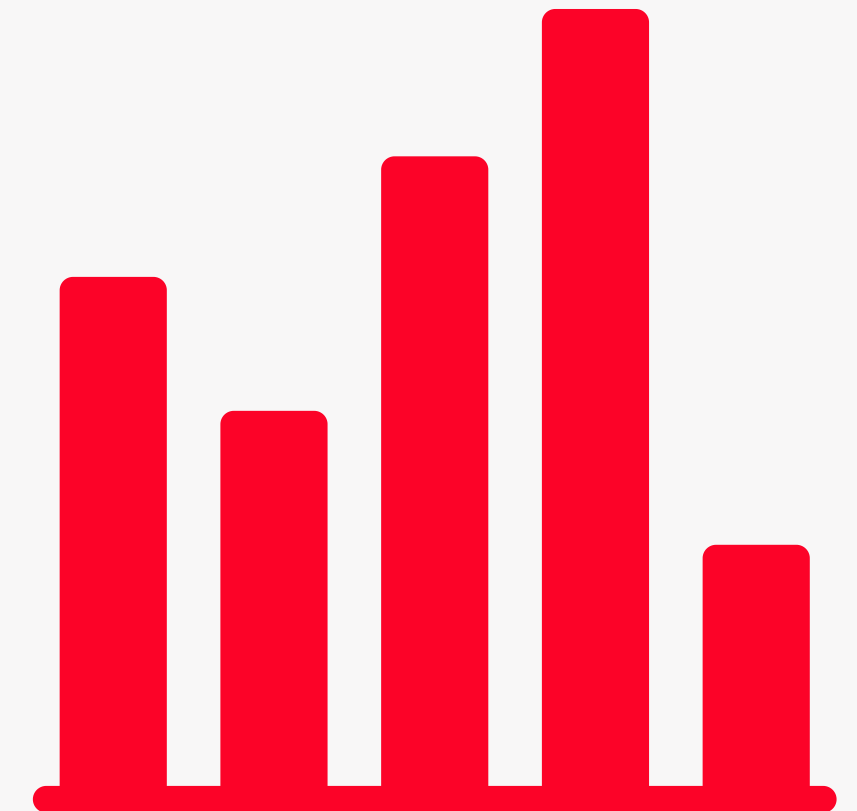
Average Shipping Delay by Channel

Outliers were excluded to measure realistic average shipping delays by channel."

We compared the average shipping time for Online and Offline sales channels.
- Online: 24.89 days
- Offline: 24.93 days

The difference is minimal, which means both channels have similar delivery performance.

Profit Leaders

We analyzed the top 5 countries by total profit using both datasets: with and without outliers.

- With outliers: Reveals countries involved in massive or exceptional sales deals.
- Without outliers: Highlights countries with consistently strong performance.

This comparison helps us differentiate between markets with frequent high sales and those boosted by one-time bulk orders.

Regions by Number of Active Countries

- Purpose: Identify which regions have the highest number of active countries (countries that made purchases).

Why it's useful?

- Shows which regions have a wider customer base , helping with market expansion decisions.
- Regions with more active countries = more opportunities, less risk if one market slows down.
- Focus more on regions with a diverse country presence for better long-term growth.

Sudden Profit Spikes

We analyzed monthly profit per item type to detect unusual growth patterns.

Some products showed sudden large increases in profit during specific months.

This may indicate:
- Promotional campaigns
- Unexpected demand
- Bulk orders (B2B)

Used data with outliers to capture these exceptional cases.

Order Priority

Distribution of Order Priorities:
- **Low (L): 8,486 orders**
- **Critical (C): 8,407 orders**
- **High (H): 8,404 orders**
- **Medium (M): 8,289 orders**

The distribution is fairly balanced across all priority levels, indicating that the business receives a wide mix of urgency in orders.

No single priority level dominates the dataset.
Suggests diverse customer needs and varied operational demands.
Can help explore deeper insights like:

Are higher-priority orders shipped faster?

Do critical orders generate higher profits?

No significant difference was observed in average shipping time or total profit across different priority levels (L, M, H, C).
The distribution of priorities is very balanced, with nearly equal counts for each category.

Since Order Priority does not appear to influence the outcomes, this column can potentially be dropped or excluded from the final analysis to simplify the dataset.

