

GLOBAL ELECTRONIC RETAIL
RFM ANALYST
(RECENCY, FREQUENCY, MONETARY)

BACKGROUND

The purpose of this project is to recognize the consumers of Global Electronic Retail Company.

RFM analysis, is a type of customer segmentation and behavioral targeting used to help businesses rank and segment customers based on the recency, frequency, and monetary value of a transaction.

BACKGROUND

- **Recency**

Measures how recently the customer made the last transaction.

- **Frequency**

Assesses how often customers make purchases in a given period.

- **Monetary**

Indicates a customer's total spending over a period of time.

OVERVIEW

Each consumer will be given a score on each dimension from a range of 1 to 3 and then grouped into different segments based on the score.

OVERVIEW

Consumer segmentation will be divided into 9, namely:

1. Champion Customer
2. Potential Champion Customer
3. Loyal Customer
4. Potential Loyal Customer

5. Regular Customer
6. Potential Regular Customer
7. New Customer
8. At-Risk Customer
9. Lost Customer

OVERVIEW

- **Champion [333]**

Has the highest RFM value and provides the most value to the Company.

- **Potential Champion Customer [323, 332]**

Has a high Recency value even though frequency or monetary is high or medium.

This customer category actively interacts with the Company and has a high or medium level of transaction or value. So this category has the potential to become a champion customer category if it pushes in terms of purchase frequency or purchase value.

OVERVIEW

- **Loyal [233, 331, 232, 223]**

This category has a high transaction value or value despite moderate interaction with the company. These customers provide significant value to the company and tend to have long-term relationships, although not as intense as champions.

- **Potential Loyal Customer [321, 322, 213]**

This category has high or medium interaction or transaction or value. This category has the potential to become a loyal customer, especially if it can increase transaction points or value.

OVERVIEW

- **Regular [222]**

Has a moderate recency, frequency, and monetary value, so this customer category does not often but not rarely interact with the Company and transactions and value are also not small nor high.

- **Potential Regular Customer [212, 231]**

This category of customers has a medium value of interaction with the Company (Recency), but the level of transactions or value is at a medium or low level. So there is potential for this category to become a regular customer by increasing the transaction points (frequency) or value (monetary).

OVERVIEW

- **New [313, 311, 312]**

Recently interacted with the Company but has not yet provided significant value and transactions are still low or moderate.

- **At-risk [123, 132, 133, 221, 211]**

This category is customers who have a small recency value, but medium or high frequency and monetary values. Although it also has a medium recency value but small or medium frequency and monetary. So this category has value but there are signs of being lost.

OVERVIEW

- **Lost [122, 111, 121, 131, 113, 112]**

This category is customers who have a small Recency value (1) or have not interacted with the Company, as well as low frequency and monetary.

OVERVIEW

Analysis Stages:

1. Data Gathering
2. Cleaning data
3. Process data
4. Analyze data
5. Conclusion & Recommendation

The tools used are Google Cloud Big Query.

GATHERING DATA

Data required:

1. Customer (CustomerKey)
2. Purchase Date (Order_Date)
3. Purchase (Order_Numer)
4. Transaction value (Unit_Price)

CLEANING DATA

Check Null Data

```
-- check null value
select
  sum(case when CustomerKey is null then 1 else 0 end) as CustomerKey,
  sum(case when Order_Number is null then 1 else 0 end) as Order_Number,
  sum(case when Quantity is null then 1 else 0 end) as Quantity,
  sum(case when Unit_Price_USD is null then 1 else 0 end) as Unit_Price_USD,
  sum(case when Order_Date is null then 1 else 0 end) as Order_Date
from
  `dqlab-yudha-sample1.GlobalElectronicsRetailer.Order`
  inner join
    `dqlab-yudha-sample1.GlobalElectronicsRetailer.Product`
    using(ProductKey)
;
```

Query results

INFORMATION	RESULTS	CHART	JSON	EXECUTION DETAILS	EXECUTION GRAPH
CustomerKey	Order_Number	Quantity	Unit_Price_USD	Order_Date	
0	0	0	0	0	0

