

CUSTOMER SEGMENTATION USING RFM ANALYSIS IN PYTHON



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INTRODUCTION

Grouping customers based on similar characteristics or behaviors to target them more effectively.

Why Segment Customers?

- Better marketing strategies
- Improved customer retention
- Increased sales & loyalty



WHAT IS RFM ANALYSIS

- **R = Recency:** How recently a customer made a purchase
- **F = Frequency:** How often they purchase
- **M = Monetary:** How much money they spent.

Goal: Identify the most valuable customers



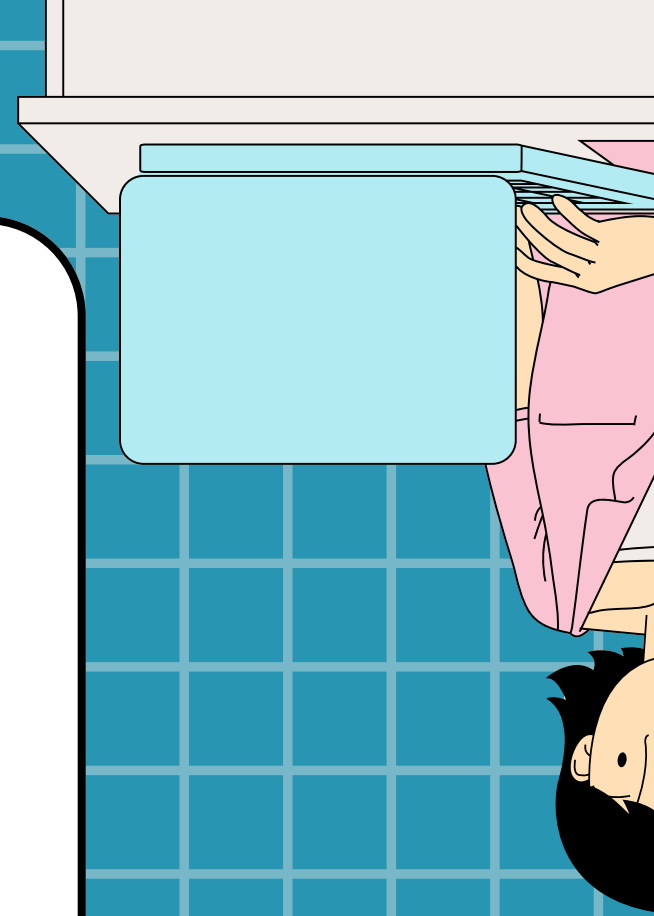
DATASET DESCRIPTION

Source: Kaggle – E-Commerce Sales Data 2024

File Used: E-commerce sales data 2024

Rows: 3000

Fields: User ID, Product ID, Interaction Type,
Timestamp



PROBLEM STATEMENT

Use RFM analysis to segment customers based on their behavior and purchasing patterns using Python, and identify potential target groups for marketing

TOOLS & LIBRARIES USED

Tool: Python (Google Collab)

Libraries Used:

- **pandas** for data manipulation
- **datetime** for date parsing
- **matplotlib, seaborn** for visualization

METHODOLOGY

- **Data Cleaning**

Removed nulls, fixed column names

- **RFM Table Construction**

Calculated Recency (from latest date), Frequency (interaction count), and Monetary (approximated from purchases)



METHODOLOGY

- **RFM Scoring**

Applied quantile-based scoring (1–5 scale)

- **Customer Segmentation**

Combined RFM scores into RFM_Score

Grouped into segments (e.g., Champions, At Risk)



KEY FINDINGS

Top Segments Identified:

- **Champions:** High recency, frequency, and monetary value
- **At Risk:** High monetary, low recency
- **Potential Loyalists:** Moderate frequency and recency

Insight: Target **At Risk** customers with offers, retain **Champion**



FUTURE WORK

Add K-Means clustering to refine segments

Use **Power BI** or **Dashboards** for business use

Personalize marketing strategies based on segments

ARE THERE ANY QUESTIONS?



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