E-Commerce Sales Data Analysis

Utilizing SQL and Power-BI

by- Radhika Dwivedi

Introduction

presenting my analysis on e-commerce sales data, utilizing SQL for data analysis and Tableau for visualizations.

- The dataset comprises three tables: orders, return, and people.

- Our goal is to uncover patterns, identify best-selling items, and extract revenue indicators to facilitate business decision-making.
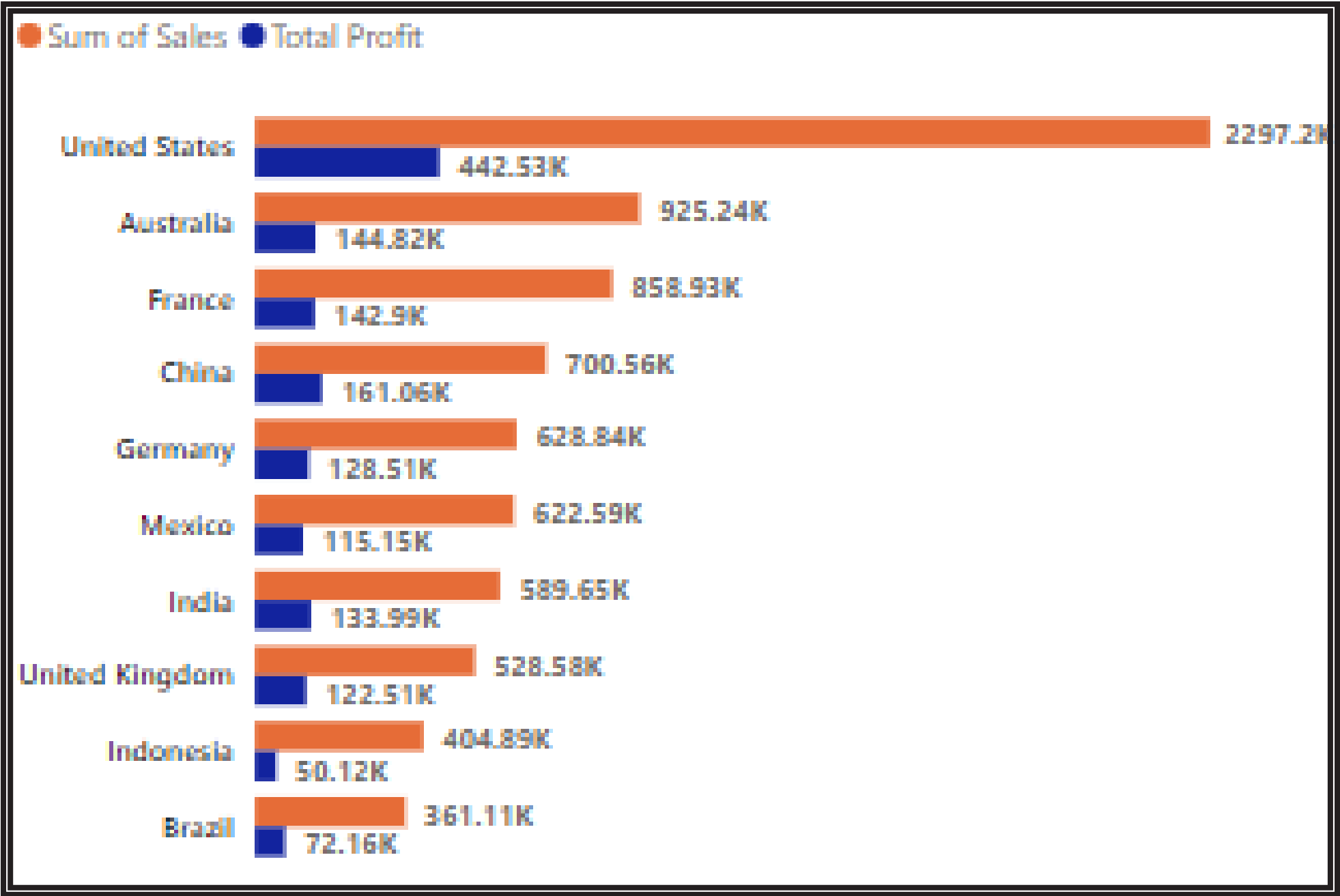
Summary

In my e-commerce sales data analysis project, I utilized SQL for data analysis and Tableau for visualizations. Through comprehensive examination of the dataset containing orders, returns, and people information, I aimed to uncover valuable insights for business decision-making. From identifying top-selling items and analyzing sales trends to understanding profitability metrics and optimizing logistics, the analysis provided actionable insights. Leveraging data-driven decision-making, the project underscores the importance of informed strategies in driving growth and profitability in the e-commerce domain.

