



Amazon Sales Analysis

amazon

PROBLEM STATEMENT

Sales management has gained importance to meet increasing competition and the need for improved methods of distribution to reduce cost and to increase profits. Sales management today is the most important function in a commercial and business enterprise.

OBJECTIVE

- * Perform ETL(Extract- Transform – Load) on Amazon Dataset and analyze sales trend (Month wise, Year wise, Yearly Month wise).
- * Find key metrics and factors and show meaningful relationship between attributes.

ABOUT DATASET

- Region
- Country
- Item type
- Sales channel
- Order priority
- Order Date
- Order Id
- Ship Date
- Units sold
- Unit Price
- Unit Price
- Total Revenue
- Total cost
- Total profit

KEY INSIGHTS

❑ **Total Revenue:**
137.35 M

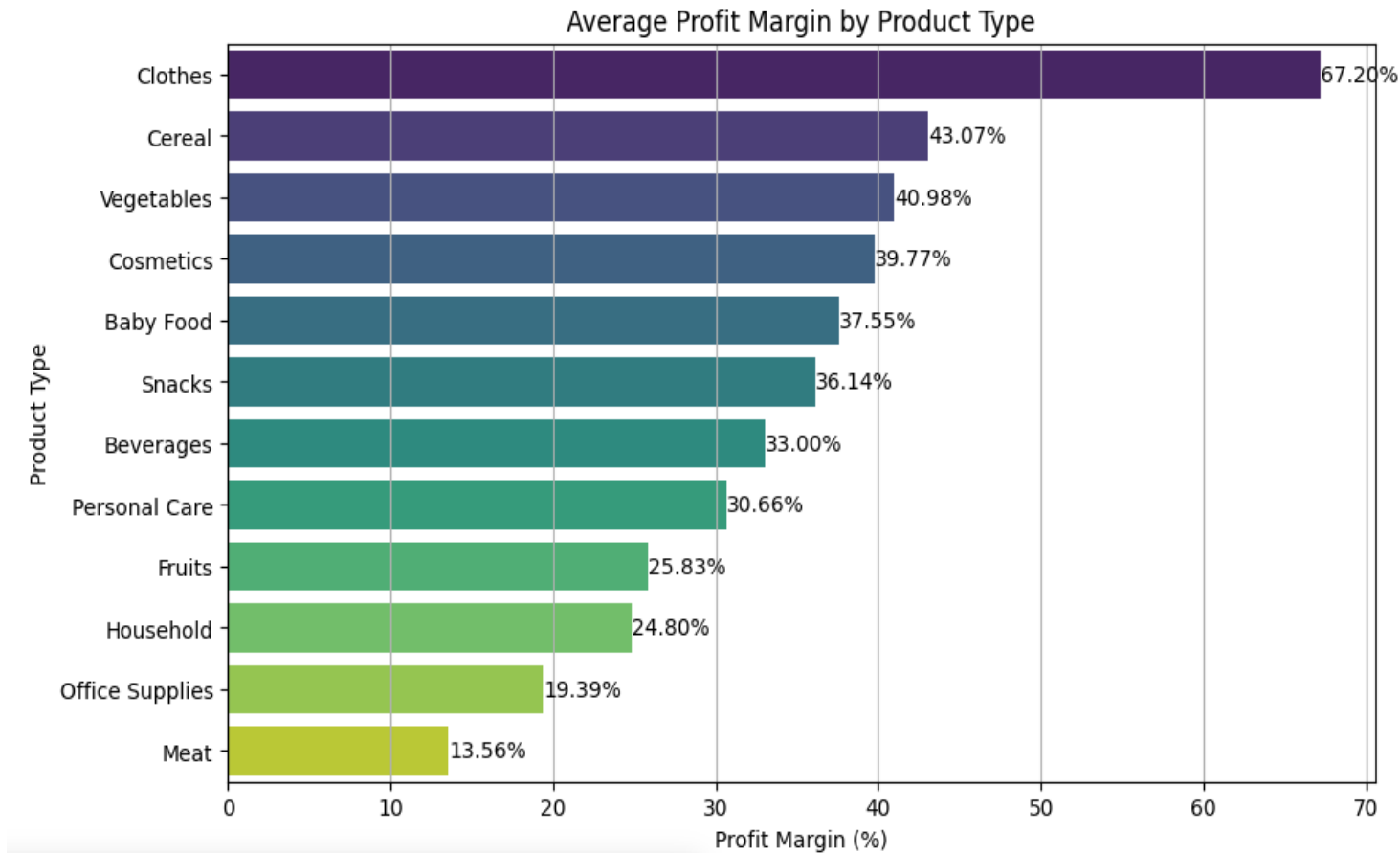
❑ **Units Sold:**
512871

❑ **Total Profit:**
44.17 M

