



# Amazon Sales Data Analysis



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# Introduction

Amazon, a global leader in e-commerce and technology, continuously drives innovation and convenience across multiple industries. From revolutionizing retail to spearheading advancements in cloud computing, Amazon is at the forefront of transforming how businesses operate. Its relentless focus on customer-centric solutions not only reshapes online commerce but also sets new standards for the future of digital experiences.



# Problem Statement

Sales management has become increasingly crucial in today's competitive business landscape, where optimizing distribution methods is key to cutting costs and boosting profits. It's the heartbeat of any successful enterprise. In this journey, we dive into an Amazon dataset, aiming to uncover sales trends over time—monthwise, year-wise. But we're not just looking at numbers; we want to find the important metrics and factors driving these trends. Our goal is to make sense of the connections between different aspects of sales data. With data in hand and analytical tools at our disposal, we hope to be decision-makers with practical insights, guiding them towards smarter strategies for business success.



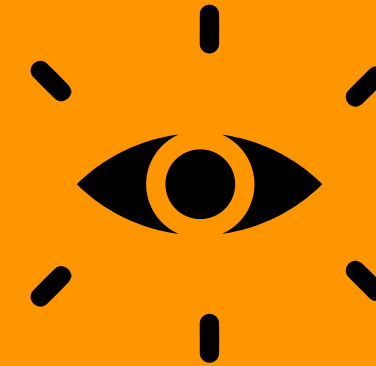


# Mission



Our mission is to utilize advanced analytics and visualization tools like Power BI to deliver a comprehensive analysis of sales performance, customer trends, and resource management. By providing actionable insights, we aim to enhance business strategies, reduce costs, increase profits, and drive continuous growth in a competitive marketplace

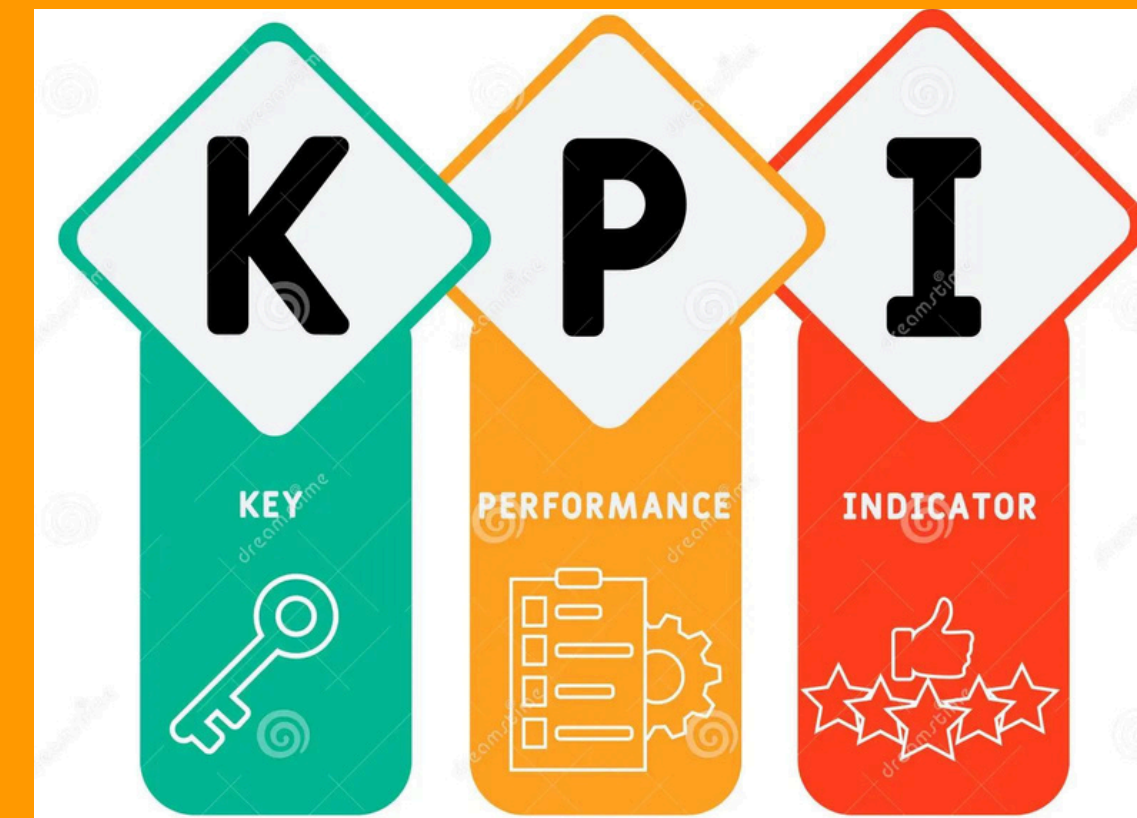
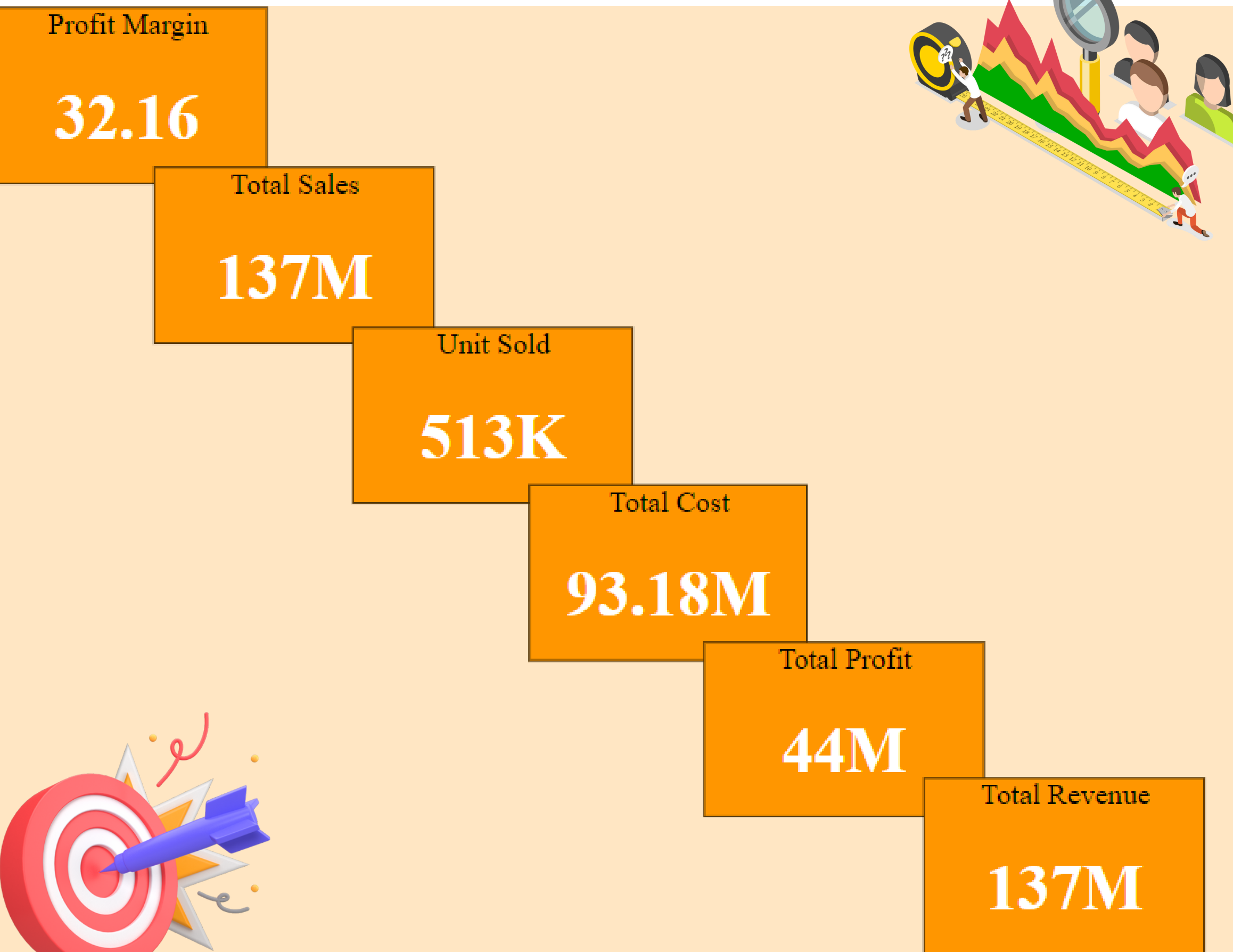
# Vision



To empower data-driven decision-making by transforming sales data into strategic insights, enabling Amazon to lead the future of e-commerce with exceptional customer satisfaction and innovative business solutions. By leveraging cutting-edge analytics, we envision setting new standards in efficiency, agility, and growth in the digital marketplace.

