What is RFM Segmentation

What is RFM Segmentation?

- RFM segmentation is a marketing analysis method that **Categorizes Existing customers** into segments based on three factors: Recency, Frequency, and Monetary value.
- RFM stands for recency, frequency, and monetary value.
- **RFM segmentation can help businesses:**

Benefits of RFM Segmentation:

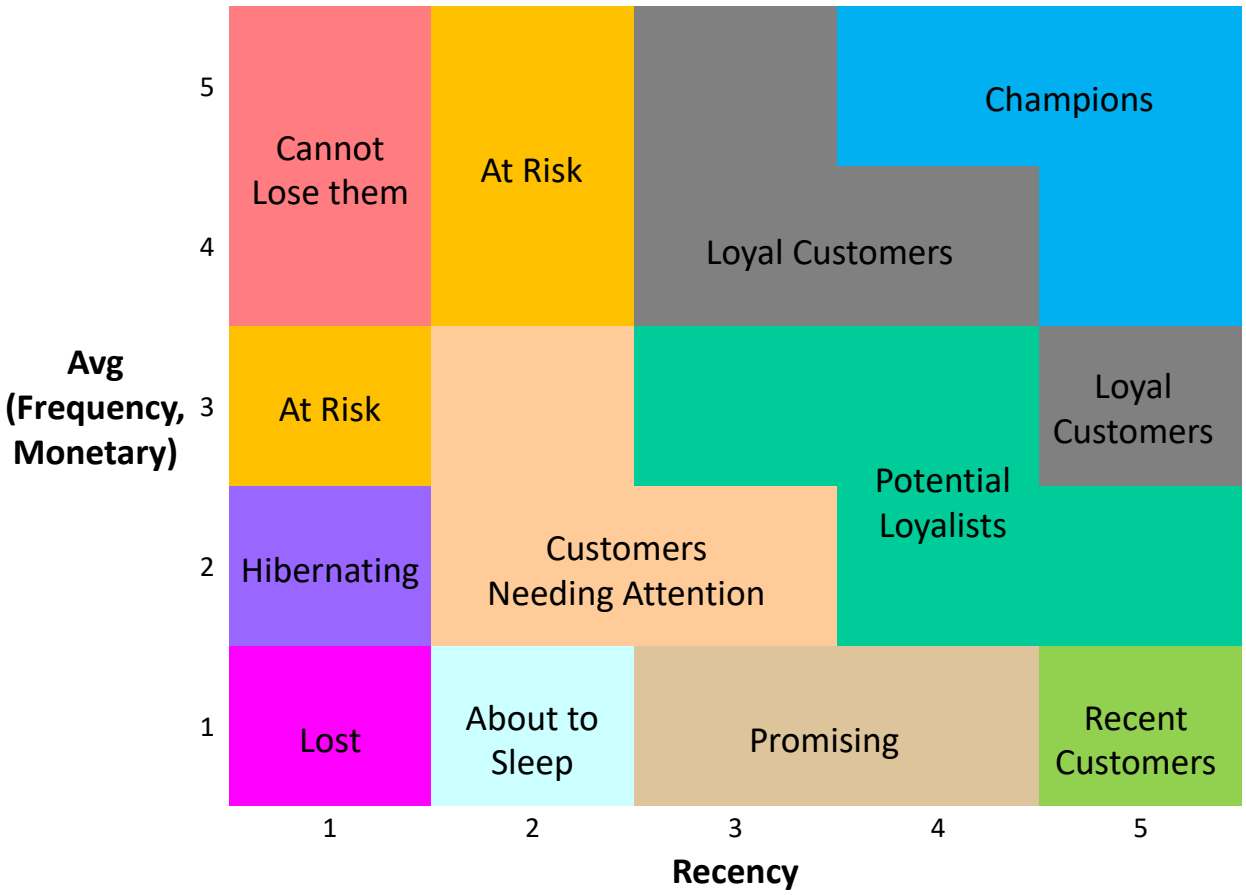
- Personalization: By creating effective customer segments, you can create relevant, personalized Strategies
  - ✓ Identify target audiences
  - ✓ Boost brand loyalty
  - ✓ Increase conversions
  - ✓ Retain at-risk clients
  - ✓ Increase engagement
  - ✓ Effectively use marketing resources & Save Marketing Costs
  - ✓ Better Product Development
  - ✓ Improve Unit Economics

