

# *Customer Spend Insights for Marketing Campaign*



*Presented by*

**Pritha Banerjee**

# Business Scenario and Objectives

## Business Scenario

- Leadership and Marketing team at global retail company want to review Customer spends
- Understand Customer value and ordering behaviour
- Plan Marketing Campaign to drive growth

## Business Need

- Identify high-value customers
- Analyze Customer ordering patterns
- Segment Customers to map marketing campaigns

## My Role

- Perform data analysis on spending behaviour of Customers
- Generate insights that will guide design of marketing campaigns

## Method

- Utilize RFM (Recency, Frequency, Monetary) analysis
- Assign RFM segments to Customers
- Generate insights on high-spending Customers
- Identify potential churn Customers

# PART 1

# Customer Segmentation (RFM)

## Business Objective

Identify customer value and ordering behavior to support targeted marketing strategies by identifying high-value customers, understanding purchase patterns, and segmenting customers effectively.

## Analysis Method

- Performed **RFM analysis** (Recency, Frequency, Monetary) using snowflake\_sample\_data.tpch\_sf1
- Calculated key metrics: last order date, total revenue, order count, average order value
- Assigned **RFM scores and segments** to each customer
- Produced a final dataset with one row per customer, sorted by business relevance

↳ Results    ↳ Chart

	STOMER_NAME	NATION_NAME	CUSTOMER_ADDRESS	CUSTOMER_PHONE	CUSTOMER_ORDER_SEGMENT	TOTAL_ORDERS	FIRST_ORDER_DATE	LAST_ORDER_DATE	TOTAL_REVENUE	AVG_ORDER_VALUE	RECENCY_PURCHASE_DAYS
1	ner#000000845	JORDAN	flq5p0GpDtw6FlsPMdbqNYgfSw3gL9ep	23-125-871-9246	AUTOMOBILE	9	1992-03-13	1998-07-01	1274946.07	141680.67	
2	ner#000139532	RUSSIA	kmWmMa0wWwtR6h6W,1uRqbUu8YBwl	32-312-945-9430	BUILDING	7	1992-02-28	1998-07-23	1274863.75	182123.39	
3	ner#000084416	UNITED KINGDOM	FioahwQ9MXTh05gRBptz3M KYd6cwouU	33-869-138-9799	HOUSEHOLD	9	1993-07-19	1998-07-08	1274597.80	141621.98	
4	ner#000106958	JORDAN	Y ewAxI7kNkI	23-247-212-8512	FURNITURE	8	1992-01-02	1998-06-30	1273092.61	159136.58	
5	ner#000059446	MOROCCO	83ia0CzJ9c6E	25-393-166-2096	FURNITURE	9	1993-06-04	1998-07-26	1272280.38	141364.49	
6	ner#000006191	RUSSIA	7XGJ0ugPk dVdCm1nJQ	32-229-609-5050	BUILDING	7	1992-06-22	1998-06-28	1272250.56	181750.08	
7	ner#000051749	INDONESIA	ULRIX02x8JmEjq2ad	19-980-956-5604	AUTOMOBILE	8	1992-05-20	1998-07-16	1272045.54	159005.69	
8	ner#000062543	UNITED KINGDOM	CkCjkQLhWFM,FQPF2dJVMoPyWJ	33-501-914-6586	MACHINERY	9	1992-07-25	1998-07-07	1271920.83	141324.54	
9	ner#000102740	RUSSIA	urYrTMjTwRqlzP44l9eScqVOrz RK2zfUz	32-589-661-6555	AUTOMOBILE	8	1992-06-10	1998-07-22	1270718.80	158839.85	
10	ner#000066692	UNITED KINGDOM	6w7fObFVV6CUm2qA	33-880-213-5870	FURNITURE	7	1993-06-12	1998-06-30	1270643.45	181520.49	