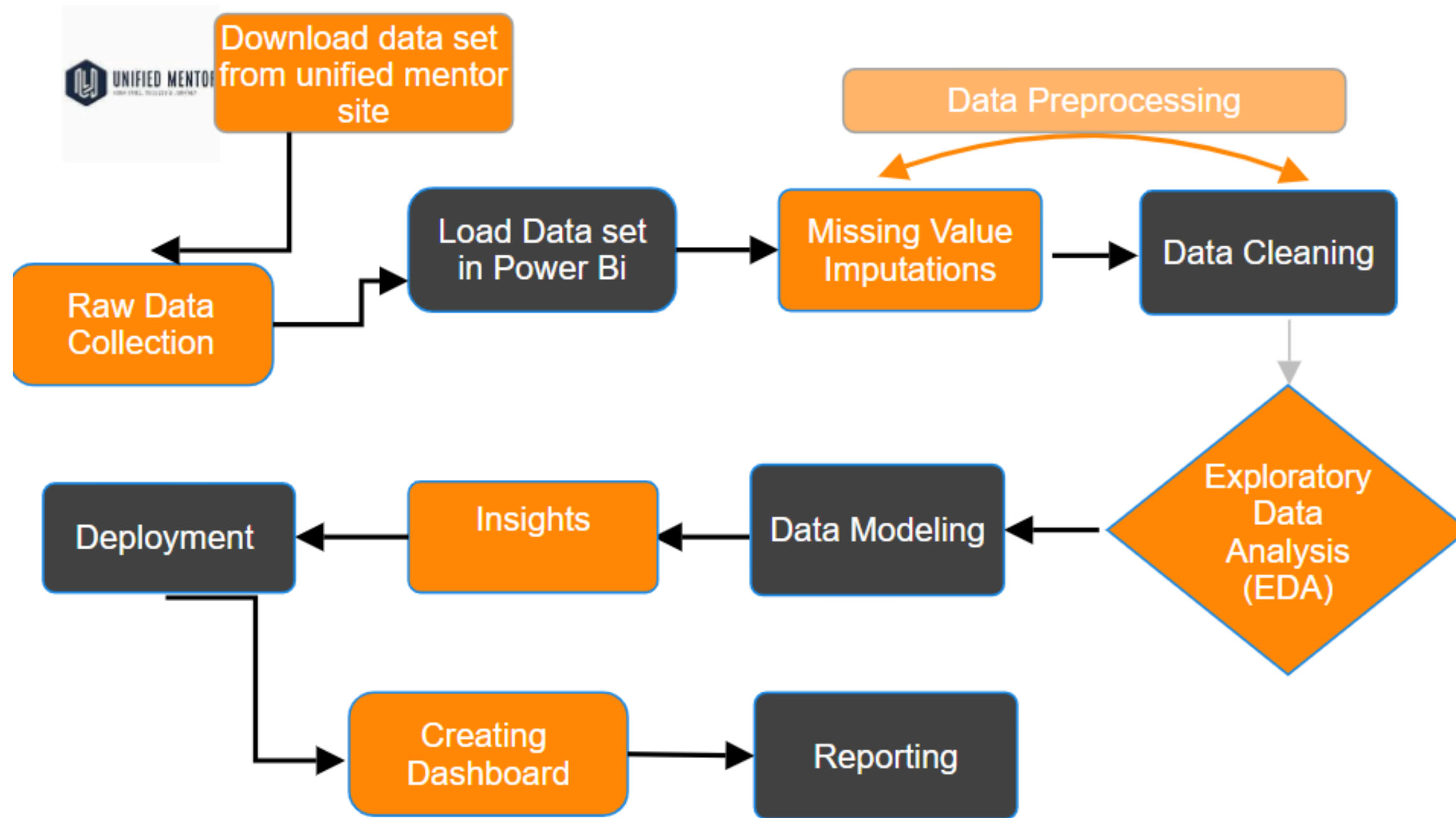
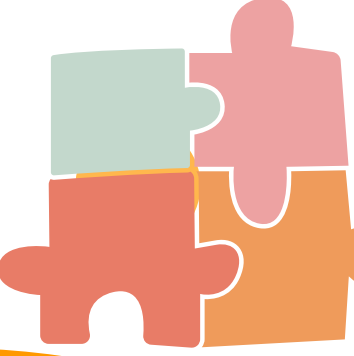


# KPI





# Flow Chart



- ✓ Low-Level Design Document
- ✓ High-Level Design Document
- ✓ Architecture Document

# Data Cleaning and Preparation



## STANDARDIZING FORMATS:

Ensure uniformity across datasets by standardizing data formats, such as converting text to standardized formats like common date formats. This step eliminates inconsistencies and prepares data for accurate analysis.



## DATA TRANSFORMATION:

Apply data transformation techniques to generate new metrics, such as sales per customer or average order value, and aggregate data at different levels (e.g., monthly, quarterly). These transformations help extract deeper insights and enhance the overall analytical capabilities.



## DATA QUALITY CHECKS:

Conduct rigorous quality checks to validate data integrity, consistency, and accuracy. Verify data against business rules and expectations to ensure the reliability of the data for robust analysis and informed decision-making.