How is RFM Segmentation Done:

- Create a Database of all transactions done for last Predefined Period of Time for Retrieving Required information
- Find the Metric for each Customer as Below
  - ❖ Recency : The time since the customer's last purchase,
  - ❖ Frequency: The number of purchases made,
  - ❖ Monetary: The total amount spent.
- Assign Ranking to each metric with the use of Quartile/Quintile/Deciles for each of the three Metric
- Define Customer Segment for Each RFM score as per Business Model & its Objective [Ref Shown in next page]

For More Understanding Go thru
Ref : https://www.barilliance.com/rfm-analysis/

RFM Segmentation



Note:

- The Above Segmentation Chart is not a Standard
- Each Business will Define its own RFM Segmentation chart as per Business Model & its Objective
- According Business will define Marketing Strategies & other Activities for each Segment of customer for overall Benefit of Business

RFM Segmentation

Customer Segment	Activity	Actionable Tip
Champions	Bought recently, buy often and spend the most!	Reward them. Can be early adopters for new products. Will promote your brand.
Loyal Customers	Spend good money with us often. Responsive to promotions.	Upsell higher value products. Ask for reviews. Engage them.
Potential Loyalist	Recent customers, but spent a good amount and bought more than once.	Offer membership / loyalty program, recommend other products.
Recent Customers	Bought most recently, but not often.	Provide on-boarding support, give them early success, start building relationship.
Promising	Recent shoppers, but haven't spent much.	Create brand awareness, offer free trials
Customers Needing Attention	Above average recency, frequency and monetary values. May not have bought very recently though.	Make limited time offers, Recommend based on past purchases. Reactivate them.
About To Sleep	Below average recency, frequency and monetary values. Will lose them if not reactivated.	Share valuable resources, recommend popular products / renewals at discount, reconnect with them.
At Risk	Spent big money and purchased often. But long time ago. Need to bring them back!	Send personalized emails to reconnect, offer renewals, provide helpful resources.
Can't Lose Them	Made biggest purchases, and often. But haven't returned for a long time.	Win them back via renewals or newer products, don't lose them to competition, talk to them.
Hibernating	Last purchase was long back, low spenders and low number of orders.	Offer other relevant products and special discounts. Recreate brand value.
Lost	Lowest recency, frequency and monetary scores.	Revive interest with reach out campaign, ignore otherwise.

Ref : https://dma.org.uk/article/use-rfm-modelling-to-generate-successful-customer-segments

Schema & Details of Database

Demographics:

Variable	Description
HOUSEHOLD_KEY	Uniquely identifies each household
AGE_DESC	Estimated age range
MARITAL_STATUS_CODE	Marital Status (A - Married, B- Single, U - Unknown)
INCOME_DESC	Household income
HOMEOWNER_DESC	Homeowner, renter, etc.
HH_COMP_DESC	Household composition
HOUSEHOLD_SIZE_DESC	Size of household up to 5+
KID_CATEGORY_DESC	Number of children present up to 3+

Transactions:

Variable	Description
HOUSEHOLD_KEY	Uniquely identifies each household
BASKET_ID	Uniquely identifies a purchase occasion
DAY	Day when transaction occurred
PRODUCT_ID	Uniquely identifies each product
QUANTITY	Number of the products purchased during the trip
SALES_VALUE	Amount of dollars retailer receives from sale
STORE_ID	Identifies unique stores
COUPON_MATCH_DISC	Discount applied due to retailer's match of manufacturer coupon
COUPON_DISC	Discount applied due to manufacturer coupon
RETAIL_DISC	Discount applied due to retailer's loyalty card program
TRANS_TIME	Time of day when the transaction occurred
WEEK_NO	Week of the transaction. Ranges 1 - 102