Project Objective:

- Identify top 10 best-selling items
- Calculate total sales for every year
- Determine the total revenue generated by the company
- Identify the category with the most returned items
- Determine the country with the most orders
- Identify top 10 most popular categories
- Analyze category-wise profit
- Identify top 10 shipping costs with the highest prices
- Determine the top 10 countries with the highest profit generated
- Calculate average time between order placement and shipment
- Compare the average order value for new vs. returning customers
- Identify products with low sales performance that might need to be discontinued
- Analyze product subcategory-wise highest profit margin
- Analyze the overall sales trend over time

Sales and Profit of Top 10 Countries

It appears that total profit is not necessarily proportional to the total sales as China has lower total sales than the United States but a higher total profit.


Sum of Sales ● Total Profit

Country	Sum of Sales	Total Profit
United States	2297.2K	442.53K
Australia	925.24K	144.82K
France	858.93K	142.9K
China	700.56K	161.06K
Germany	628.84K	128.51K
Mexico	622.59K	115.15K
India	589.65K	133.99K
United Kingdom	528.58K	122.51K
Indonesia	404.89K	50.12K
Brazil	361.11K	72.16K

Summary of Sales KPIs

- The e-commerce company generated a total profit of $2.39 million on $61.82 million in revenue, resulting in a profit margin of 18.89%.

- There were a total of 51,290 orders and $12.64 million in total sales.

- The discrepancy between total sales ($12.64M) and revenue ($61.82M) suggests potential issues with order fulfillment, returns, or cancellations.

Revenue

Compared to the previous year, there is increasing trend every year in revenue.

There appears to be a steady increase in office supply purchases over a four-year period.
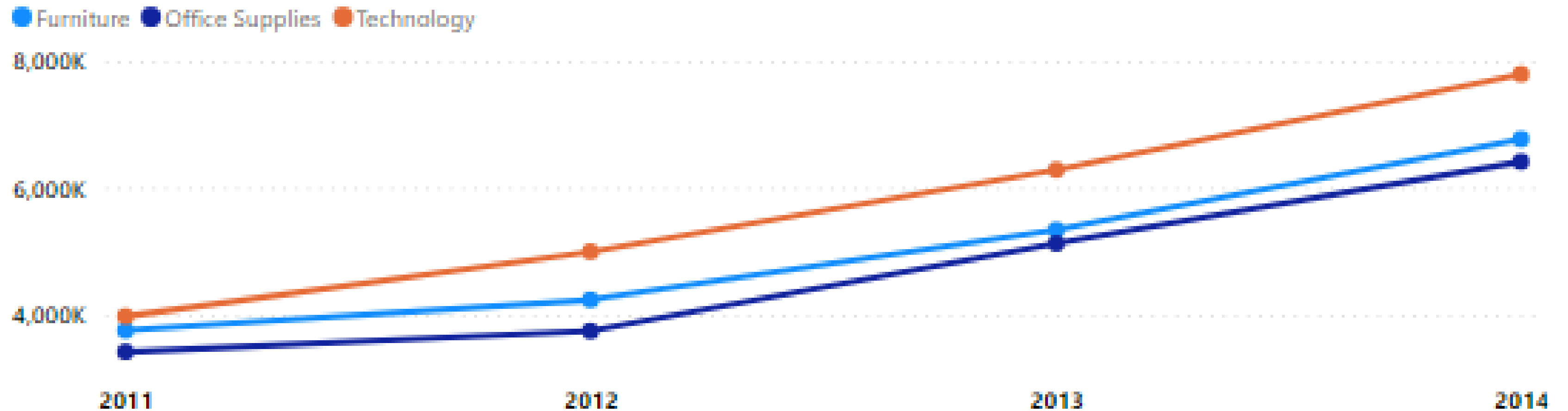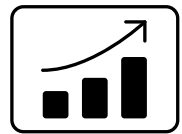
Profit

Yearly Profit growth

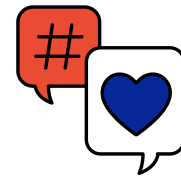there's some fluctuation, overall profitability appears to be increasing during the period from 2011 to 2014