❑ **Average Unit Price:**
276.7613

❑ **Average Unit Cost:**
191.048

WHICH PRODUCT HAVE THE HIGHEST PROFIT MARGIN

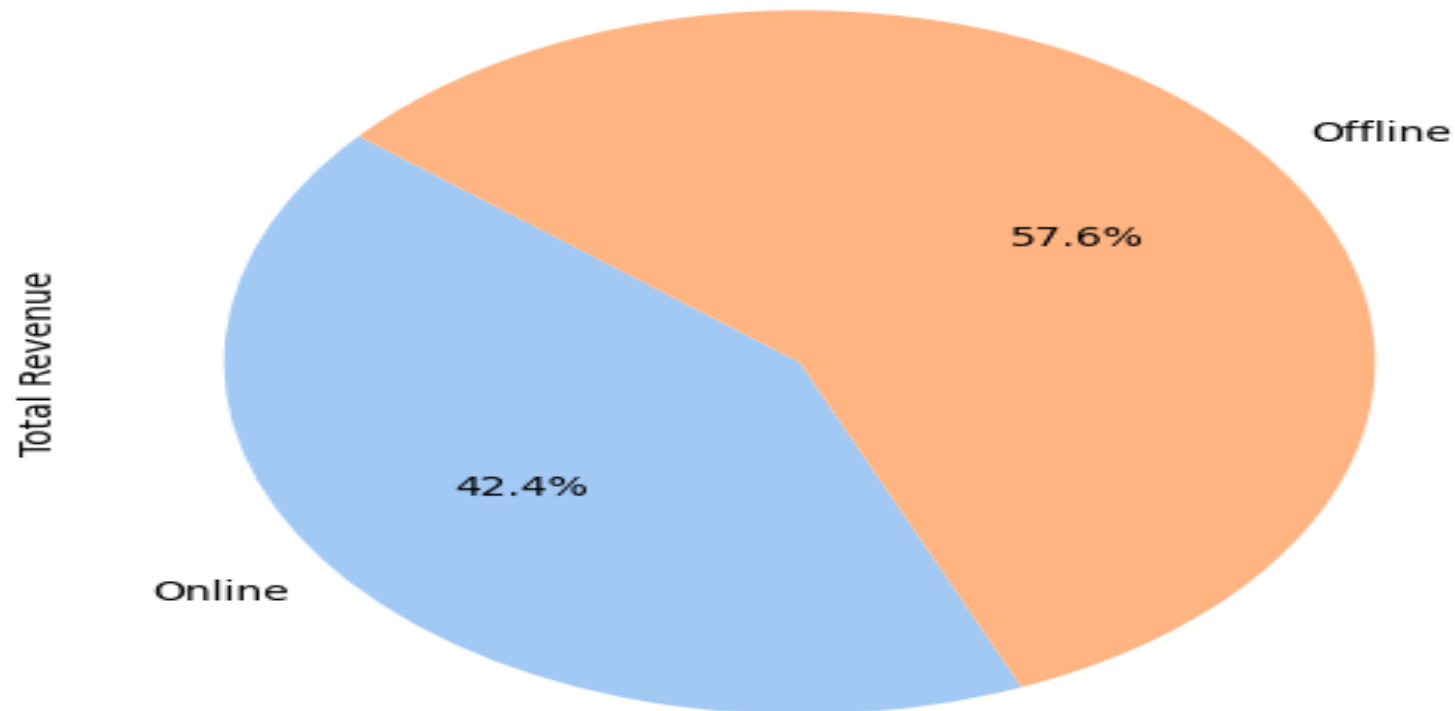


WHICH PRODUCT HAVE THE HIGHEST PROFIT MARGIN

- Clothes have the highest profit margin at **57.47%**.
- Cereal and Vegetables follow with profit margins of **50.82%** and **49.78%**, respectively.
- Cosmetics and Baby Food also have relatively high profit margins at **39.87%** and **38.89%**.
- Office Supplies and Meat have the lowest profit margins at **19.35%** and **33.35%**, respectively.

WHICH MARKETING CHANNELS DRIVE THE MOST

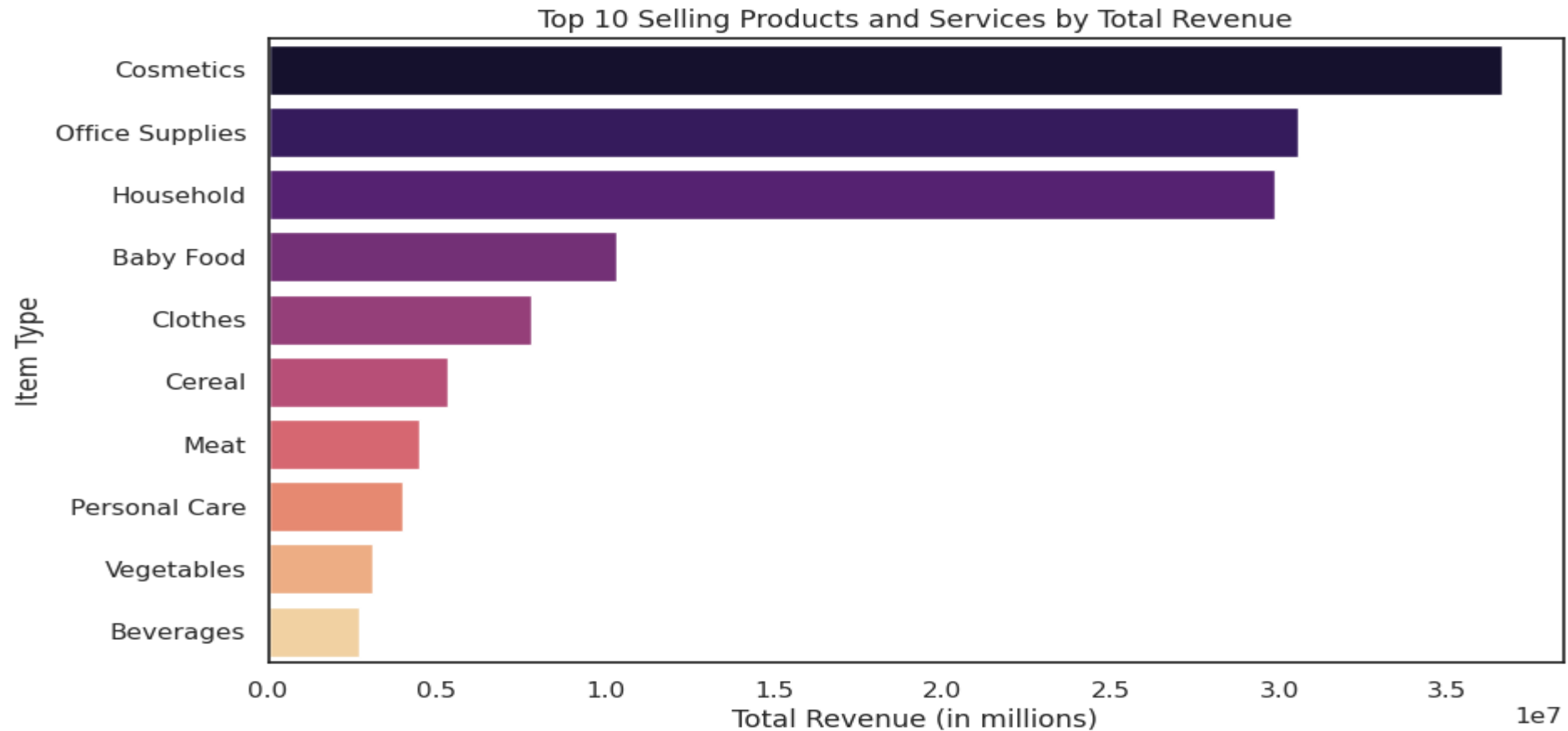
Revenue Distribution by Marketing Channel



WHICH MARKETING CHANNELS DRIVE THE MOST

- **Offline Channels:** Contribute a larger share of total revenue, accounting for **57.6%**.
- **Online Channels:** Make up the remaining **42.4%** of the total revenue.