Item Demand by Region

- This analysis shows how demand for different product types varies across regions.
- Helps understand regional preferences, which can guide marketing, inventory, and logistics decisions.
- For example, certain regions might show higher demand for Fruits, while others prefer Household or Clothes.
- Based on this, companies can prioritize stock and tailor their strategies per region.
- We used the version without outliers to avoid demand spikes from exceptional bulk orders that might mislead trends.
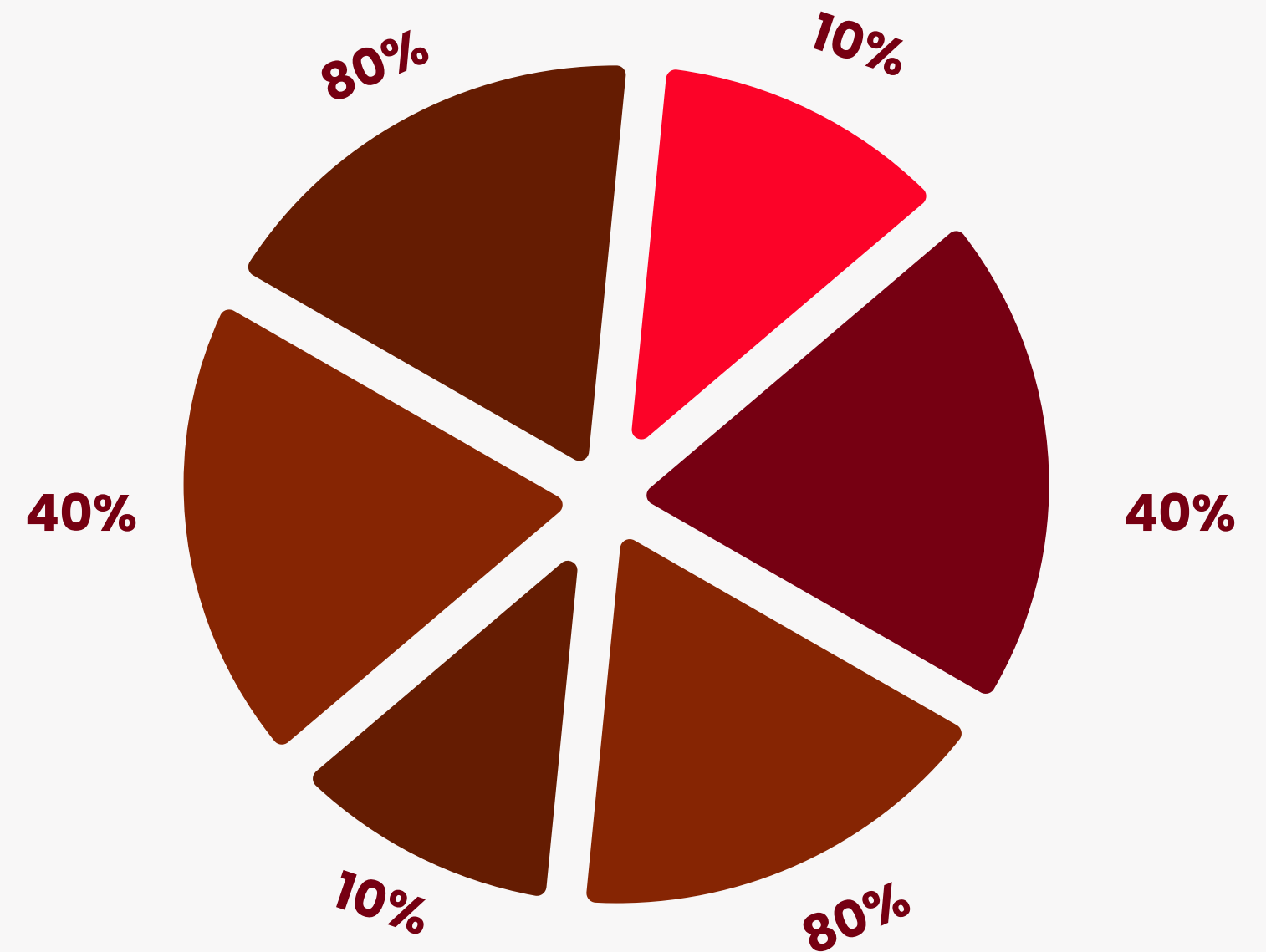
Key Insights & Recommendations
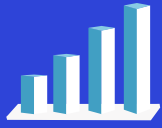
- Peak revenue periods were identified, which can help with planning seasonal promotions and inventory strategies.
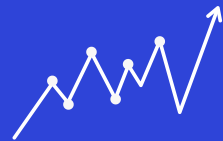
- Despite similar revenue between online and offline channels, offline showed slightly higher profit, suggesting potential for improving online channel efficiency.
