Deal store (E commerce)

Our project is supply chain data about e-commerce, so we called it Deal 🤝 Store. Our data contains (product ID, product name, category, price, discount, tax rate, stock level, supplier ID, customer age group, customer location, customer gender, shipping cost, shipping method, return rate, seasonality, and popularity index).

We want from this project :

- Understanding Customer Behavior and Preferences.

- Identifying Sales Trends.

- Analyzing Shipping Methods and Their Impact on Sales.

- Branch Sales Performance Analysis.

- Identifying Inefficient Suppliers.

We started our work by exploring and cleaning the data using Python.
Then, we created database tables and an ERD diagram using SQL.
After that, we analyzed the data using both SQL and Python by answering key business questions.
Since our dataset doesn't include any dates or time series, we moved to a different approach in the forecasting step. We focused on generating insights based on cost, stock levels, tax rates, and customer locations. We answered these questions through visualizations created in Tableau.
Finally, we built a dashboard to present a full analysis of our products.

We found through analysis :

1. inefficient inventory management due to unclear sales trends.

2. Lack of customer insights,resulting in missed marketing opportunities.

3. High return rates which increases the operational cost.

4. Supplier inefficiencies, affecting profitability.

Our Solution:

- Optimize High-Demand Categories
- Expand inventory in Books & Electronics.
- Improve supplier contracts for high-margin products.
- Enhance Customer Engagement.
- Special promotions for the 25-34 age group.
- Offer discounts on under performing categories.
- Investigate 10.5% return rate causes.
- Improve product descriptions, quality checks & customer support.
- Expand in the USA.
- Launch localized campaigns in top international markets.
- Identify the most cost-effective shipping method.
- Negotiate better terms with top suppliers.

link of our project in GitHub:

https://github.com/Safaa9924/E-Commerce_-Group-F