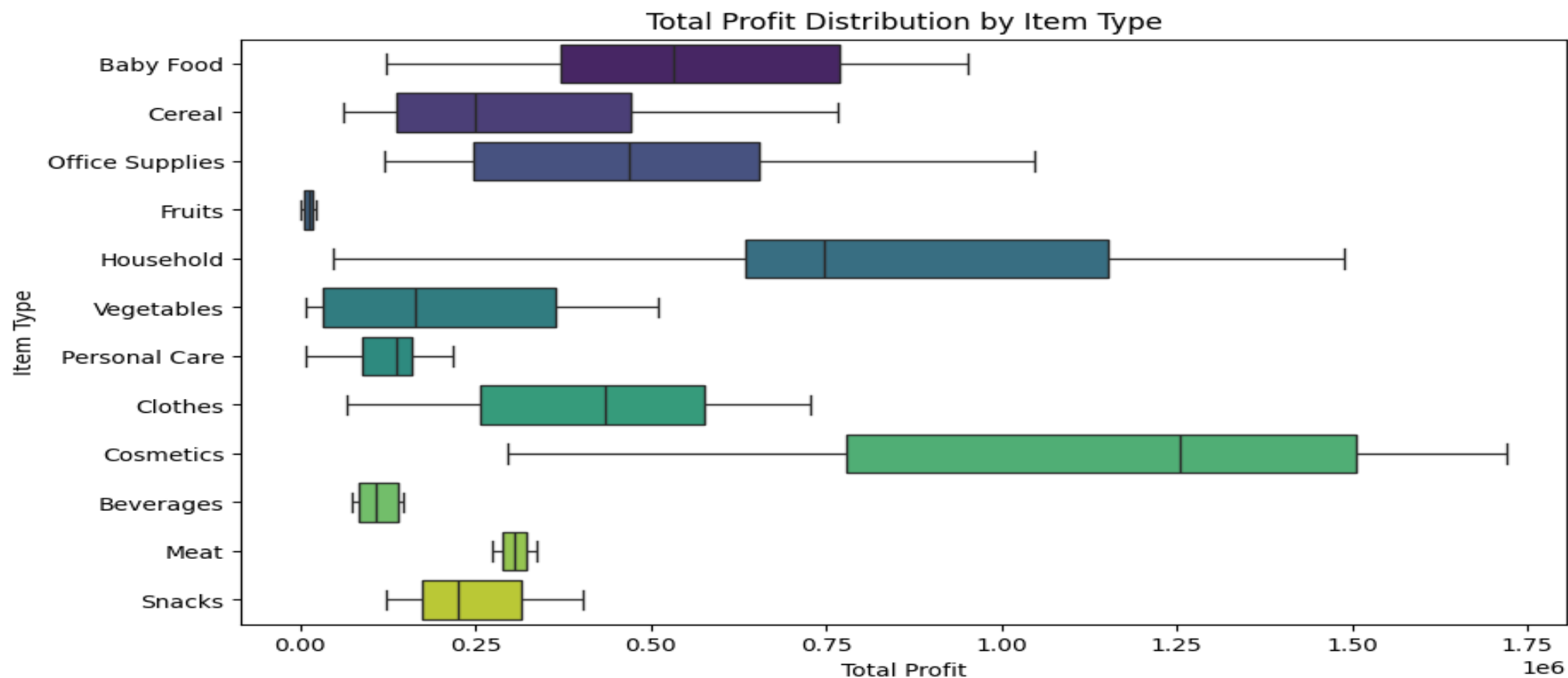
Top Selling Products



Top Selling Products

- **Cosmetics** generate the highest revenue, close to **\$3.5 million**.
- **Office Supplies** and **Household items** also have high revenues.
- **Beverages** have the lowest revenue among the top 10, slightly above **\$0.5 million**.

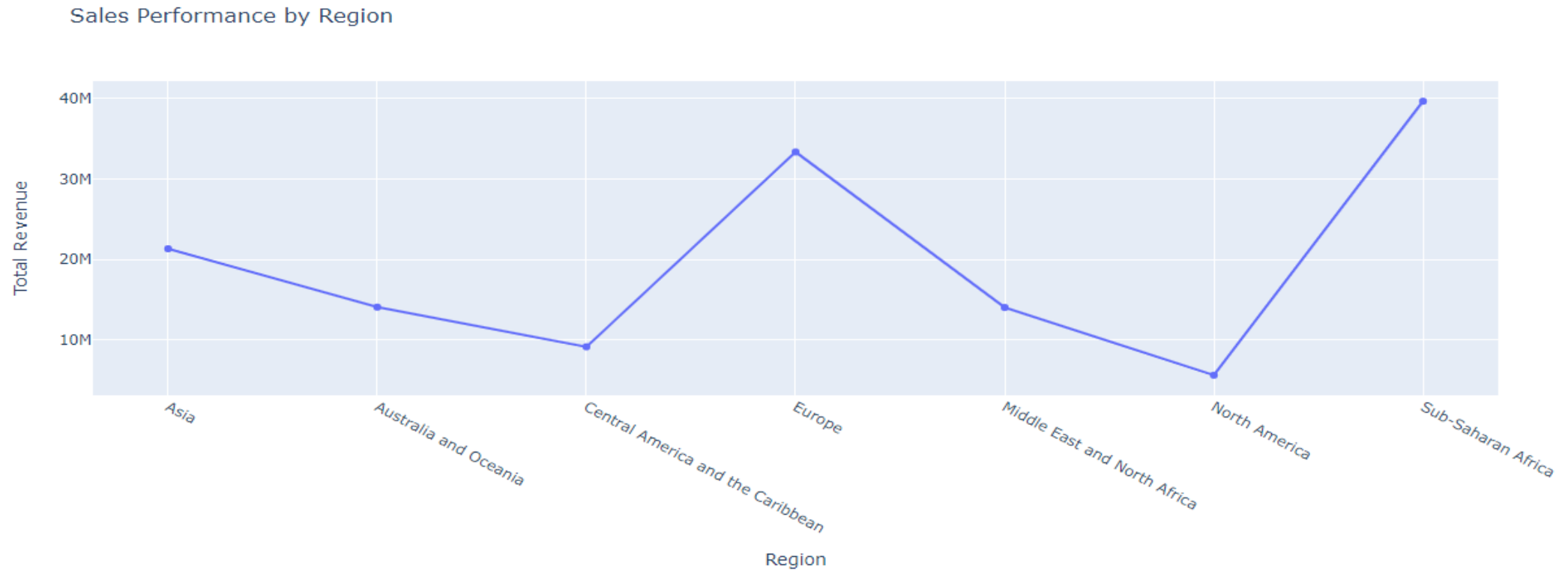
Total Profit Distribution by Item type



Total Profit Distribution by Item type

- **Consistent Profits:** Categories like **Baby Food, Fruits, Personal Care**, and **Cosmetics** have narrow distributions, indicating stable profits.
- **Variable Profits:** **Office Supplies** and **Clothes** show wider distributions with outliers, suggesting variability in profits.
- **Inconsistent Profits:** **Beverages, Snacks**, and **Meat** have small boxes with multiple outliers, indicating inconsistent profit

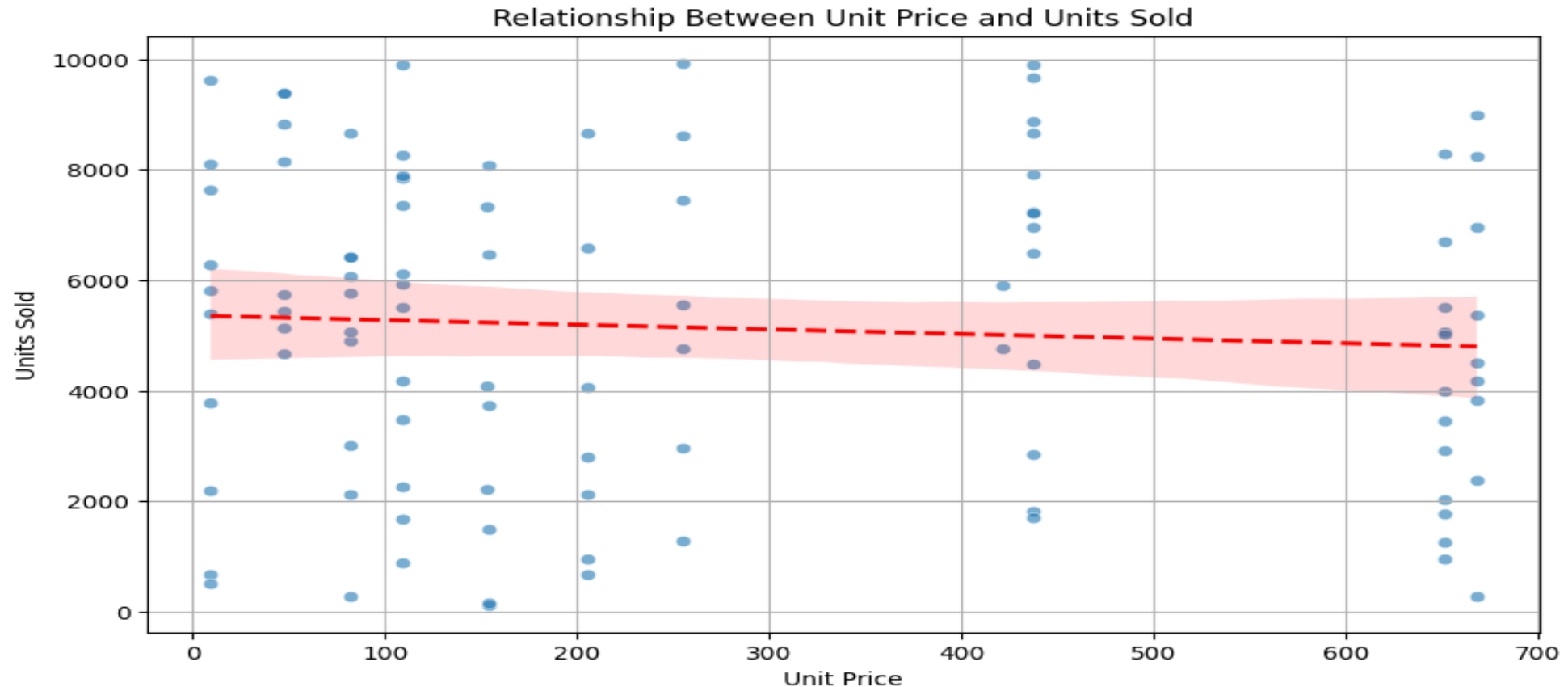
How Does Sales Performance Vary By Region