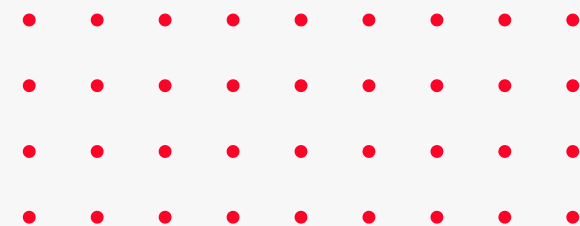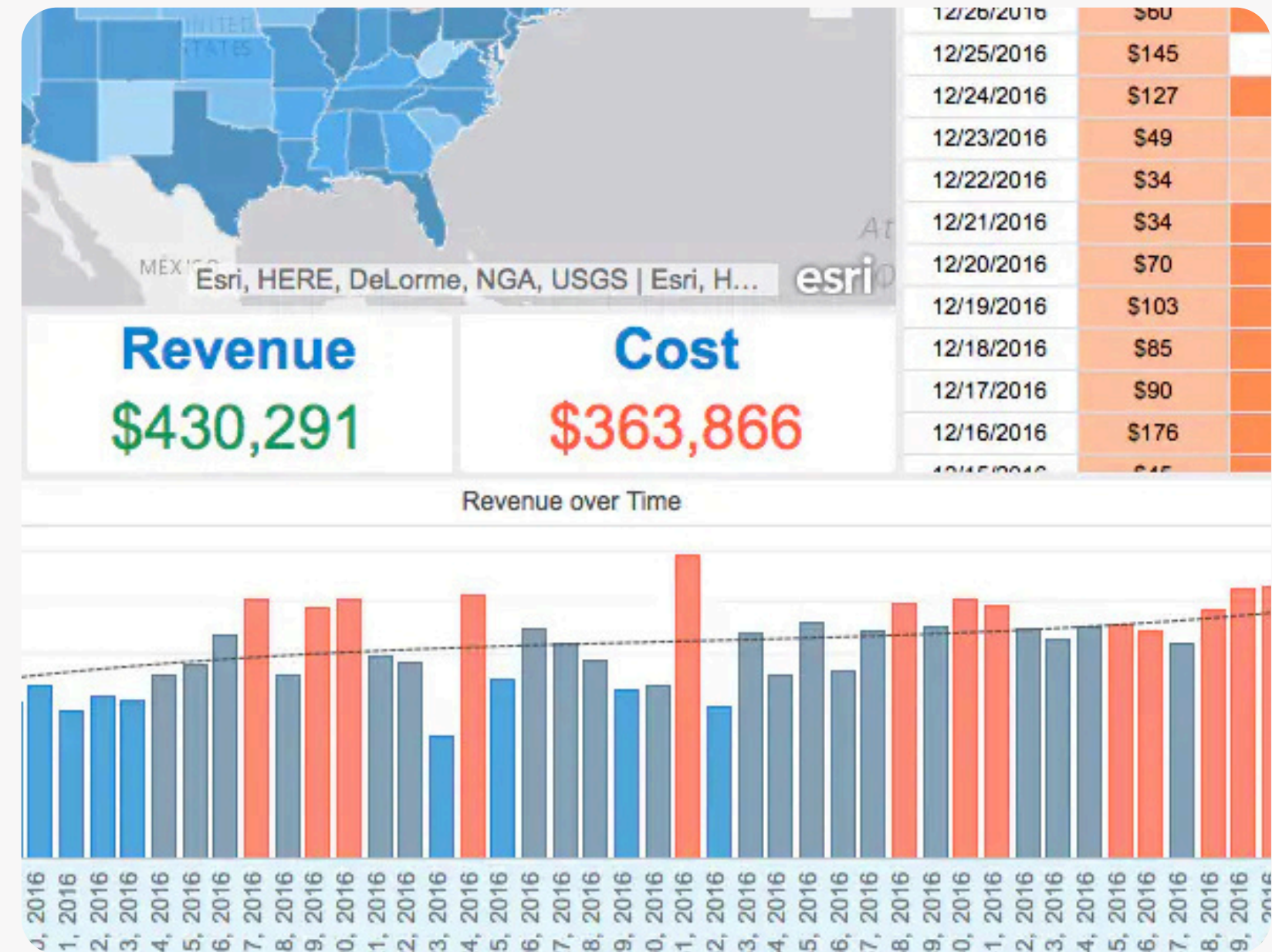
- Certain regions contributed the highest revenue, suggesting the need to focus marketing and investment strategies there.
- Specific item types (e.g., [Item A], [Item B]) were both top-selling and most profitable, indicating strong market demand

- Average profit per unit helps identify the most cost-effective products, useful for pricing and supply chain decisions.

Conclusion

- **We conducted a full sales data analysis using Python and Power BI to extract valuable business insights.**

- **The analysis revealed which products, regions, and sales channels drive the highest revenue and profit.**

- **We also identified shipping performance and customer demand patterns over time.**

- **These findings can support decision-making in marketing, logistics, and product strategy, aiming to boost overall performance and profitability.**

THANK YOU