

Customer Order Analysis Report

1. Introduction

This report summarizes the analysis of customer order data for an e-commerce company. Using Python data structures, Pandas, and Matplotlib, we examined customer spending, product categories, and purchasing behavior.

2. Dataset Overview

The dataset contains customer orders with attributes such as customer name, product, price, and category.

3. Customer Spending Summary

Alice: \$924 (High-value Buyer)
Diana: \$699 (High-value Buyer)
Charlie: \$180 (High-value Buyer)
Ethan: \$200 (High-value Buyer)
Bob: \$65 (Moderate Buyer)

4. Revenue by Product Category

Electronics: \$1,743
Home Essentials: \$260
Clothing: \$65

5. Product Popularity

Most frequently purchased products include Laptop, Smartphone, and Headphones.

6. Customer Category Behavior

Customers who purchased Electronics: Alice, Diana, Ethan
Customers purchasing multiple categories: Ethan
Customers buying both Electronics and Clothing: None

7. Top 3 Highest Spending Customers

1. Alice – \$924
2. Diana – \$699
3. Ethan – \$200

8. Business Insights

- Electronics is the highest revenue category.
- High-value customers dominate spending.
- Clothing category underperforms.

9. Recommendations

- Introduce loyalty programs for high-value customers.
- Promote cross-category purchase incentives.
- Increase inventory for electronics.

10. Conclusion

This analysis highlights customer spending patterns, category popularity, and high-value customer

contributions, guiding better business decisions.