How Does Sales Performance Vary By Region

- **East Region:** This region has the **highest peak** in sales performance.
- **South Region:** This region shows a significant trough, indicating **lower** sales performance.
- **Central, North, and Westcoast Regions:** These regions have **moderate** sales performance with some fluctuations.

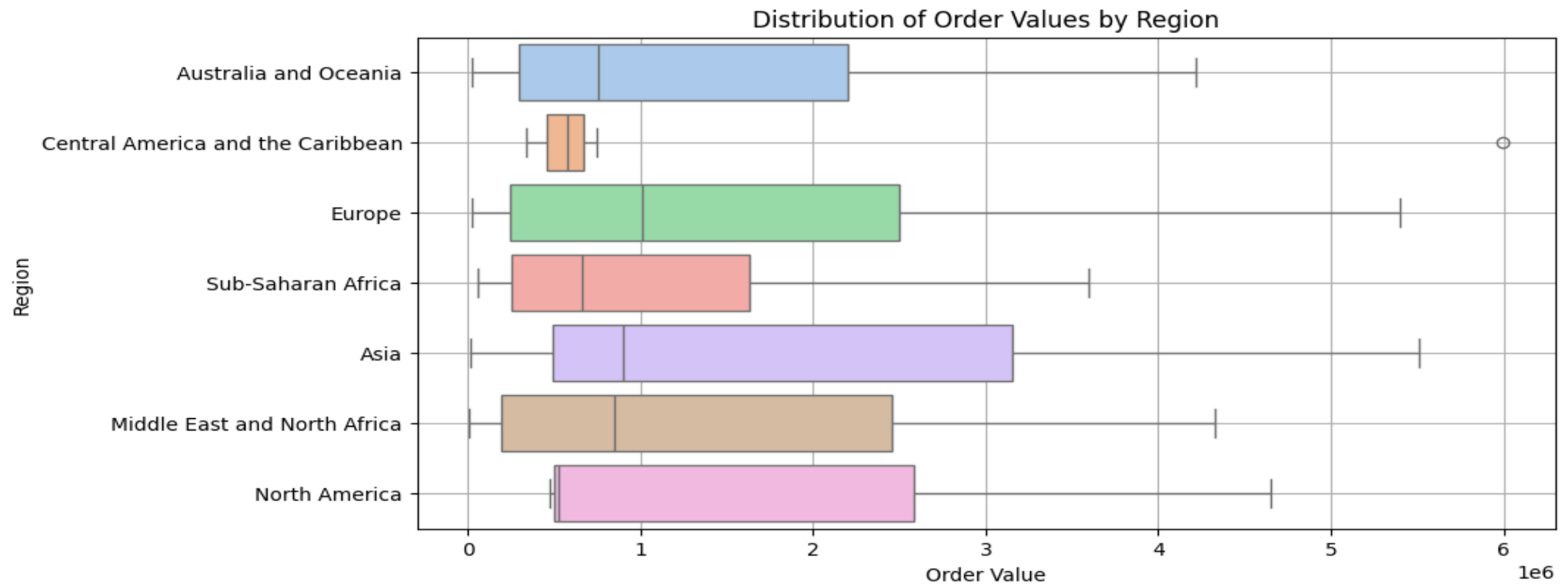
How Does Pricing Affect Sales Volume



How Does Pricing Affect Sales Volume

- **Inverse Relationship:** The chart shows that as the **unit price increases**, the **number of units sold decreases**.
- **Trend Line:** A red trend line indicates this inverse relationship, with a shaded pink area representing the **confidence interval**.
- **Data Points:** Numerous blue dots represent the **correlation** between specific unit prices and the number of units sold.

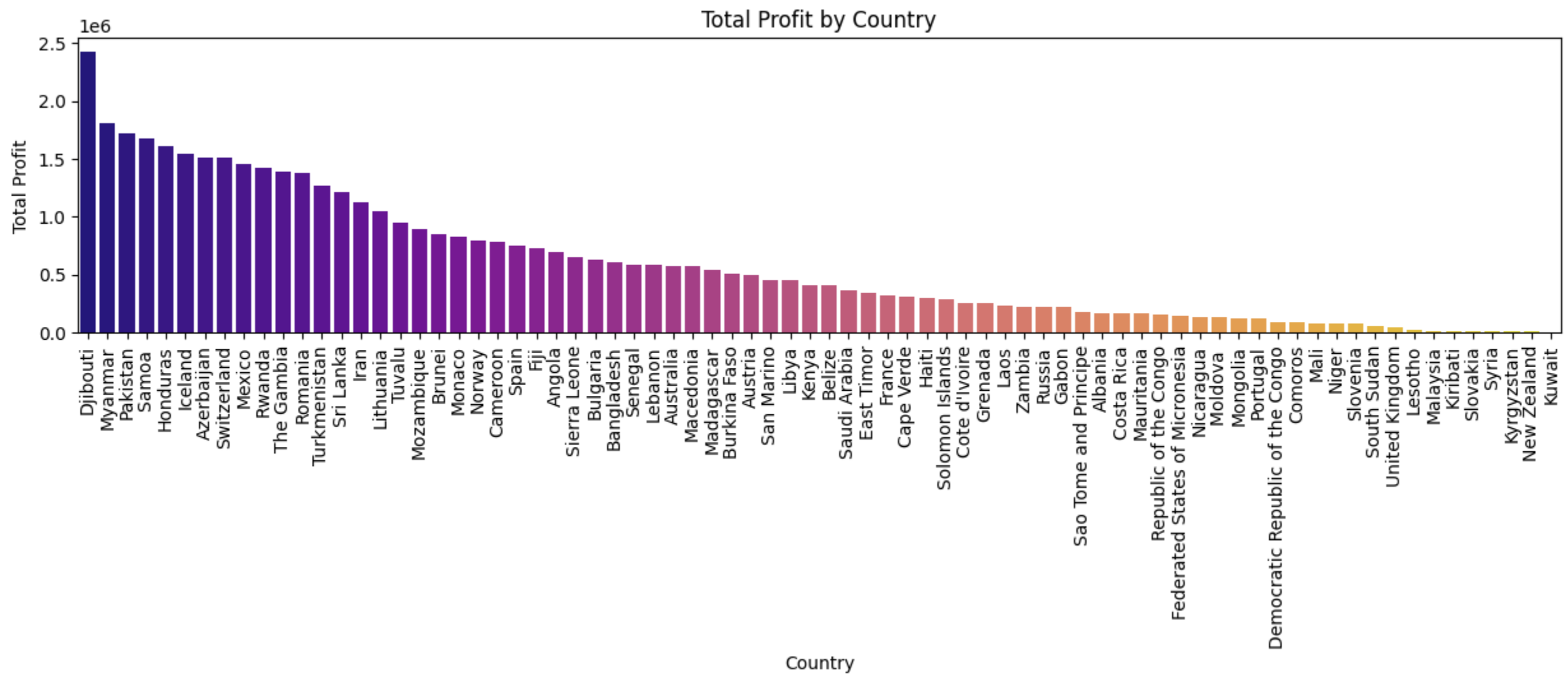
DISTRIBUTION OF ORDER VALUES



DISTRIBUTION OF ORDER VALUES

- **North America** has the highest order value, reaching **up to 6**.
- **Australia and Oceania** and **Europe** have moderate order values, **around 3**.
- **Central America and the Caribbean, Sub-Saharan Africa, Asia, and Middle East and North Africa** have lower order values, **below 3**.