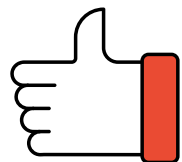**Our Yearly Profit has been steadily increasing in the past four Years.**
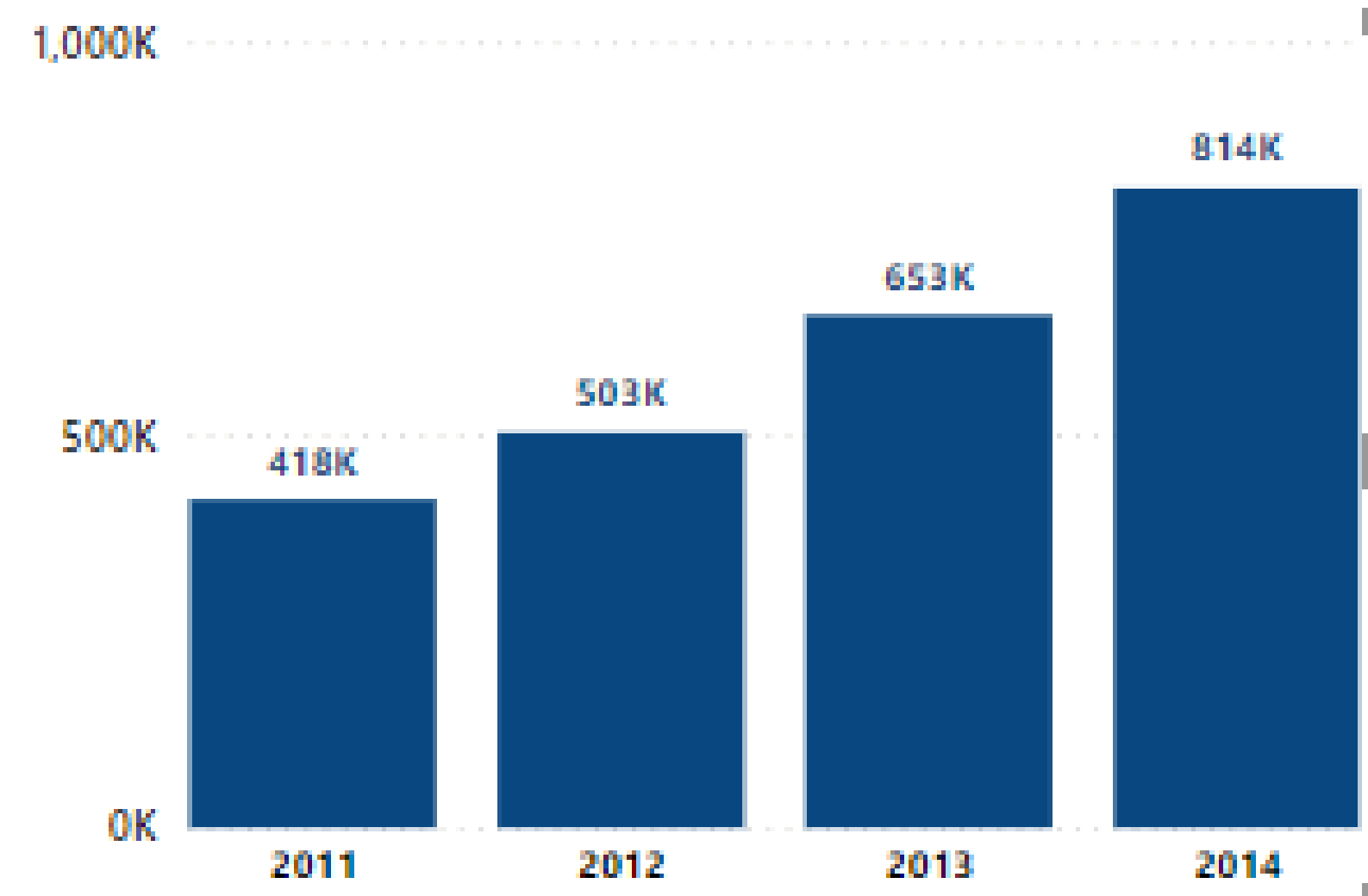
New Sales Goals
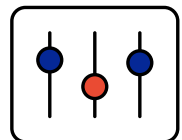
Generate over $442,530 in sales from the United States

Increase total sales by 20%

Reached total sales of over $1,168,000 across the nine countries listed

Reducing costs and Selling higher-margin products

Increase revenue by 10%

Conclusion:

- **Through comprehensive analysis using SQL and Power BI, I aimed to uncover insights into our e-commerce sales data.**

- **From identifying top-selling items to analyzing profit margins, our analysis provides valuable insights to optimize operations and drive growth.**

- **In conclusion, leveraging data analysis enables informed decisions, operational optimization, and sustainable growth in our e-commerce business.**

Thank you!

Feel free to approach me
if you have any questions.