H&M Customer Segmentation

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The Problem

Marketing costs money.

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Which method, RFM or K-means, is better at segmenting customers?

Based on the better segmenting technique, which 3 segments should H&M target?

What is RFM?

RFM is a method used for analyzing customer value.

It groups customers based on their transaction history:

Recency – time since last purchase

Frequency – number of visits

Monetary Value - total spending

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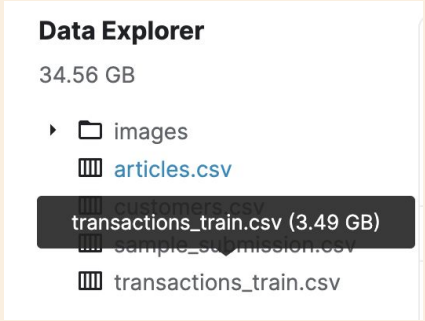
The Dataset

Dataset

- Consumer transaction data (Sept. 2018- Sept. 2020)
  - Each row = 1 item purchased
- Relevant Columns: customer_id, t_dat, price

- Strengths : comprehensive, clean, relevant
- Weaknesses: dated, enormous, not much demographic data

*data from Kaggle



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Approaches

How did we answer our question?

2 Years of Transaction Data

↓

6 Months of Transactions
(July 2019 - December 2019)

↓

A sample of 600 Customers

↙ ↘

RFM Segmentation

1. Rank each cust's R, F & M value on a scale of 1-5
2. Segment customers based on RFM Score

Ex: Champion: 5-5-5

Clustering

By K-means

1. Run k-means algorithm on raw R, F, & M metrics

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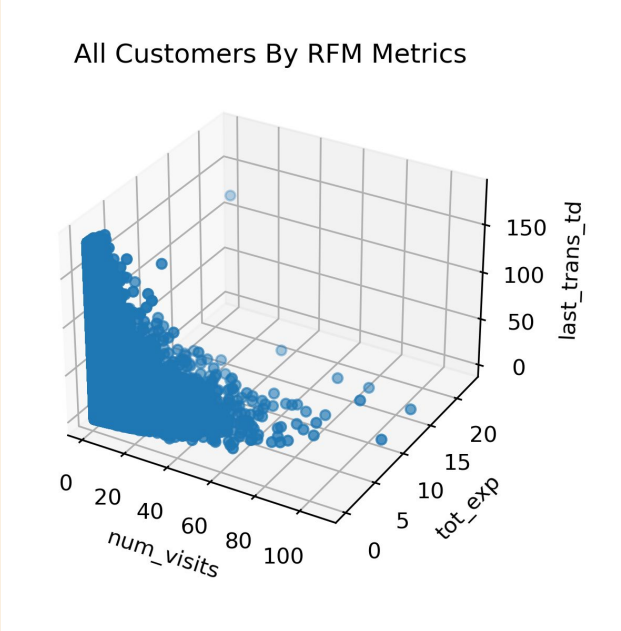
Results

How did RFM segment customers?

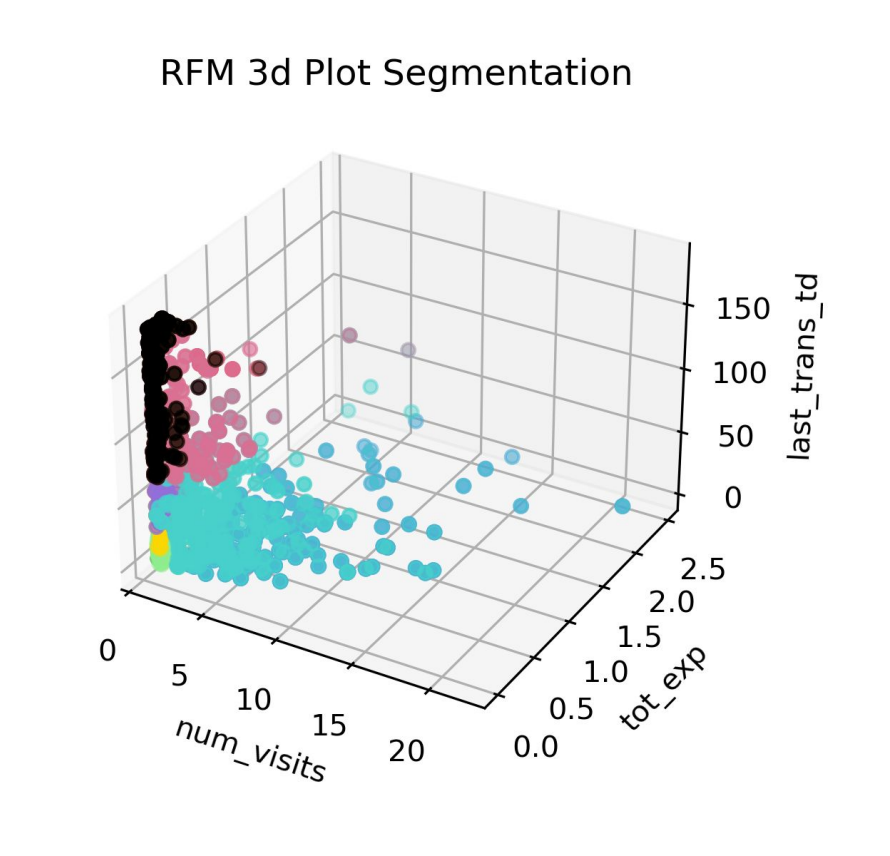
REVIEW OF RFM SEGMENTATION

Customer Segment	Recency Score Range	Frequency & Monetary Combined Score Range
Champions	4-5	4-5
Loyal Customers	2-5	3-5
Potential Loyalist	3-5	1-3
Recent Customers	4-5	0-1
Promising	3-4	0-1
Customers Needing Attention	2-3	2-3
About To Sleep	2-3	0-2
At Risk	0-2	2-5
Can’t Lose Them	0-1	4-5
Hibernating	1-2	1-2
Lost	0-2	0-2