# Profit & Revenue Analysis



## Analyzing Amazon Sales Data

Total Revenue

137M

Total Profit

44M

Sales Channel

Offline

Online

Year

All

Quarter

All

Month

All

Country

All

Order Id

All

Region

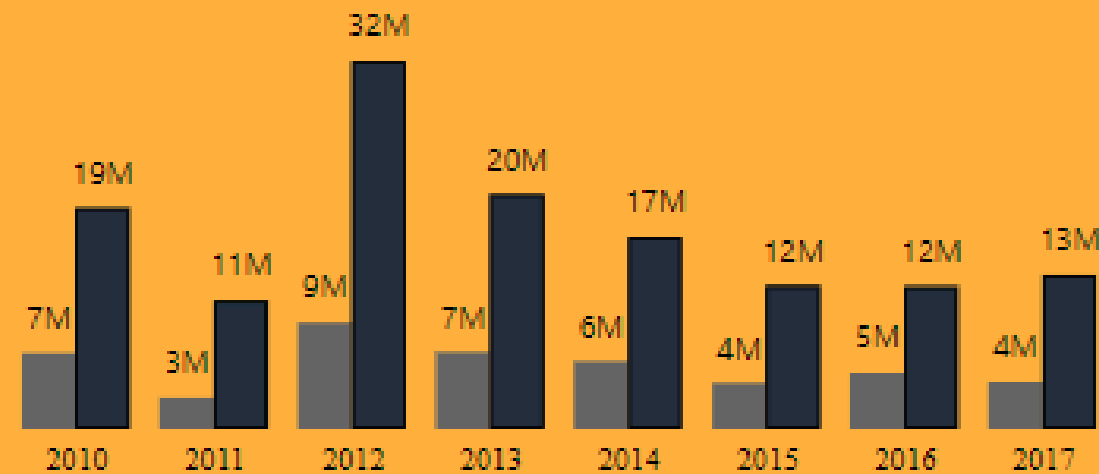
All

Item Type

All

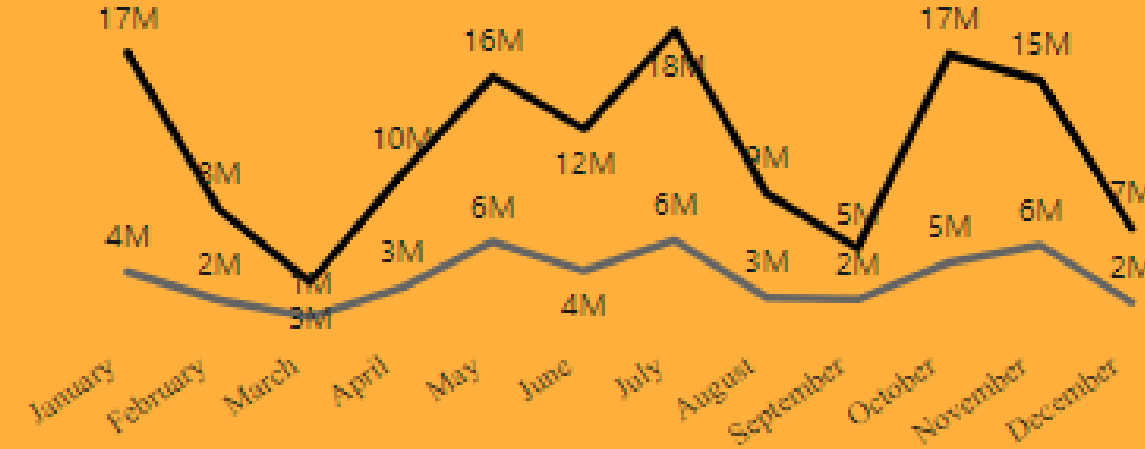
### Total Profit and Total Revenue by Year

Sum of Total Profit Sum of Total Revenue

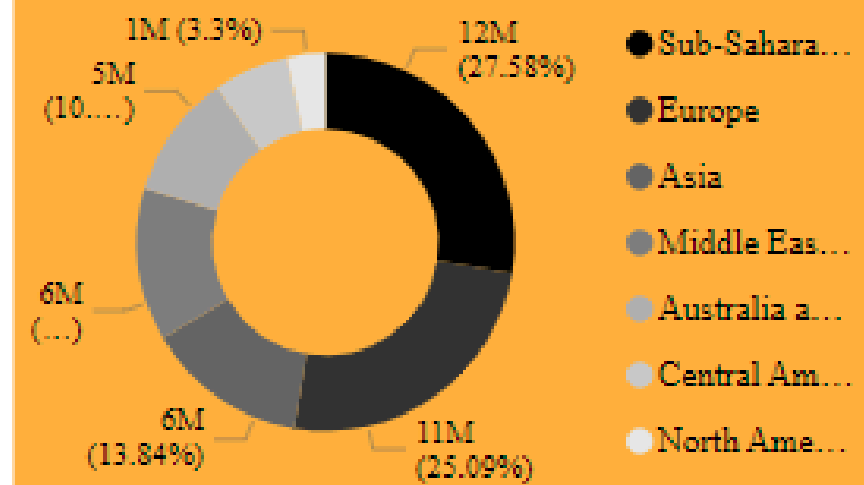


### Total Profit and Total Revenue by Month

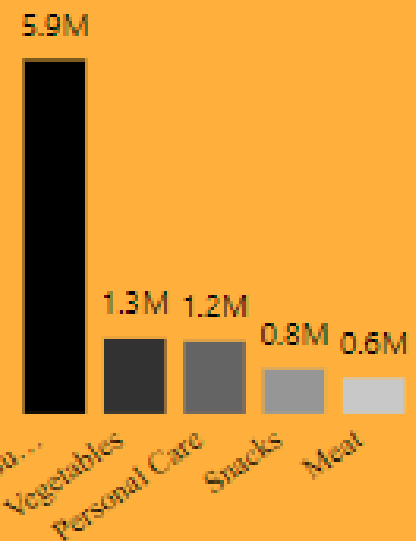
Sum of Total Profit Sum of Total Revenue



### Total Profit by Region

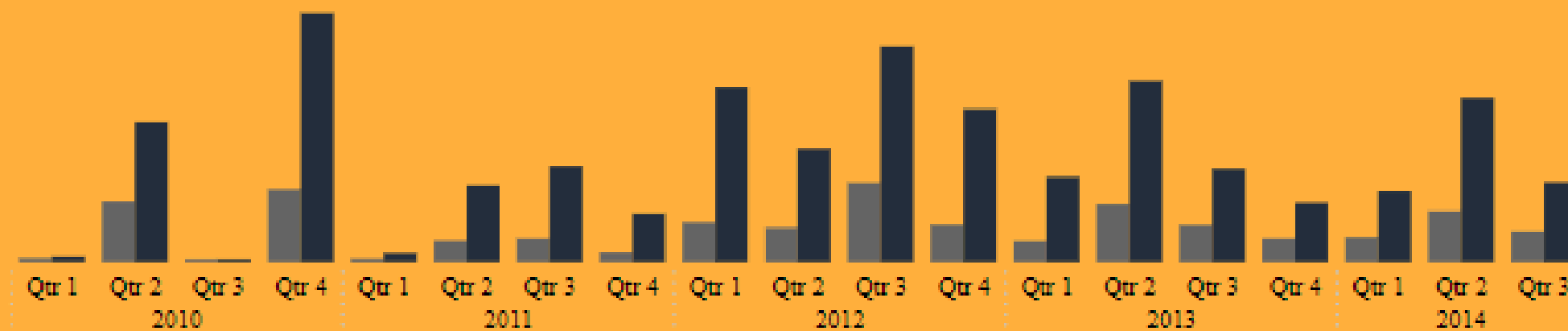


### Total Profit by Item Type



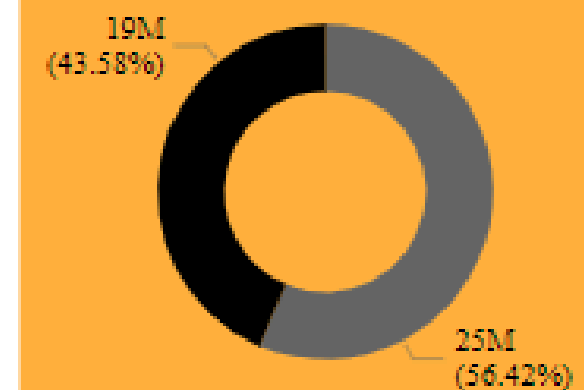
### Total Profit and Total Revenue by Year and Quarter