# RFM Segmentation

RFM Group	RFM Score Logic	Description
Champions	Recency $\geq 4$ , Frequency $\geq 4$ , Monetary $\geq 4$	Recent, frequent, and high-spending customers — your most valuable segment.
Recent High Value	Recency $\geq 4$ , Frequency 2–3, Monetary $\geq 4$	New or moderately frequent customers with high spend.
New Big Value	Recency $\geq 4$ , Frequency $\leq 1$ , Monetary $\geq 4$	Very recent, infrequent buyers who spent a lot.
Frequent High Value	Recency 2–3, Frequency $\geq 4$ , Monetary $\geq 4$	Older but still frequent and high-value customers.
Infrequent High Value	Recency $\leq 2$ , Frequency $\leq 2$ , Monetary $\geq 4$	Previously valuable customers who are now inactive.
Loyal Value	Recency $\geq 4$ , Frequency $\geq 4$ , Monetary 2–3	Active and loyal customers with moderate spend.
Loyal but Low Value	Recency $\geq 4$ , Frequency $\geq 4$ , Monetary = 1	Loyal and frequent buyers with low transaction value.
Recent Mid Value	Recency $\geq 4$ , Frequency 2–3, Monetary $\leq 2$	Recent buyers with moderate frequency and low spend.
New Low Value	Recency $\geq 4$ , Frequency $\leq 1$ , Monetary $\leq 2$	New customers with low frequency and low spend.
Frequent but Low Value	Recency 2–3, Frequency $\geq 4$ , Monetary $\leq 2$	Frequent buyers who spend little and haven't bought recently.
Inactive Low Value	Recency $\leq 2$ , Frequency $\leq 2$ , Monetary $\leq 2$	Inactive Low Value customers are disengaged buyers with low spend, rare purchases, and minimal impact

# PART 2

# Customer count in each segment - Result

## Business Objective

Identify customer count of each segment to uncover actionable insights for marketing strategy.

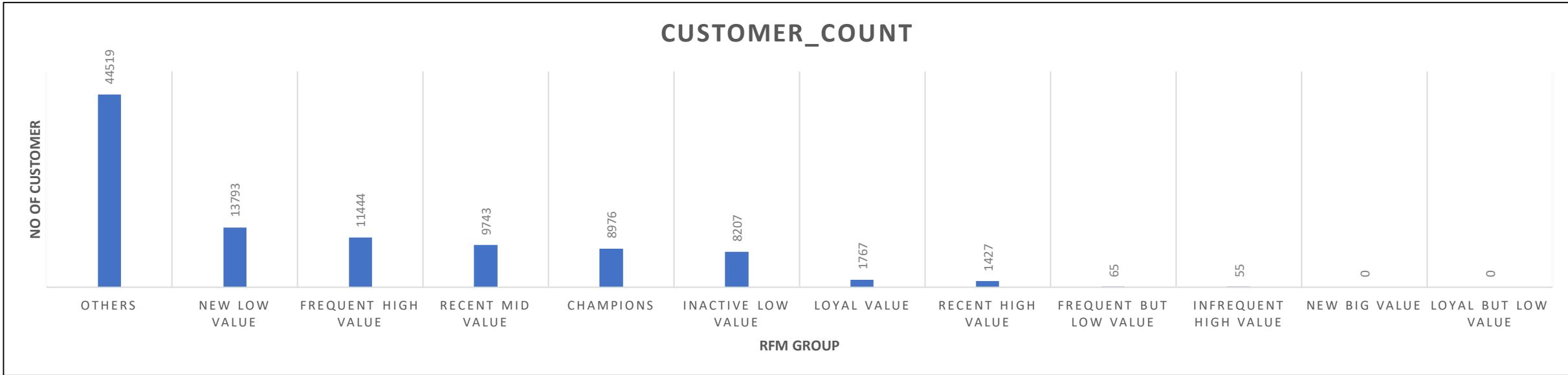
## Analysis Method

Queried the final RFM segmentation to count how many customers belong to each segment

Identified distribution of customer types (e.g., loyal, at-risk, high-value) to guide targeted campaigns

# RFM_GROUP	# CUSTOMER_COUNT	# PERCENTAGE_OF_TOTAL
1 Others	44519	44.52
2 Frequent High Value	13793	13.79
3 New Low Value	11444	11.44
4 Recent Mid Value	9743	9.74
5 Champions	8976	8.98
6 Inactive Low Value	8207	8.21
7 Recent High Value	1767	1.77
8 Loyal Value	1427	1.43
9 Infrequent High Value	65	0.07
10 Frequent but Low Value	55	0.06

# Customers count in each segment - Analysis



RFM GROUP	Recommendation
Champions, Frequent High Value, Loyal Value, Recent High Value (23.62%)	High-value customers to prioritize for retention and upselling.
Recent Mid Value, New Big Value, Loyal Low Value, Infrequent High Value (9.8%)	Recent and loyal Customers with potential for growth
New Low Value, Frequent But Low Value, Inactive Low Value (22.62%)	Drive stronger engagement strategy for value growth
Others (44.52%)	Largest group with unclear behavior; needs further classification or re-engagement.