RFM Segmentation



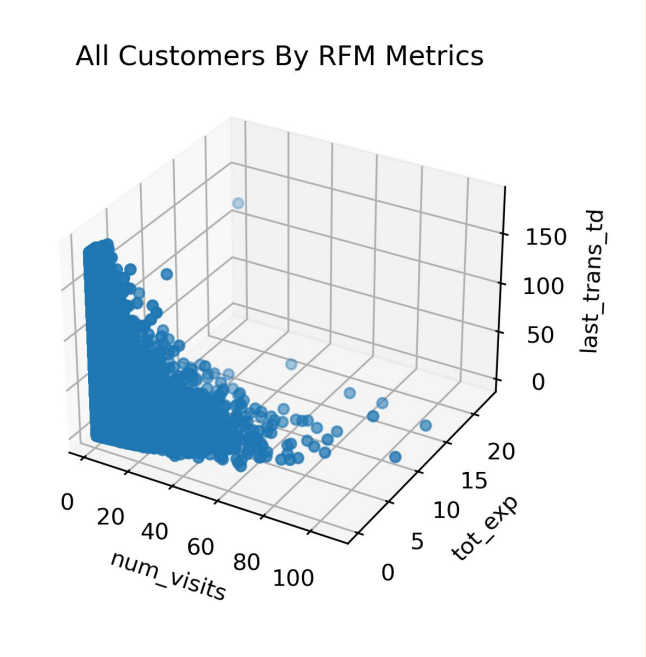
Unsegmented customers (all)



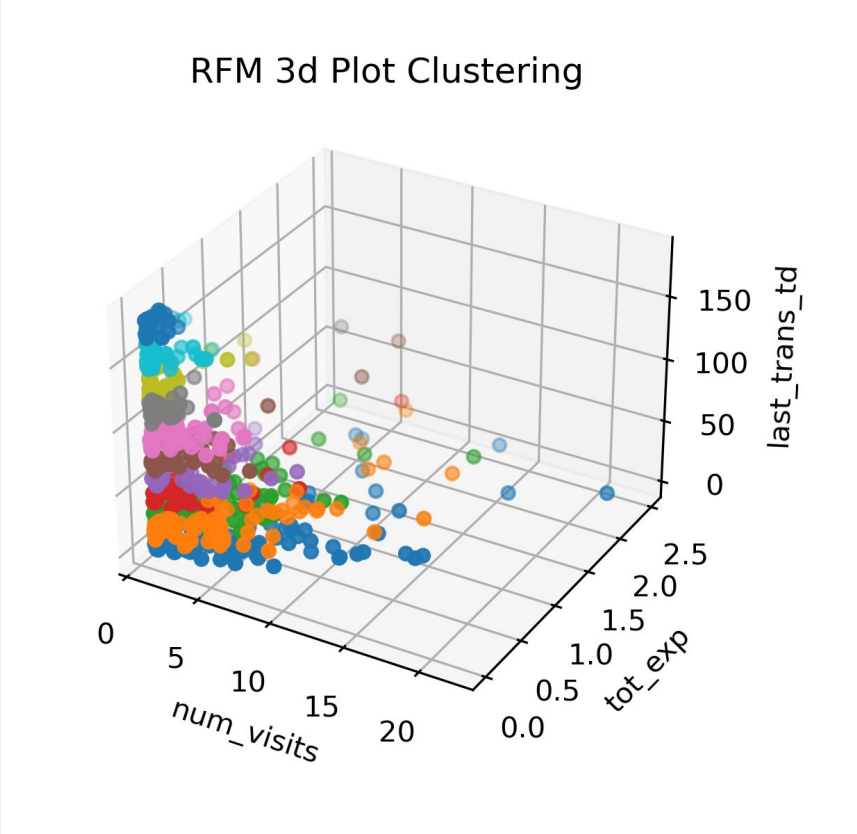
Segmented customers (sample)

How did K-means segment customers?

K-means Clustering



Unsegmented customers (all)



Segmented customers (sample)

Now that we know that RFM creates better segments: which segments should H&M target?

TARGET SEGMENTS

Name	POTENTIAL LOYALISTS	CUSTOMERS NEEDING ATTENTION	AT RISK
R	3–5	2–3	0–2
F & M	1–3	2–3	2–5
Activity	Recent customers who spend decently	Core customers whose last purchase happened more than one month ago	Purchased often and spent large amounts, but hasn't returned for a long time
Actionable Tip	Offer loyalty benefits	Send personalized emails + recommendations	Make personalized limited time offers

Future work

How can we take this project further?

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How can we take this project further?

- To better understand target segments:
  - Incorporate demographic measures
  - Incorporate the types of clothing purchased

- Create a supervised learning model to classify new customers as they join the database

THANKS!