Sum of Total Profit Sum of Total Revenue



### Total Profit by Sales Channel

Offline Online





# Profit Margin Analysis



## Analyzing Amazon Sales Data

Profit Margin

32.16

Average Profit

442K

Sales Channel

Offline

Online

Year

All

Quarter

All

Month

All

Country

All

Order Id

All

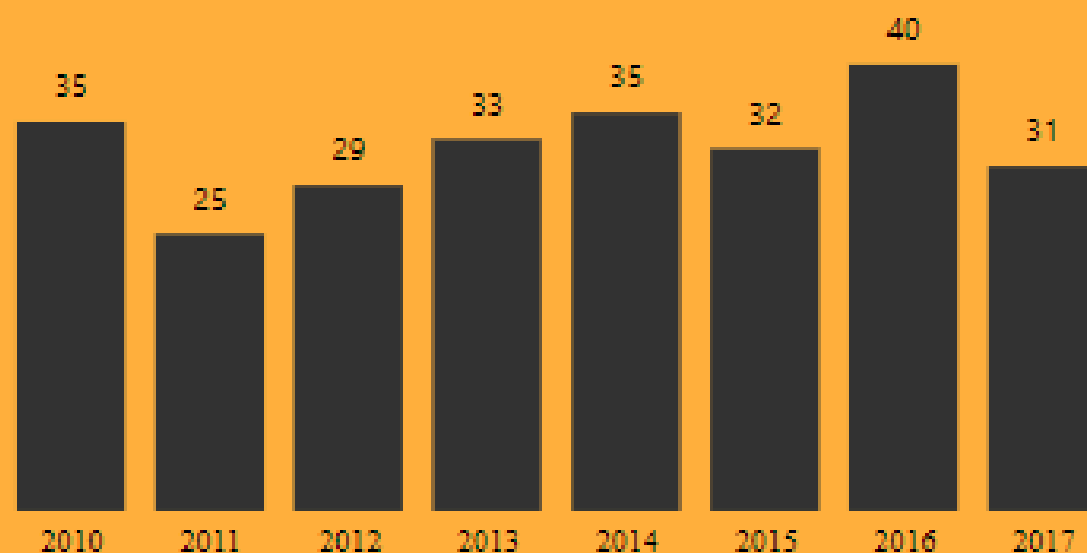
Region

All

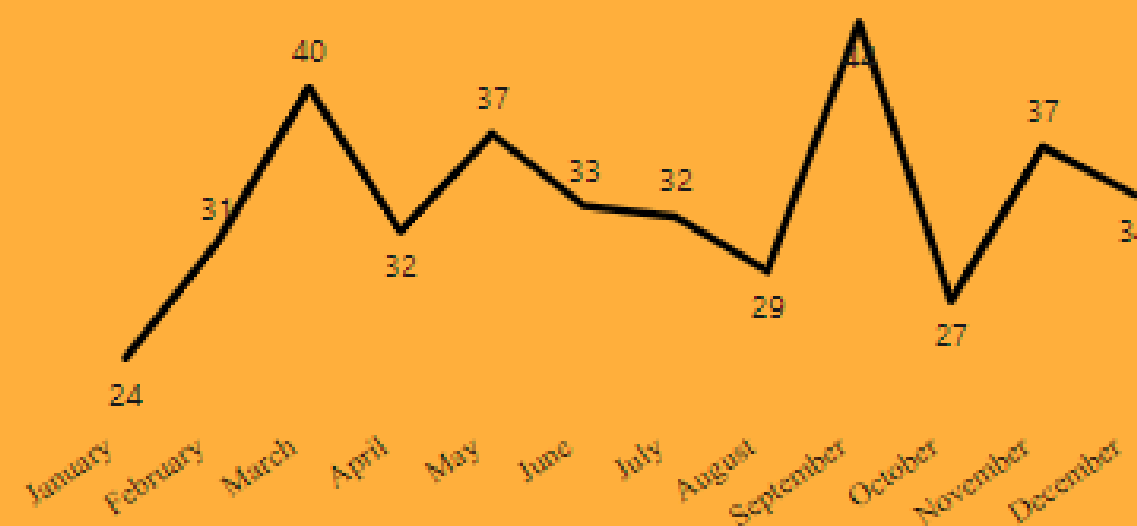
Item Type

All

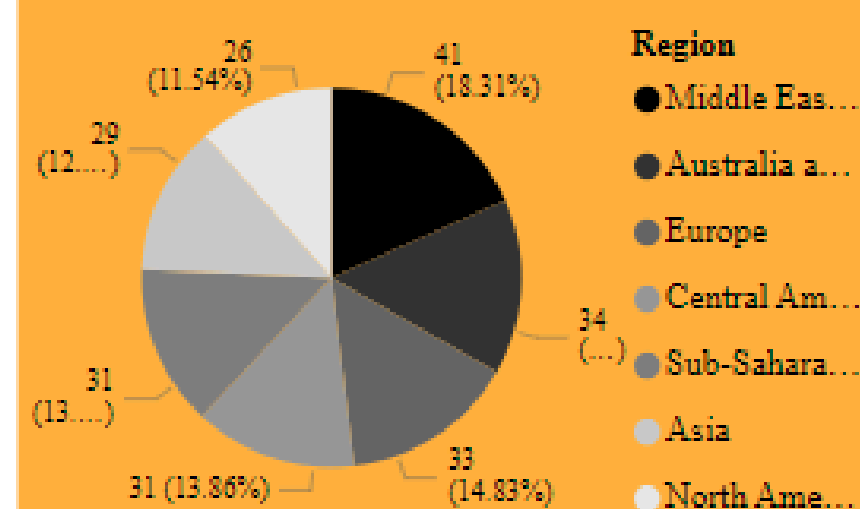
Profit Margin by Year



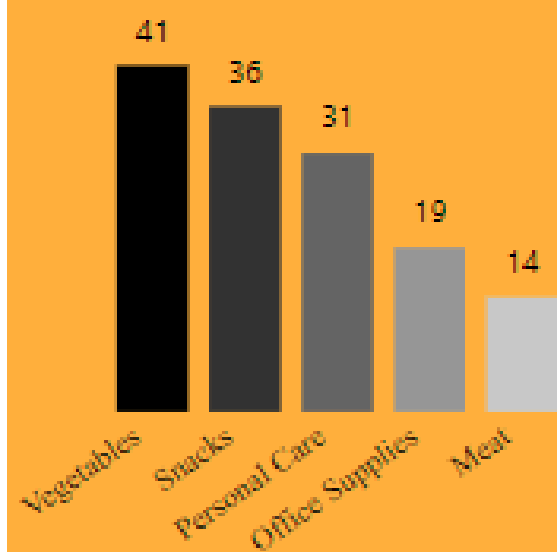
Profit Margin by Month



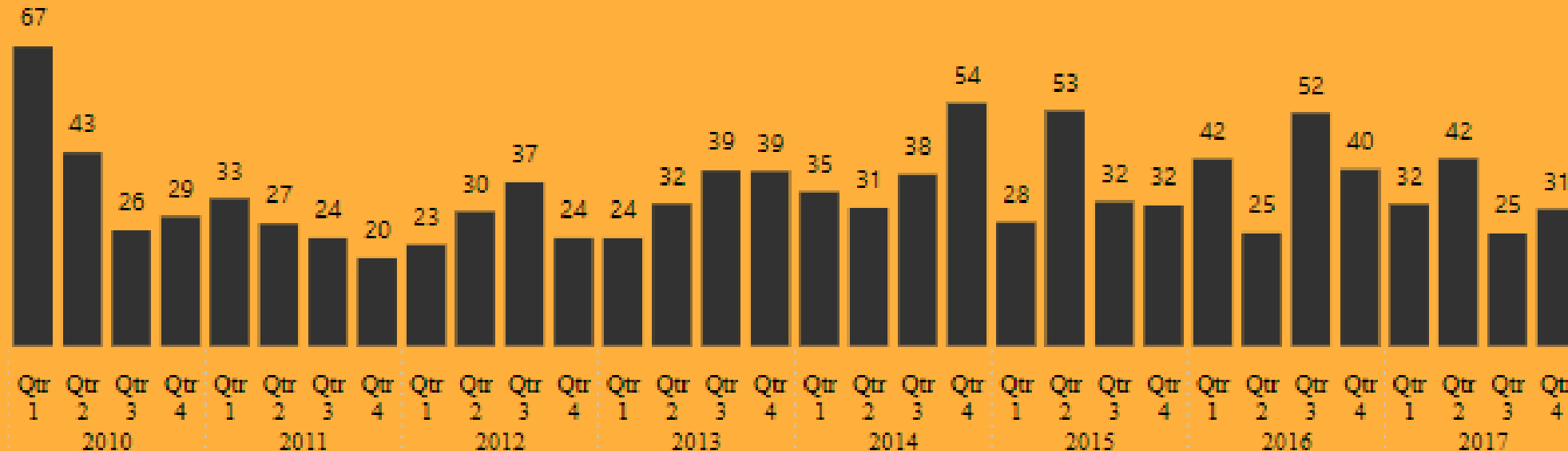
Profit Margin by Region



Profit Margin by Item type

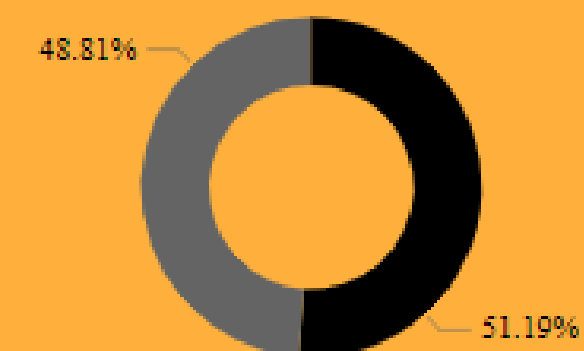