TOTAL PROFIT BY COUNTRY



TOTAL PROFIT BY COUNTRY

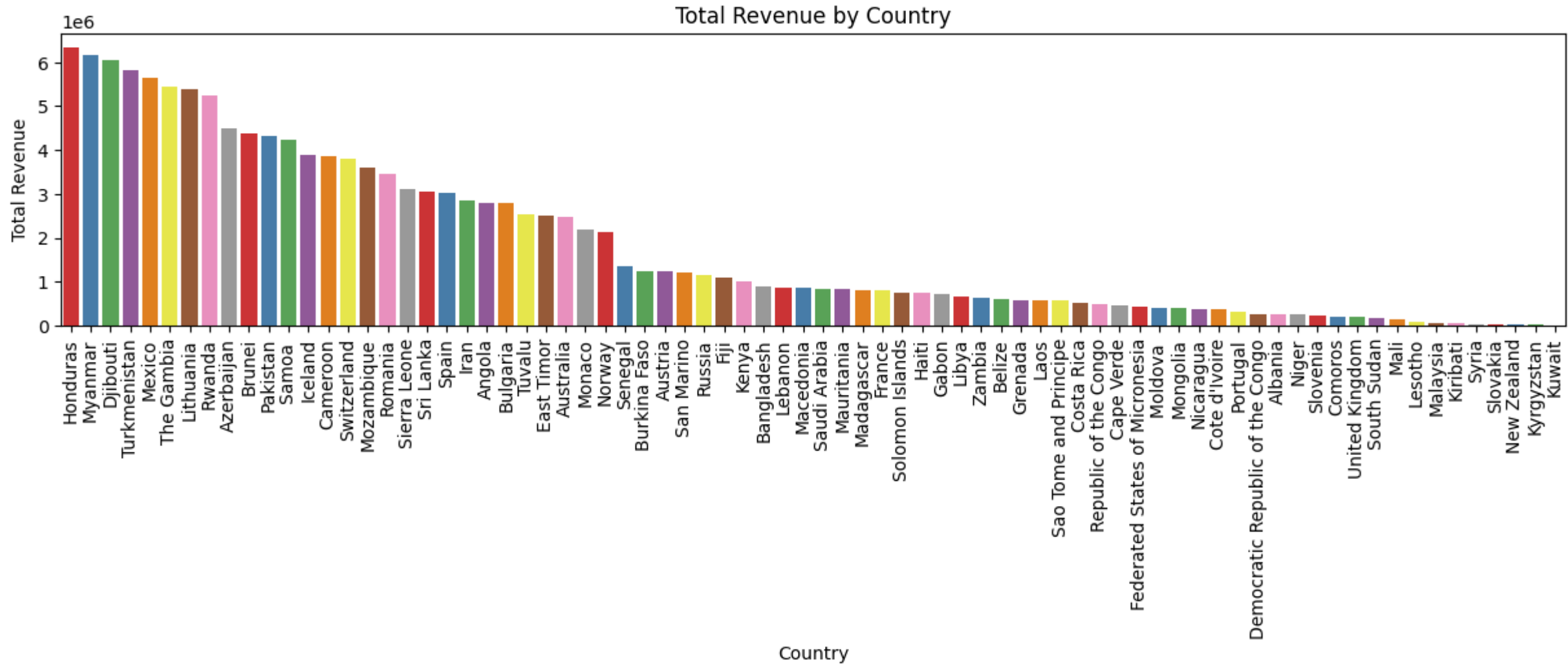
- **Highest Profit:**

The country with the highest total profit (close to **2.5 million** dollars) is **Djibouti**.

- **Lowest Profit:**

The country with the lowest total profit is on the far right of the chart, and it is **Democratic Republic of the Congo**.

TOTAL REVENUE BY COUNTRY



TOTAL REVENUE BY COUNTRY

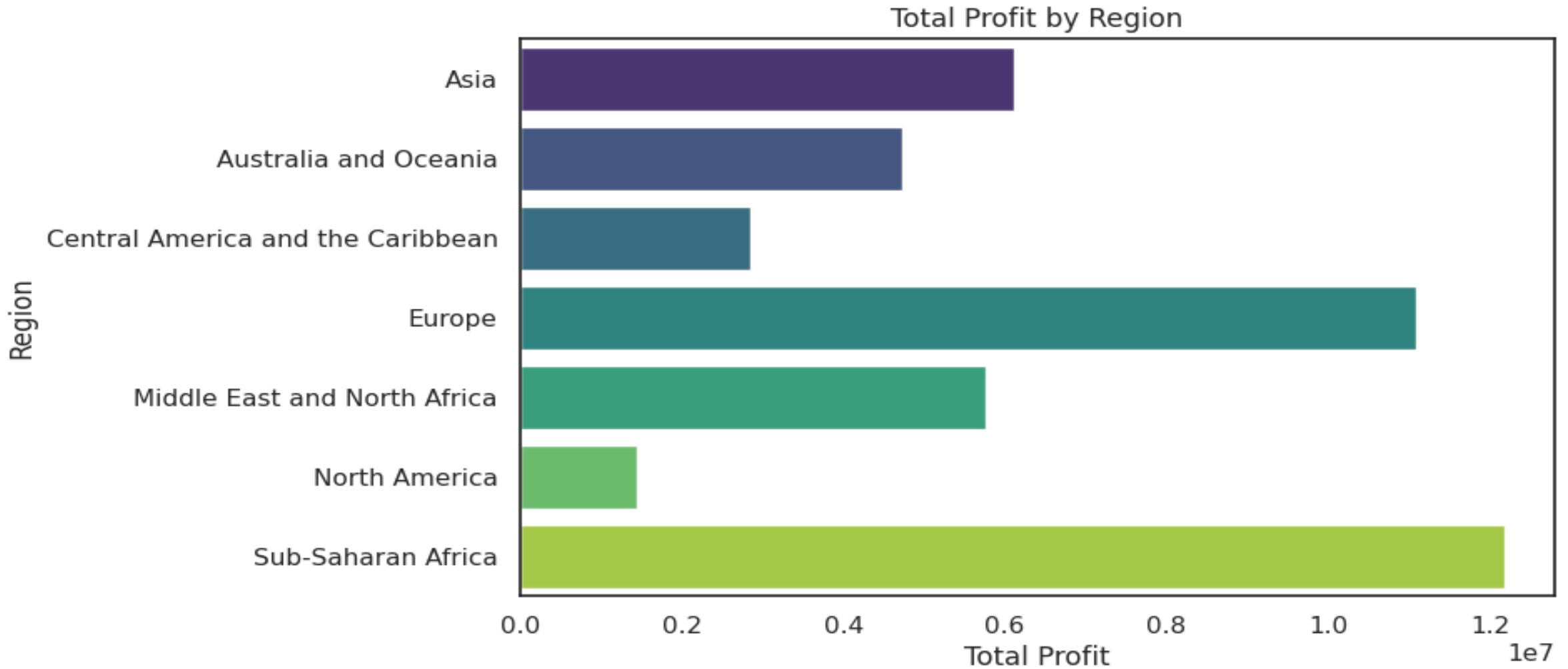
- **Highest Revenue:**

The country with the highest total revenue is **Honduras**, with a revenue close to **6 billion dollars**.