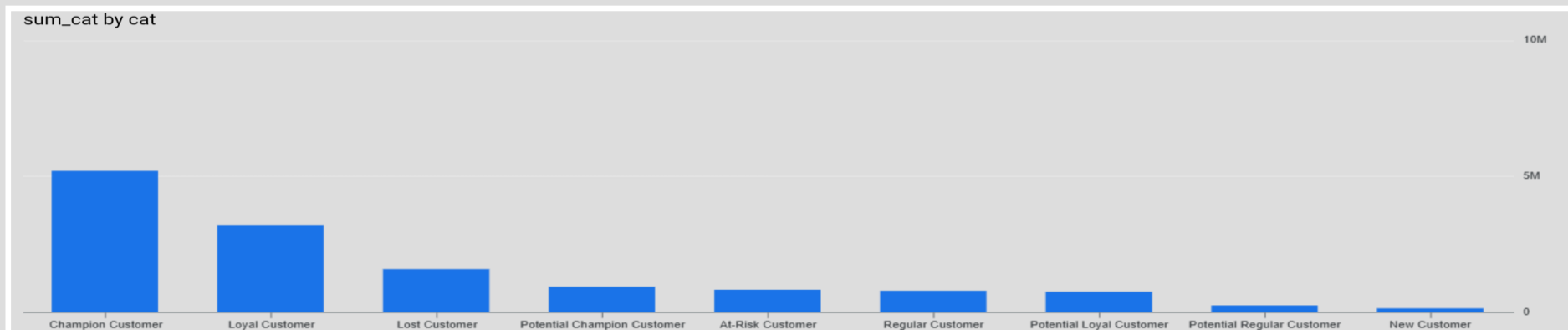
PROCESS DATA

1. Calculate the last date order, total order, total expenditure of each customer
2. Determine the score of each RFM for each customer
3. Combining RFM score
4. Segmenting each costomer based on RFM value

ANALYZE

Based on the total spending of each segment, it shows that it is dominated by the Champion, Loyal, and Lost segments.

Row	cat	sum_cat
1	Champion Customer	5182045.5
2	Loyal Customer	3218565.980000...
3	Lost Customer	1596418.269999...
4	Potential Champion Customer	941955.8399999...
5	At-Risk Customer	825214.3799999...
6	Regular Customer	806054.3799999...
7	Potential Loyal Customer	746306.76
8	Potential Regular Customer	240411.7999999...
9	New Customer	155970.4200000...

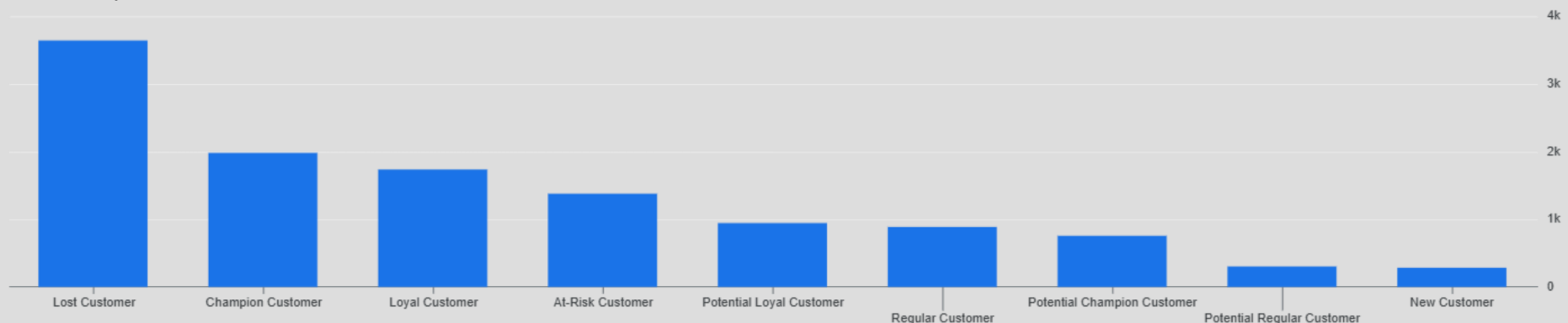


ANALYZE

Based on the number of consumers in each segment, it shows that it is dominated by the Lost, Champion, and Loyal segments.

Row	cat	count_cat
1	Lost Customer	3639
2	Champion Customer	1977
3	Loyal Customer	1727
4	At-Risk Customer	1378
5	Potential Loyal Customer	942
6	Regular Customer	878
7	Potential Champion Customer	747
8	Potential Regular Customer	310
9	New Customer	289

count_cat by cat



CONCLUSION & RECOMMENDATION

Champion Customers dominate the segment because of the highest spending and most consumers in this segment even the largest value contributor also has high attachment so it is easier to maintain.

Therefore, you can focus your marketing strategies on this segment such as Personalized Marketing, Exclusive Loyalty Programs, and others.