Profit Margin by Year and Quarter



Profit Margin by Sales Channel

● Online ● Offline



# Unit Sold Analysis

## Analysing Amazon Sales Data

Unit Sold  
513K

Unit Price  
27.66K

Sales Channel

Offline

Online

Year

All

Quarter

All

Month

All

Country

All

Order Id

All

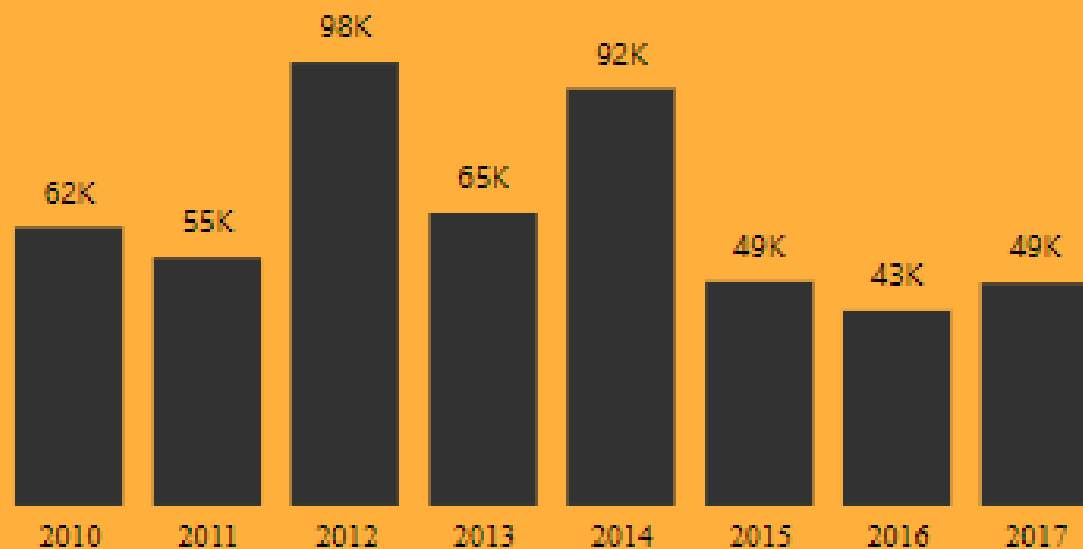
Region

All

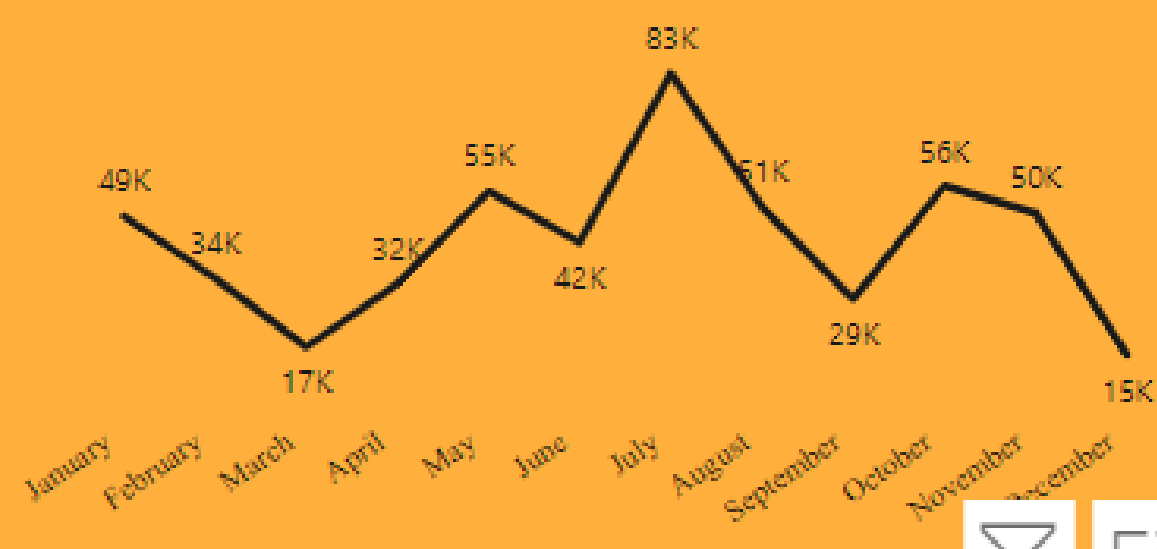
Item Type

All

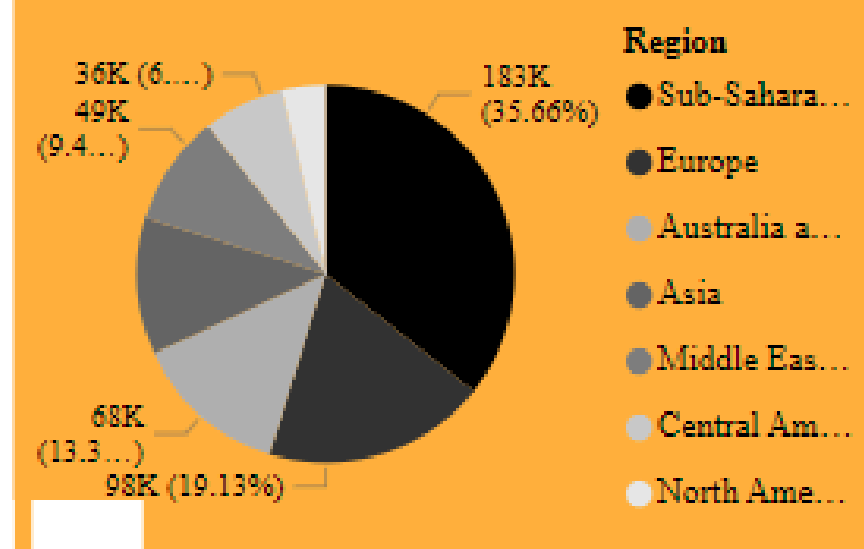
Unit Sold by Year



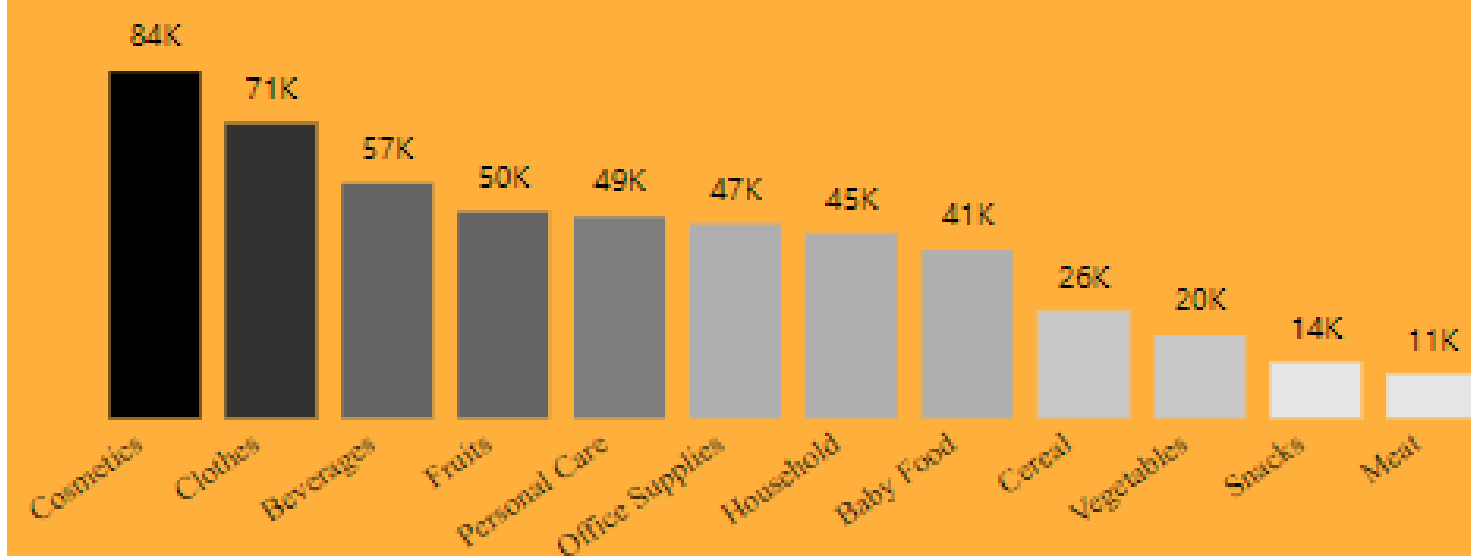
Unit Sold by Month



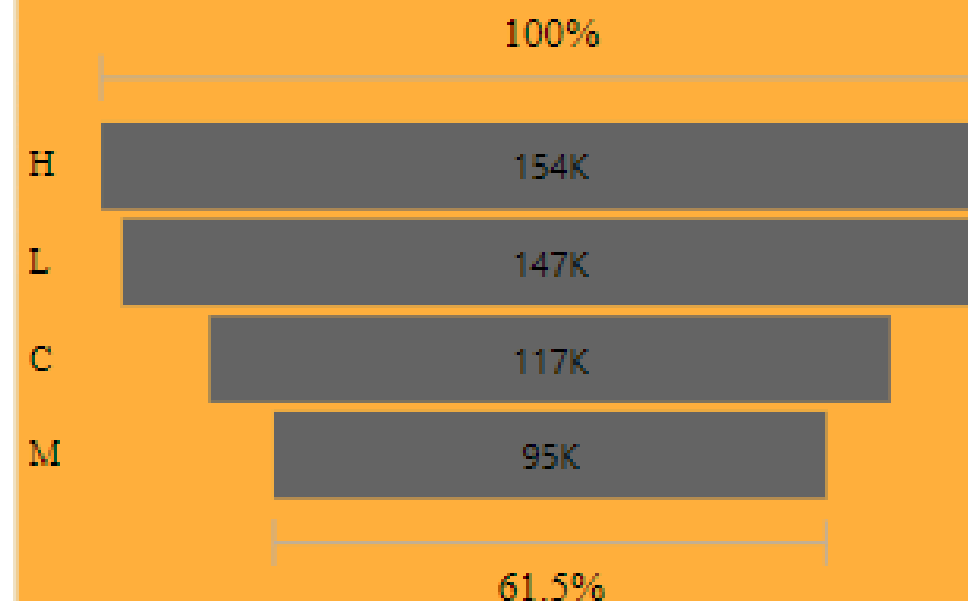
Unit Sold by Region



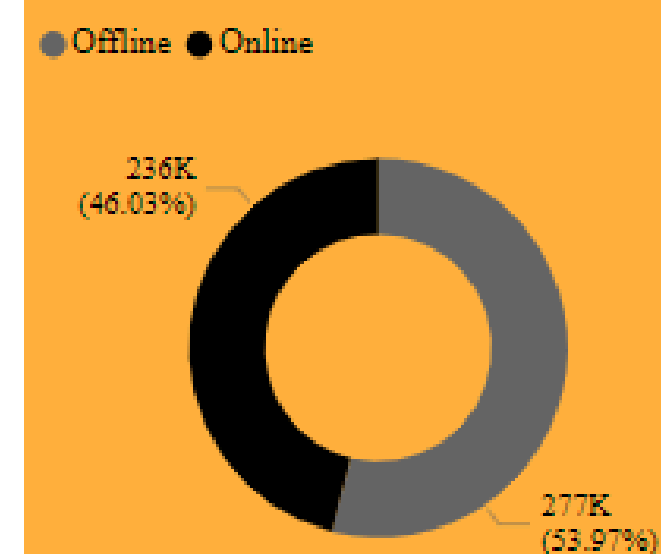
Unit Sold by Item type



Units Sold by Order Priority