# Total revenue generated by each segment - Result

## Business Objective

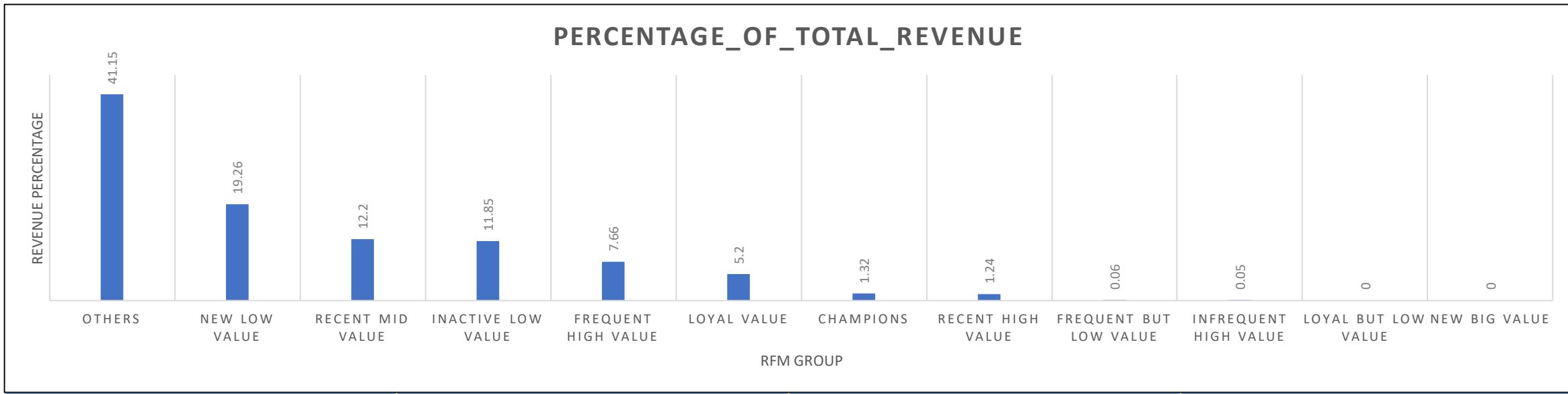
Evaluate the financial contribution of each customer segment to prioritize marketing investments.

## Analysis Method

- Aggregated total revenue per RFM segment using SQL
- Identified which segments drive the highest revenue to focus on retention and upselling strategies

RFM_GROUP	SEGMENT_REVENUE	PERCENTAGE_OF_TOTAL_REVENUE
1 Others	89750505675.84	41.15
2 New Low Value	42013915453.60	19.26
3 Recent Mid Value	26600743802.58	12.20
4 Inactive Low Value	25850778828.74	11.85
5 Frequent High Value	16704613170.30	7.66
6 Champions	11348901115.77	5.20
7 Loyal Value	2886777643.07	1.32
8 Recent High Value	2706572424.66	1.24
9 Frequent but Low Value	129537138.81	0.06
10 Infrequent High Value	109878636.68	0.05

# Total revenue generated by each segment - Analysis



Segment Group	Behaviour Insight	Revenue Contribution	Recommended Strategy
Others, New Low Value	High revenue	60.41% combined	Reassess and convert through targeted engagement
Mid-Value Segments (Loyal Value, Recent Mid Value)	Moderate engagement, strong revenue	17.40% combined	Nurture with growth-focused campaigns
High Value (Frequent High Value, Champions, Recent High Value, Infrequent High Value, New Big Value, Loyal But Low Value, Frequent But Low Value)	High loyalty, low revenue share	10.34% combined	Strengthen monetization via bundling and offers
Inactive Low Value	Low activity, notable revenue	11.85%	Prioritize retention with reactivation efforts

# Top 5 High Value customers by the RFM score- Result & Recommendation

## Business Objective

Pinpoint the most valuable customers to inform premium engagement and loyalty strategies.