- **Lowest Revenue:**

The country with the lowest total revenue is **Kuwait**, with a significantly **lower revenue** compared to Honduras.

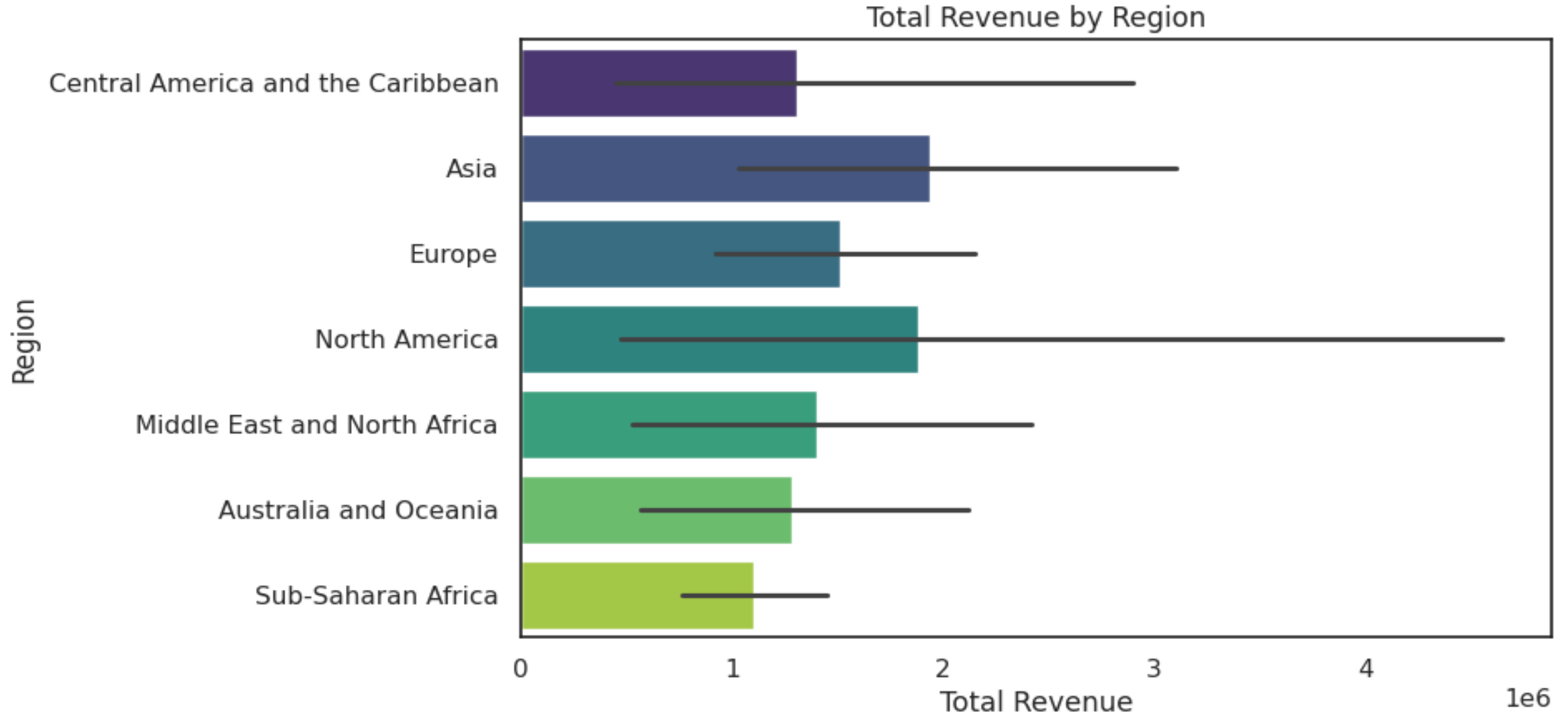
TOTAL PROFIT BY REGION



TOTAL PROFIT BY REGION

- **North America** has the highest total profit, exceeding 1.0 on the profit scale.
- **Asia Oceania** follows North America with the second highest total profit.
- **Middle East and North Africa** and **Australia and New Zealand** have moderate profit values, with Australia and New Zealand slightly lower.
- **Sub-Saharan Africa** has the lowest total profit among the listed regions.

