E-Commerce Return Rate Reduction Analysis

Introduction

Product returns are a big problem for e-commerce companies. They affect both profit and customer trust. This project aims to study customer purchases and find which products are more likely to be returned.

Abstract

An e-commerce dataset was used to analyze return patterns. The data was cleaned and prepared for analysis. Logistic Regression was applied to predict the chance of a product being returned. A Power BI dashboard was made to visualize the results, and a CSV file of high-risk products was generated for business use.

Tools Used

Python: Data cleaning, analysis, and prediction
Power BI: Dashboard and visuals
Excel/CSV: Reporting and exporting results

Steps Involved

1. Collected and cleaned e-commerce data.
2. Explored the data to find return trends.
3. Applied Logistic Regression to predict returns.
4. Built a dashboard in Power BI to see patterns with filters.
5. Exported a CSV file of high-risk products.

Conclusion

The project helped to identify which products are at higher risk of being returned. The dashboard gives clear insights for managers, and the predictions can help reduce return rates and improve customer satisfaction.