**Title: E-commerce Return Rate Reduction Analysis**

**Introduction**

Product returns are a major cost factor in e-commerce operations. This project investigates why returns occur, which segments have high return rates, and applies predictive modeling to reduce future return risks.

**Abstract**

We integrated order and return data, conducted exploratory data analysis, and used logistic regression to predict return likelihood. A Power BI dashboard was developed to help stakeholders monitor and act on high-risk areas.

**Tools Used**

* **SQL**: Data exploration and preprocessing
* **Python**: Data cleaning, EDA, and predictive modeling
* **Power BI**: Interactive dashboard creation

**Steps Involved in Building the Project**

1. Cleaned and joined datasets using SQL and Python.
2. Performed EDA to identify high return categories and patterns.
3. Trained a logistic regression model on return likelihood.
4. Created a CSV of high-risk products based on model predictions.
5. Built a Power BI dashboard with drill-through filters and KPIs.

**Conclusion**

This project provided insights into key drivers of product returns and empowered decision-makers with a predictive and visual tool to proactively reduce return rates.