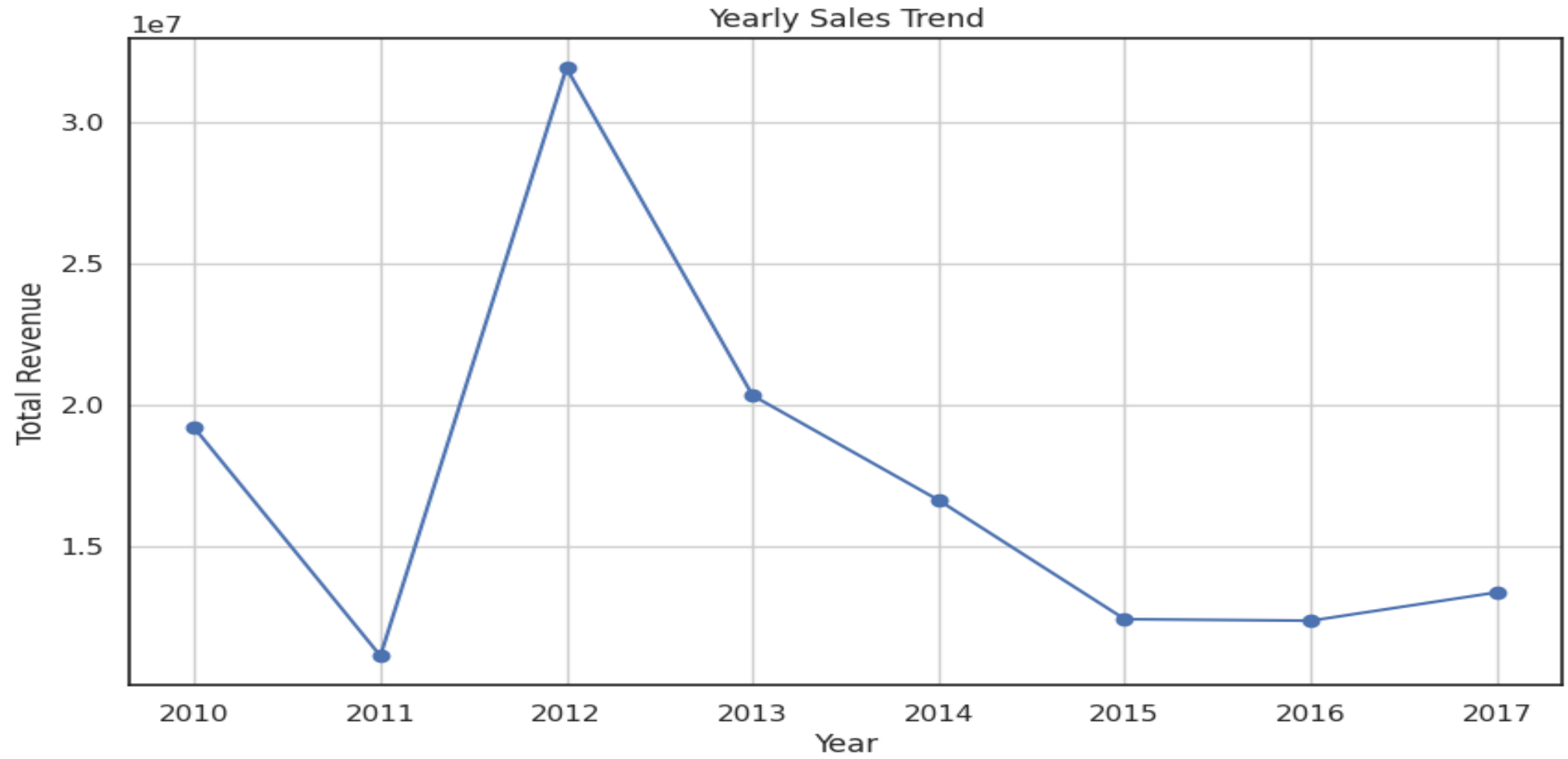
TOTAL REVENUE BY REGION



TOTAL REVENUE BY REGION

- **Asia** has the highest total revenue, reaching close to 4 units on the revenue scale.
- **Europe** follows Asia with the second highest total revenue.
- **North America, Central America and the Caribbean, Middle East and North Africa, and Australia and Oceania** have moderate revenue values.
- **Sub-Saharan Africa** has the lowest total revenue among the listed regions.

YEARLY SALES TREND



YEARLY SALES TREND

- **Peak Revenue (2012):**

The peak revenue in 2012 is approximately **25 million**.

- **Stabilized Revenue (2014-2017):**

The revenue stabilizes around or slightly below **10 million**.

MONTH WISE SALES TREND



MONTH WISE SALES TREND

- **Highest Peak (March):**

The highest revenue peak occurs in March, reaching just above **20 million**.

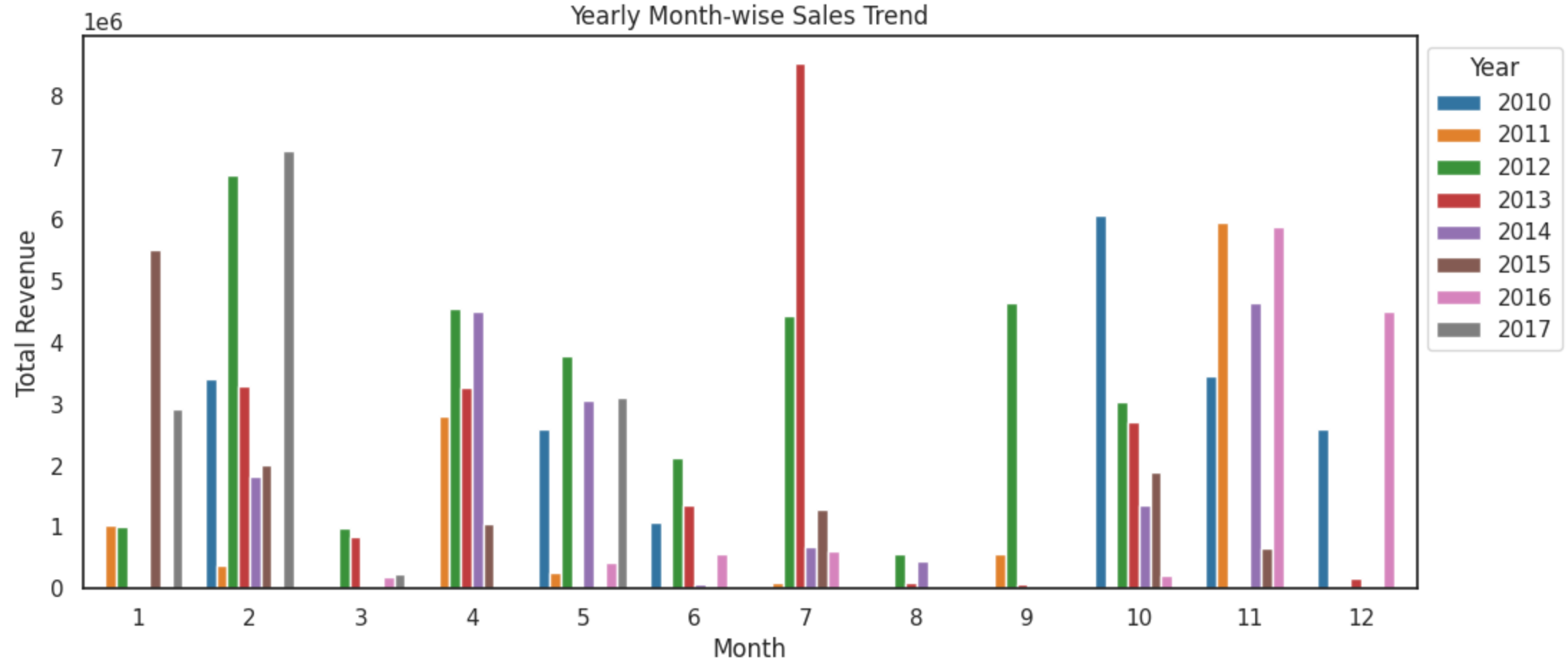
- **Other Peaks (June and November):**

There are additional peaks in June and November, with revenues around **18 million** and **15 million**, respectively.

- **Lowest Revenue (September):**

The lowest revenue is in September, dropping **close to zero**.