Products:

Variable	Description
PRODUCT_ID	Number that uniquely identifies each product
DEPARTMENT	Groups similar products together
COMMODITY_DESC	Groups similar products together at a lower level
SUB_COMMODITY_DESC	Groups similar products together at the lowest level
MANUFACTURER	Code that links products with same manufacturer together
BRAND	Indicates Private or National label brand
CURR_SIZE_OF_PRODUCT	Indicates package size (not available for all products)

SQL Query

```
with RFM_Values as
(
select household_key,COUNT(DISTINCT BASKET_ID) as Frequency,
                ROUND(SUM(SALES_VALUE),2) AS Monetary,
                (select max(DAY) FROM `Ecommerce.transaction`) - MAX(DAY) AS Recency
from `Ecommerce.transaction`
group by household_key),

RFM_Ranks as
(
SELECT household_key , ntile(5) over(order by Recency desc) as Rrank,
                 ROUND((ntile(5) over(order by Monetary asc) + ntile(5) over(order by Frequency asc))/2,0) as
FMrank
from RFM_Values),

RFM_Segmentation as
(SELECT *,
CASE WHEN (Rrank = 5 AND FMrank = 5) OR (Rrank = 5 AND FMrank = 4) OR (Rrank = 4 AND FMrank = 5)
THEN '1Champions'
WHEN (Rrank = 5 AND FMrank =3) OR (Rrank = 4 AND FMrank = 4) OR (Rrank = 3 AND FMrank = 5) OR
(Rrank = 3 AND FMrank = 4) THEN '2Loyal Customers'
WHEN (Rrank = 5 AND FMrank = 2) OR (Rrank = 4 AND FMrank = 2) OR (Rrank = 3 AND FMrank = 3) OR
(Rrank = 4 AND FMrank = 3) THEN '3Potential Loyalists'
WHEN Rrank = 5 AND FMrank = 1 THEN '4Recent Customers'
WHEN (Rrank = 4 AND FMrank = 1) OR (Rrank = 3 AND FMrank = 1) THEN '5Promising'
WHEN (Rrank = 3 AND FMrank = 2) OR (Rrank = 2 AND FMrank = 3) OR (Rrank = 2 AND FMrank = 2) THEN
'6Customers Needing Attention'
WHEN Rrank = 2 AND FMrank = 1 THEN '7About to Sleep'
WHEN (Rrank = 2 AND FMrank = 5) OR (Rrank = 2 AND FMrank = 4) OR (Rrank = 1 AND FMrank = 3) THEN
'8At Risk'
WHEN (Rrank = 1 AND FMrank = 5) OR (Rrank = 1 AND FMrank = 4) THEN '90Cant Lose Them'
WHEN Rrank = 1 AND FMrank = 2 THEN '91Hibernating'
WHEN Rrank = 1 AND FMrank = 1 THEN '92Lost'
END AS RFM_Segment
from RFM_Ranks
)

SELECT RFM_Segment ,count(distinct household_key) as customer_count,
     ROUND(((count(distinct household_key)/ (select count(Distinct household_key)  from
`Ecommerce.transaction`))*100),2) as Customer_Pecentage
from RFM_Segmentation
group by RFM_Segment
order by RFM_Segment;
```

Query Output

JOB INFORMATION | RESULTS | CHART | JSON | EXECUTION DETAILS

Row	RFM_Segment	customer_count	Customer_Pecentage
1	1Champions	528	21.12
2	2Loyal Customers	469	18.76
3	3Potential Loyalists	340	13.6
4	4Recent Customers	22	0.88
5	5Promising	60	2.4
6	6Customers Needing Attention	366	14.64
7	7About to Sleep	69	2.76
8	8At Risk	214	8.56
9	90Cant Lose Them	63	2.52
10	91Hibernating	140	5.6
11	92Lost	229	9.16