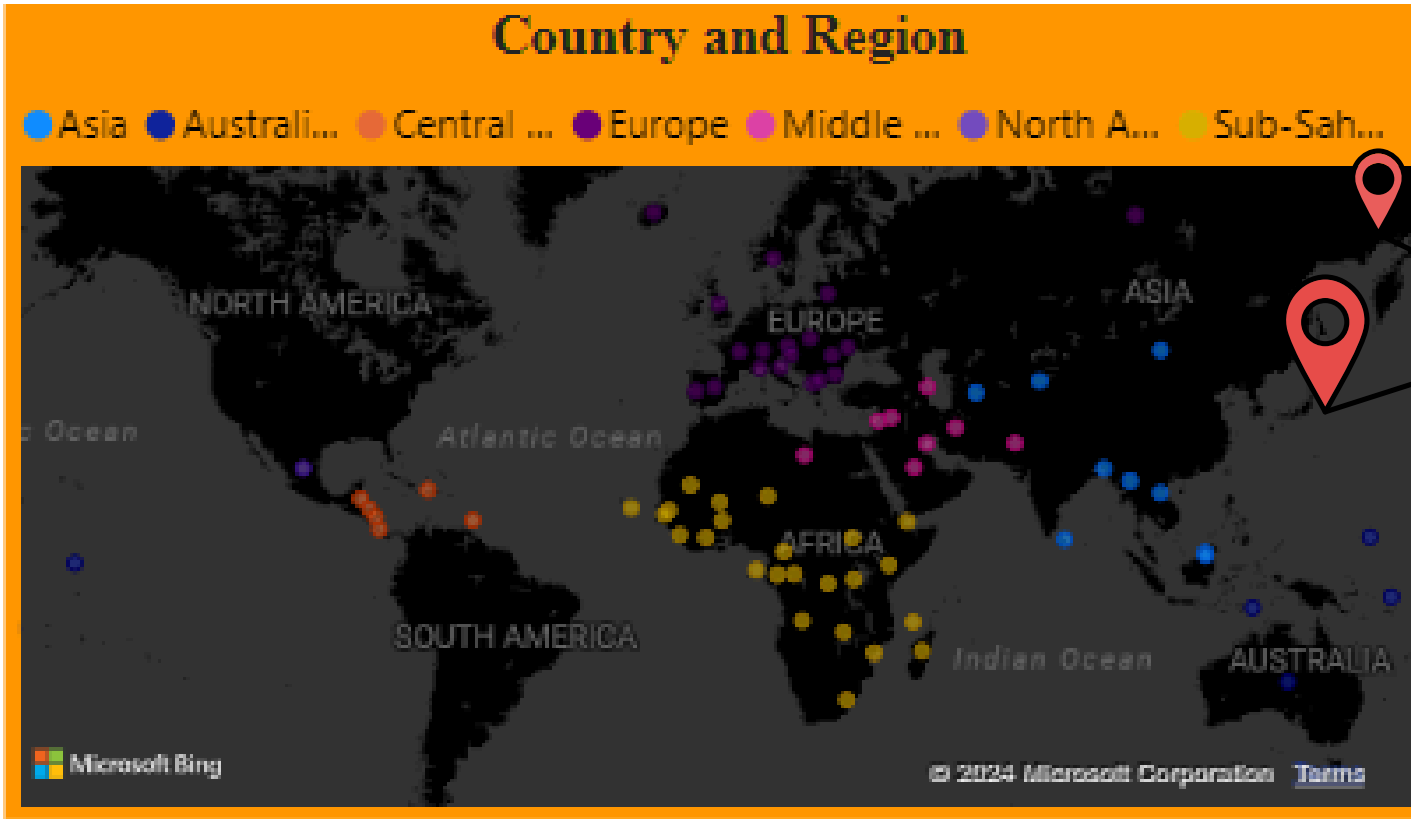
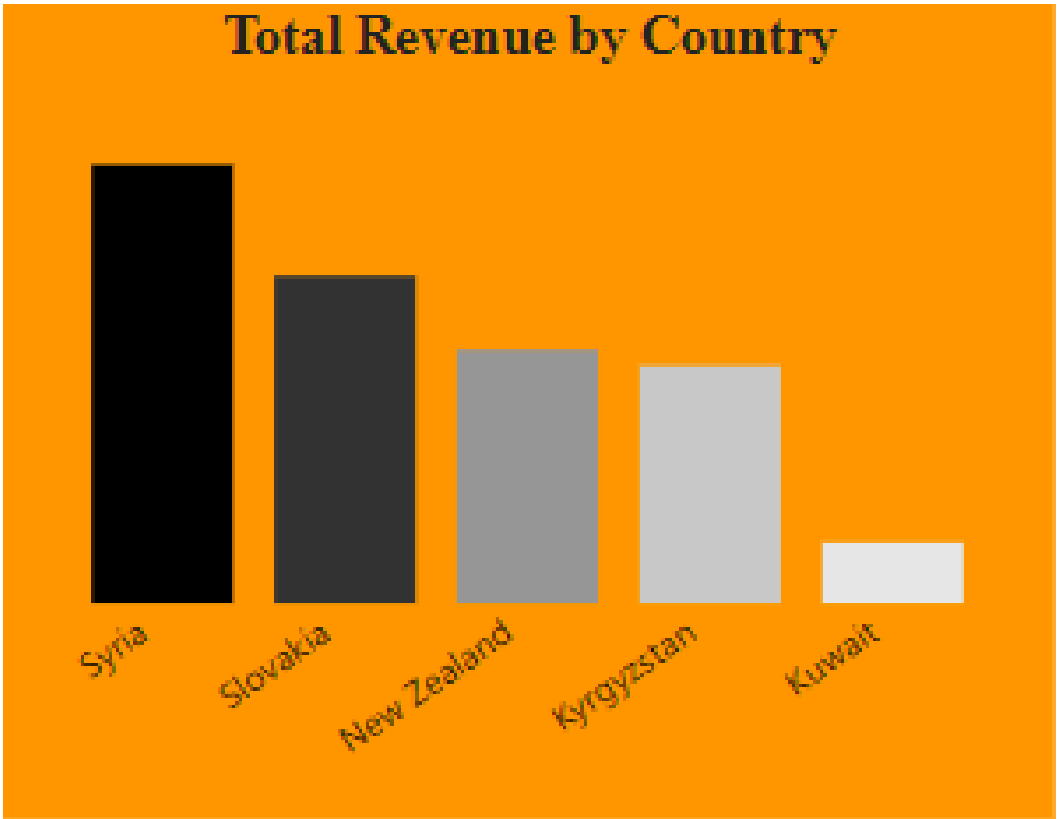
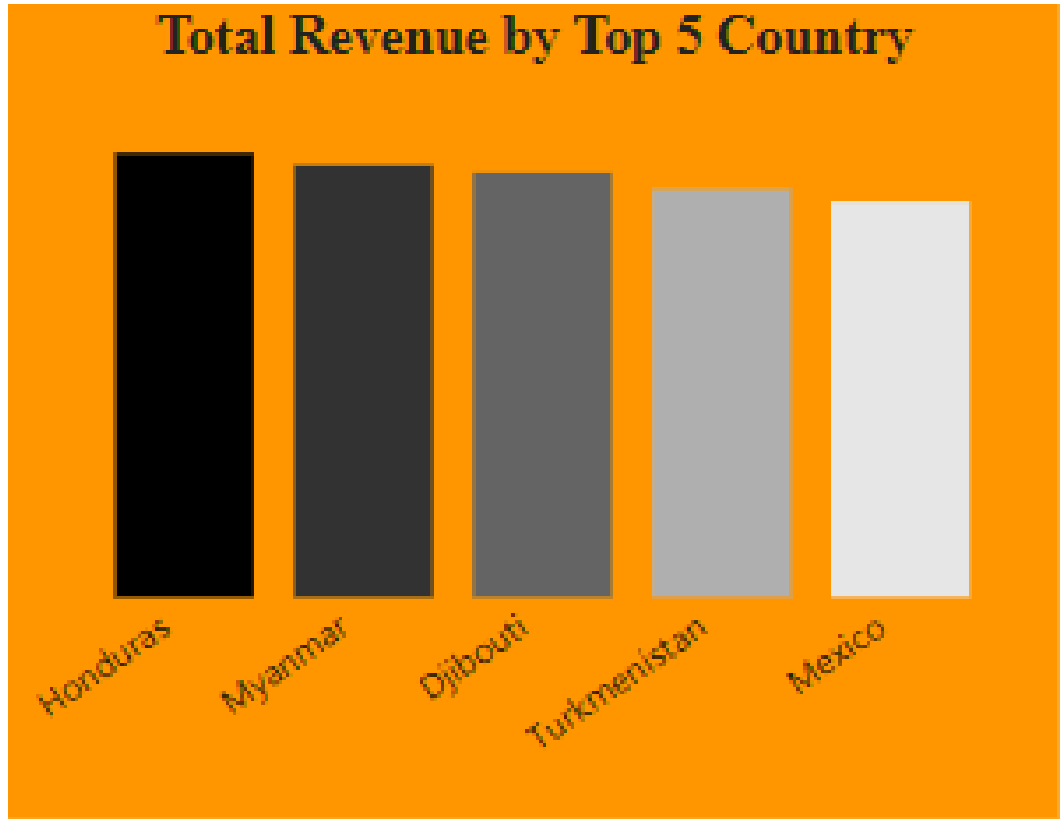
Unit Sold by Sales Channel



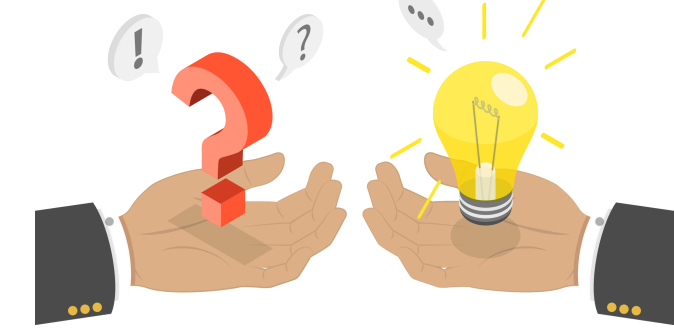


# Analyzing Amazon Sales Data

Item Type	Country	Sum of Total Cost	Sum of Total Profit	Sum of Total Revenue	Sum of Unit Cost	Sum of Unit Price	Sum of Units Sold	Average Profit
Clothes	Albania	81,320.96	166635	247956	35.84	109	2269	166635
Household	Angola	21,04,134.98	693912	2798046	502.54	668	4187	693912
Beverages	Australia	2,98,476.31	147032	445508	31.79	47	9389	147032
Cereal	Australia	79,869.02	60418	140287	117.11	206	682	60418
Office Supplies	Australia	15,34,983.04	369155	1904138	524.96	651	2924	369155
Cosmetics	Austria	7,49,700.51	495008	1244708	263.33	437	2847	495008
Cosmetics	Azerbaijan	19,04,929.22	1257776	3162705	263.33	437	7234	1257776
Office Supplies	Azerbaijan	10,60,944.16	255151	1316095	524.96	651	2021	255151
Clothes	Bangladesh	2,96,145.92	606835	902981	35.84	109	8263	606835



# Key Insights



01

## Revenue and Profit Trends:

- Fiscal Year 2012 had the highest revenue (\$31.9M) and profit (\$9.21M).
- There was a 36.27% decline in revenue and profit margins in 2013, continuing downward until 2016.
- Sub-Saharan Africa generated the highest revenue, while North America had the lowest total profit (\$1.5M).