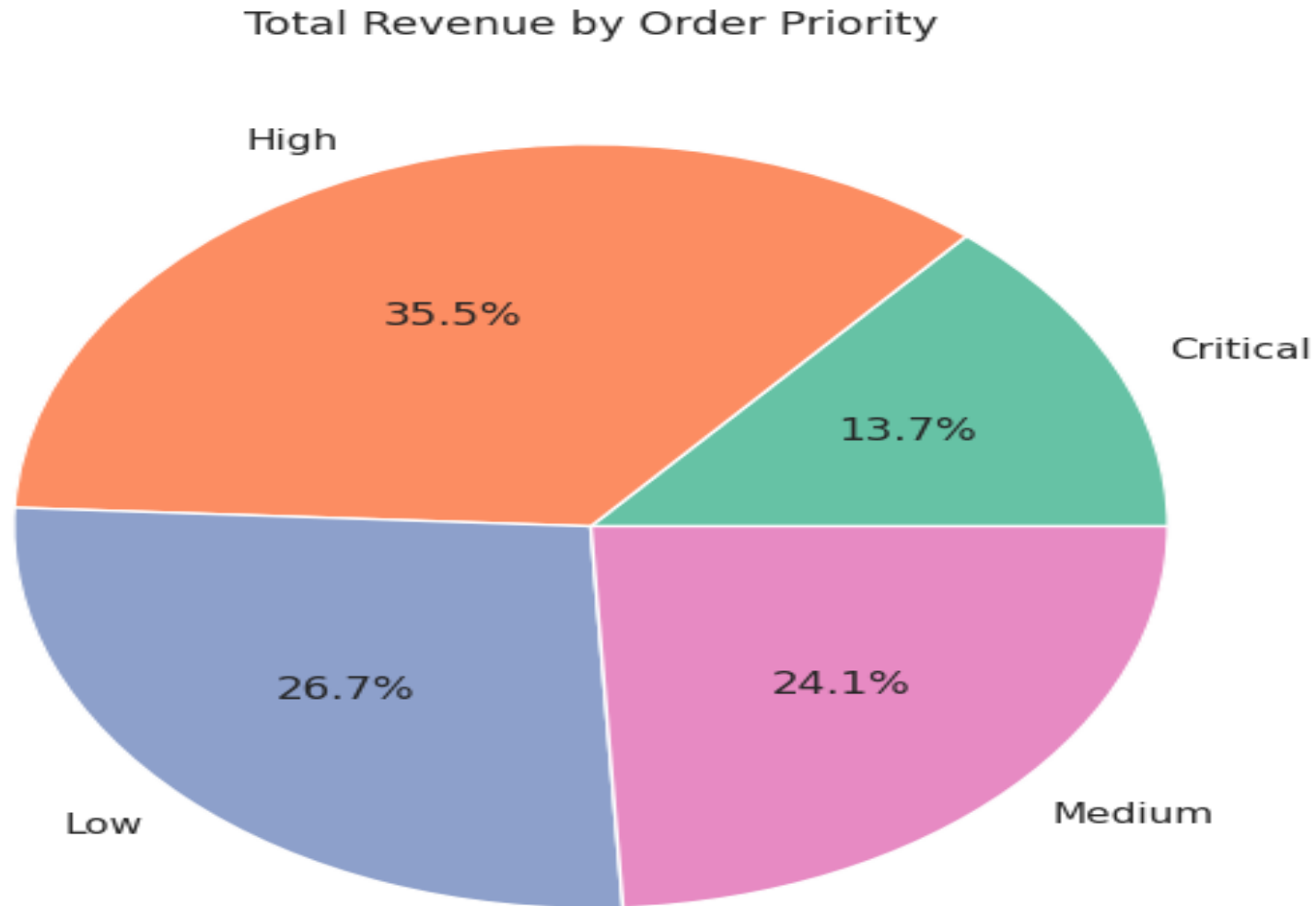
YEARLY MONTH WISE SALES TREND



YEARLY MONTH WISE SALES TREND

- **Highest Revenue Months:** March and December, up to **8 million**.
- **Seasonal Trends:** Noticeable sales peaks in specific months.
- **Yearly Variations:** Some months have consistent high revenue; others vary significantly.
- **Lowest Revenue Months:** September, below **2 million**.

TOTAL REVENUE BY ORDER PRIORITY



TOTAL REVENUE BY ORDER PRIORITY

- **High Priority:**

The largest segment, accounting for **35.5%** of the total revenue.

- **Low Priority:**

The second largest segment, making up **26.7%** of the total revenue.

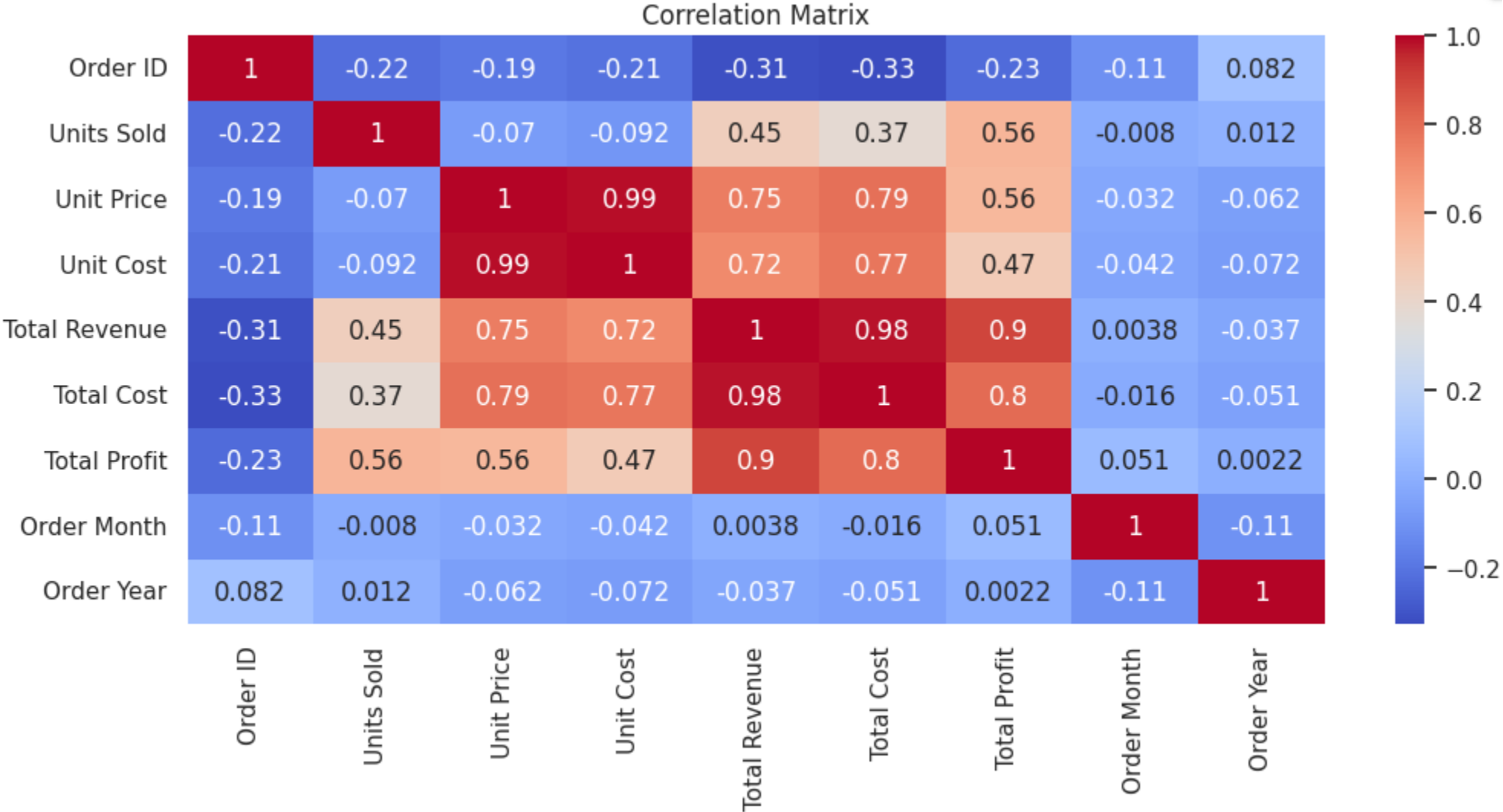
- **Medium Priority:**

Accounts for **24.1%** of the total revenue.

- **Critical Priority:**

The smallest segment, contributing **13.7%** of the total revenue.

CORRELATION METRICS



CORRELATION METRICS

- **Strong Positive Correlations:**
 - Total Revenue** and **Total Cost**: High positive correlation **(0.99)**.
 - Total Revenue** and **Units Sold**: Strong positive correlation **(0.95)**.
 - Total Profit** and **Units Sold**: Positive correlation **(0.72)**.
- **Negative Correlation:**
 - Order Month** and **Unit Price**: Negative correlation **(-0.21)**.
- **Perfect Correlations:**
 - Each metric with itself: Perfect positive correlation **(1.0)**.

CONCLUSION

- Clothes, Cereal, and Vegetables have the highest profit margins.
- Office Supplies and Meat have the lowest profit margins.
- High Priority orders contribute the most to total revenue.
- Djibouti has the highest total profit; Honduras has the highest total revenue.
- North America and Asia are the top regions for profit and revenue.

CONCLUSION

- Offline channels generate more revenue than online.
- An inverse relationship exists between unit price and units sold.
- March, June, and November are peak revenue months; September is the lowest.

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Thank
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