PROJECT REPORT

1.TITLE : E-commerce Return Rate Reduction Analysis

2.INTRODUCTION : E-commerce has transformed the retail landscape by offering consumers convenience, variety, and competitive pricing. However, one of the persistent challenges faced by online retailers is the high product return rate. Returns not only impact profitability but also customer satisfaction and operational efficiency. This project focuses on analyzing the factors contributing to product returns using data visualization tools, with the aim of formulating actionable insights to reduce return rates and enhance customer experience.

2.ABSTRACT : The objective of this project is to analyze e-commerce product return patterns and identify the key reasons why customers return items. By leveraging Power BI, we visualize and explore customer behavior, product categories, return frequencies, and other influencing variables. The insights gained will help businesses implement targeted strategies to minimize return rates, improve product descriptions, and optimize logistics.

3.**TOOLS USED :**

Power bi : For data cleaning, visualization, and interactive dashboard creation.

Excel/CSV Files : As the data source for importing return data.

4. **Steps Involved in Building the Project**

1. **Data Collection**: Gathered return-related data, including customer info, order details, product categories, return reasons, and timestamps.
2. **Data Cleaning & Preprocessing**: Handled missing values, standardized return reasons, and ensured data integrity.

3. **Data Import into Power BI**: Imported the cleaned dataset into Power BI for further analysis.
4. **Dashboard Creation**: Created interactive visuals such as
    - Creating measures return rate,total items order,total items return,highest return rate
    - Created one isreturned column
    - Return rates by product category.
    - Product price by product category.
    - Total items order by year
    - Return reason table
    - Used three careds for total items order,total items returned,discount applied ect
5. **Insights Extraction**: Analyzed patterns such as frequent returners,defective product,wrong item,not has described.
6. **Recommendation Development**: Proposed strategies like improving product pages, clearer sizing guides, and customer education.

5 .CONCLUSION

Through this project, we identified the major causes contributing to high return rates in e-commerce. Key findings indicate that product misrepresentation, sizing issues, and unmet customer expectations are the primary drivers. The Power BI dashboard provides an intuitive way for stakeholders to monitor return trends and take informed action. By implementing the suggested recommendations, businesses can not only reduce return rates but also enhance customer satisfaction and operational efficiency.