02

## Top-Selling Products:

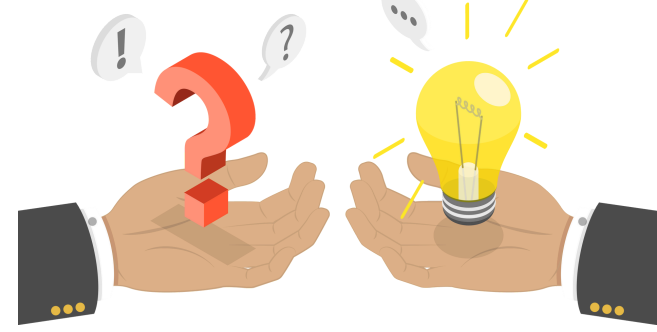
- Top 5: Cosmetics, Office Supplies, Household, Baby Food, Clothes.
- Bottom 5: Personal Care, Vegetables, Beverages, Snacks, Fruits.
- Most Profitable Product: Cosmetics, with a profit of \$173.87.
- Least Profitable Products: Fruits (\$2.41 profit) and Beverages (\$15.66 profit).

03

## Gross Profit Margins:

- Cosmetics lead with the highest gross profit margin, followed by Clothes (67.20%) and Cereal (43.07%).
- Household items, despite being among the top profit categories, perform better offline.

# Key Insights



04

## Sales Insights:

- Highest sales occur in February (\$319M).
- Best-selling items through Amazon are Cosmetics, Clothes, and Beverages.
- Most sold items offline: Household, online: Cosmetics.

05

## Regional Insights:

- Top Performing Regions: Sub-Saharan Africa (\$12.2M profit), Europe (\$11.1M profit).
- Lowest Performing Region: North America (\$1.5M profit).
- Countries like Myanmar and Djibouti show high growth potential, whereas Kuwait, Kyrgyzstan, New Zealand, Slovakia, and Syria are less profitable.

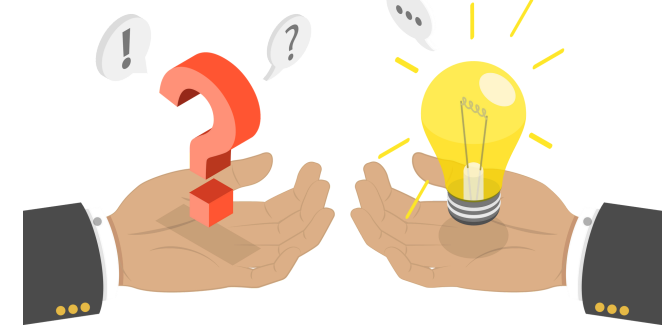
06

## Product and Market Preferences:

- Best sales years: 2010, 2012, 2013, 2014; worst years: 2011, 2015, 2016, 2017.
- Peak sales months: May, July, October, November; Low sales months: January, March, June, August, September, December.



# Key Insights



07

## **Cost Insights:**

- Average total costs range between \$763,578.33 and \$1,395,137.93.
- Offline sales account for 56.42% of total profit.

08

## **Geographical and Seasonal Performance:**

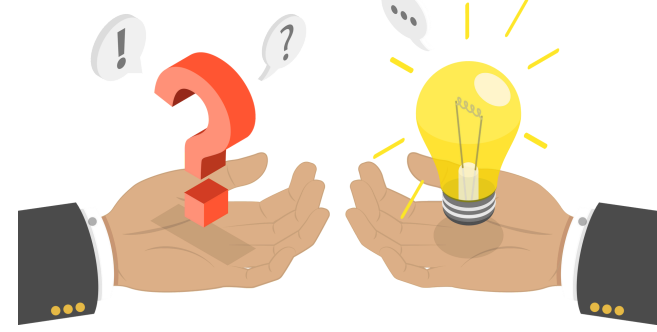
- Best sales years: 2010, 2012, 2013, 2014; worst years: 2011, 2015, 2016, 2017.
- Peak sales months: May, July, October, November;
- Low sales months: January, March, June, August, September, December.

09

## **Profitability Insights:**

- Offline sales channel contributes 56.42% to total profit; online sales 43.58%.
- Total revenue and profit positively correlate, with the highest divergence seen in offline channels.

# Key Insights



10

## Product-Specific Insights:

- Cosmetics show a strong correlation between sales and profit margins.
- Fruits and Beverages, despite popularity, have low profitability, suggesting the need for pricing adjustments or marketing changes.

11

## Delivery Time Impact:

- Cosmetics: Average delivery time of 23 days aligns with customer expectations, maintaining high sales and profit margins.
- Fruits: Longer delivery time (26 days) negatively impacts customer satisfaction and sales, indicating a need for faster delivery options.

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## Sales Channel Optimization:

- Household items perform better offline, suggesting a preference for traditional purchasing channels.
- Cosmetics thrive online, indicating potential for targeted digital marketing strategies to further boost sales and profitability.

# Sales Performance

Evaluate key sales metrics—revenue, units sold, and seasonal trends—to identify growth opportunities.



# Forecasting and Analytics

Develop predictive models to forecast sales, demand, and inventory needs for smarter decisions.



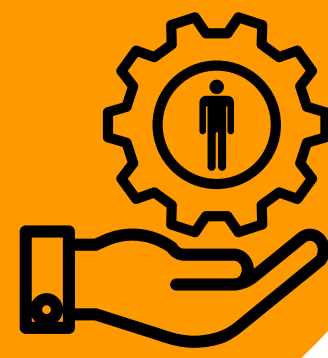
# Product Analysis

Identify top-selling products and optimize inventory and pricing strategies for better performance.



# Risk Management

Mitigate risks like stockouts and pricing fluctuations to enhance profitability and market resilience.



# Actionable Insights



Exploring innovative business models: strategies for sustainable growth and competitive advantage in the modern marketplace.

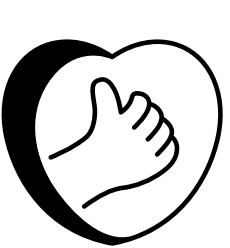
**ONLINE SHOPP**

**AMAZON**



**ONLINE SHOPPING**

- By leveraging these insights, we have a clear path to drive growth. With February as a key sales month, we can maximize opportunities with promotions on top-selling items like cosmetics, office supplies, and household products. Targeted marketing in high-demand regions, such as Sub-Saharan Africa, can further increase our impact, while creative offers can boost slower-moving products like personal care and fruits.
- We will optimize online sales with an improved website and personalized strategies while enhancing offline sales through strong in-store promotions and service. Strengthening our presence in key markets like Honduras, Myanmar, and Iran and adjusting our North American strategies will uncover new growth opportunities.
- By focusing on high-priority items and expanding efforts in profitable regions like Sub-Saharan Africa and Europe, we can drive profitability and market presence through innovation and targeted campaigns.



Thank  
You

FOR YOUR ATTENTION