## Analysis Method

- Ranked all customers by their **RFM score**
- Identified the **top 5 high-value customers** based on recency, frequency, and monetary metrics
- These customers represent the strongest potential for retention and upselling

#	CUSTOMER_ID	CUSTOMER_NAME	CUSTOMER_ADDRESS	CUSTOMER_PHONE	NATION_NAME	RFM_SCORE_SEGMENT	TOTAL_REVENUE	RFM_GROUP
1	106958	Customer#000106958	YewAxi7kNKI	23-247-212-8512	JORDAN	555	1273092.61	Champions
2	139532	Customer#000139532	kmWmMa0wWWtR6h6W,1uRqbL	32-312-945-9430	RUSSIA	555	1274863.75	Champions
3	845	Customer#000000845	flq5p0GpDtw6FlsPMdbqNYgfSw	23-125-871-9246	JORDAN	555	1274946.07	Champions
4	6191	Customer#000006191	7XGJ0ugPk dVdCm1nJQ	32-229-609-5050	RUSSIA	555	1272250.56	Champions
5	84416	Customer#000084416	FloahwO9MXTh05gRBptz3M KY	33-869-138-9799	UNITED KINGDOM	555	1274597.80	Champions

**Recommendation:-** These customers should be prioritized for **exclusive loyalty programs, early product access, and personalized offers** to maintain engagement and increase lifetime value.

# Nations have the highest number of High Value customers according RFM group- Result

#	NATION_NAME	# HIGH_VALUE_CUSTOMERS	# TOTAL_REVENUE_FROM_HIGH_VALUE
1	FRANCE	1057	1330305840.53
2	ARGENTINA	1020	1289658439.38
3	MOZAMBIQUE	1018	1267817989.55
4	RUSSIA	1013	1264737393.00
5	ROMANIA	1007	1263057651.17
6	ETHIOPIA	1001	1250801191.88
7	KENYA	1000	1249434356.23
8	IRAN	995	1249863987.75
9	SAUDI ARABIA	991	1249984972.30
10	EGYPT	988	1244404521.44
11	CHINA	987	1249867244.11
12	JORDAN	986	1259356458.18
13	GERMANY	985	1253431451.66
14	UNITED KINGDOM	978	1233436761.22
15	INDIA	970	1222231498.11
16	INDONESIA	970	1218286133.84
17	CANADA	965	1206885659.60
18	JAPAN	963	1228964967.13
19	VIETNAM	958	1194411972.31
20	PERU	955	1199608295.84
21	MOROCCO	947	1166047208.27
22	BRAZIL	946	1185010821.18
23	UNITED STATES	941	1183861277.63
24	ALGERIA	923	1177043442.95
25	IRAQ	917	1162343463.44

