

Project Report: Analysis of E-commerce Data

Introduction:

As a Data Analyst at Gold Tech Analysis, I was tasked with extracting, reconstructing, and analyzing data from an e-commerce website. The objective is to provide actionable insights and decision-making graphs to the client based on the data analysis. In this report, I will outline the steps taken and the findings obtained during the analysis.

Tasks Performed:

1. Planning and Organization:

- Collaborated with team members to plan and organize the workflow effectively.
- Ensured clear communication and coordination to achieve project goals efficiently.

2. Data Extraction:

- Utilized the Python library Beautiful Soup for extracting data from the e-commerce website.
- Gathered relevant information such as product names, prices, ratings, and available quantities.

3. Database Reconstruction:

- Implemented the SQL database to reconstitute and store the extracted data.
- Organized the database structure to efficiently manage and query the data.

4. Descriptive Analysis:

- Conducted descriptive analysis on the available data to gain insights into product characteristics and trends.
- Examined key metrics such as product prices, ratings, and stock quantities.

5. Visualization:

- Created visualizations to present meaningful insights to the client.
- Generated graphs depicting the following:
 - Top 10 most expensive products
 - Top 10 least expensive products
 - Top 10 most recommended products
 - Top 10 least recommended products
 - Top 5 categories with the highest stock quantities
 - Top 3 categories with the most expensive products

Findings:

1. Top 10 Most Expensive Products:

- Identified the products with the highest prices, providing insight into premium offerings.

2. Top 10 Least Expensive Products:

- Highlighted affordable options for customers, facilitating budget-conscious purchasing decisions.

3. Top 10 Most Recommended Products:

- Identified products with the highest ratings, indicating customer satisfaction and popularity.

4. Top 10 Least Recommended Products:

- Identified products with lower ratings, indicating potential areas for improvement or customer dissatisfaction.

5. Top 5 Categories with Highest Stock Quantities:

- Identified categories with ample stock availability, enabling inventory management decisions.

6. Top 3 Categories with Most Expensive Products:

- Identified categories with premium-priced products, indicating potential areas for targeted marketing or product differentiation.

Conclusion:

Through comprehensive data extraction, reconstruction, and analysis, valuable insights were derived from the e-commerce dataset. The visualizations provided clear and actionable information for the client, aiding in strategic decision-making and optimization of business processes. Moving forward, continuous monitoring and analysis of e-commerce data will be essential for driving business growth and enhancing customer satisfaction.