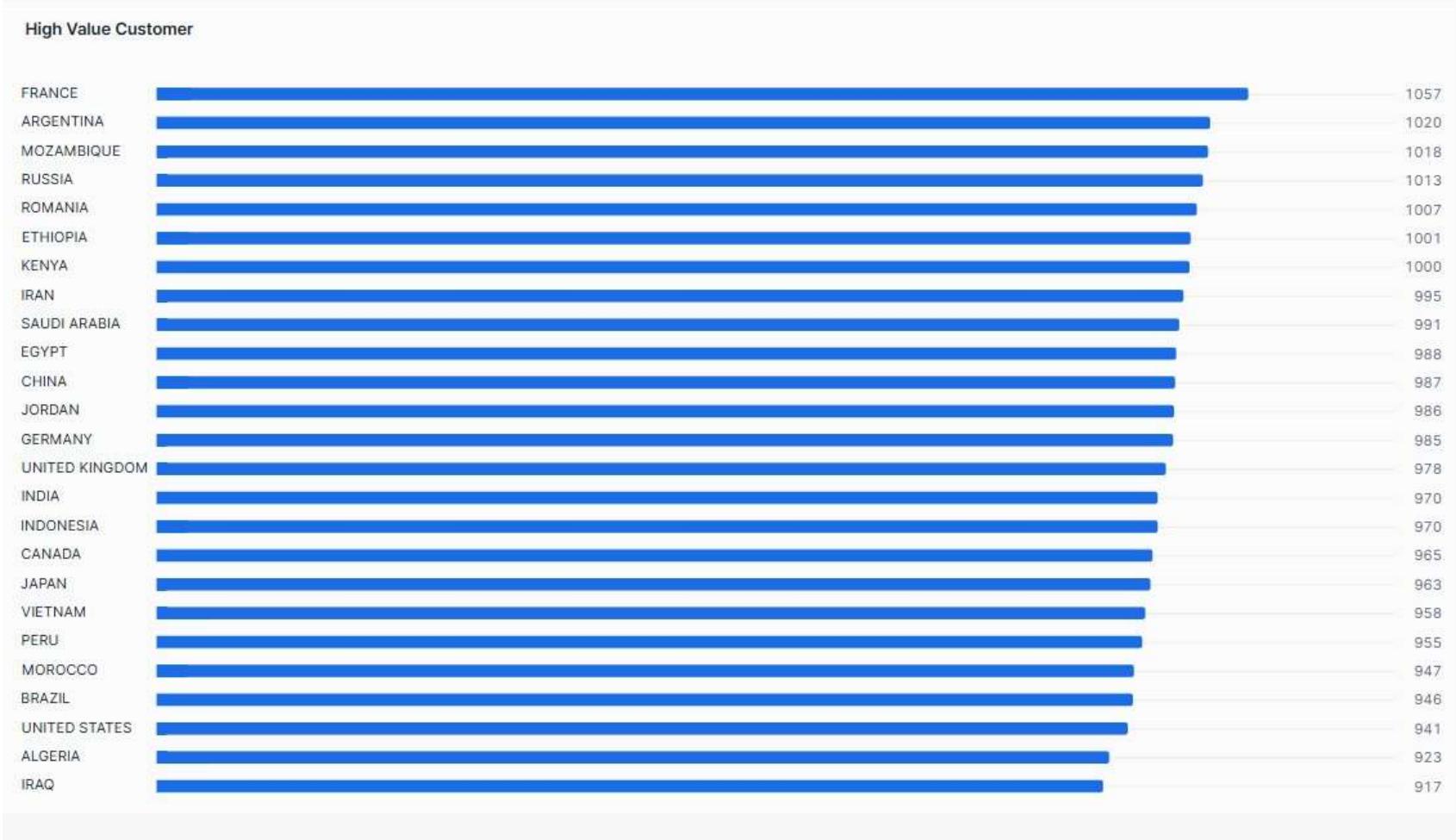
## Business Objective

Identify geographic distribution of top-tier customers to support region-specific marketing strategies.

## Analysis Method

- Filtered customers with highest RFM segments
- Grouped and counted high-value customers by nation
- Identified countries with the largest concentration of valuable customers for targeted outreach

# Nations have the highest number of High Value customers according RFM group- Insights



- **France and Argentina** lead in high-value customer volume — ideal for premium campaigns and loyalty initiatives.

- **Emerging markets** like Mozambique, Russia and Romania show strong high-value presence — potential for growth-focused investment.

- **Global spread** includes both developed and developing nations, suggesting wide appeal and diverse engagement patterns.

# PART 3

# RFM Scoring and Segmentation Approach

Metric	What It Measures	Why It Matters
Recency	How recently a customer made a purchase	Recent buyers are more likely to engage again
Frequency	How often they made purchases	Frequent buyers show loyalty and interest
Monetary	How much they spent in total	High spenders contribute more to revenue

## Scoring Method

**NTILE()** function has been used to divide a result set into **equal-sized buckets or groups** to assign scores from **1 to 5** for each metric. This created a **3-digit RFM score**.

Metric	ORDER BY Direction	Interpretation of Score
Recency	recency_purchase_days DESC	Lower days = higher score (more recent)
Frequency	total_orders ASC	More orders = higher score
Monetary	total_revenue DESC	Higher spend = higher score

# RFM Score Using CONCAT() & SUM()

## Function to create RFM Group

CONCAT() function to combine the three RFM scores — **Recency**, **Frequency**, and **Monetary** — into a single 3-digit RFM score (e.g., **555**). This score represents each customer's behavioral purchase blueprint.

- CONCAT(recency\_score, frequency\_score, monetary\_score)
- **Example 555 = best of all three dimensions** → recent, frequent, and high-spending.
- Enables segmentation into meaningful groups, example:
  - **Champions**
  - **Infrequent High Value**

## Used to:-

- Identify **top performers**
- Spot **lapsed high spenders**
- Tailor **marketing strategies** by segment

## Aggregate Function to create RFM Group

SUM() function to add the three individual RFM scores — **Recency**, **Frequency**, and **Monetary** (e.g., **5+5+5 = 15**). This score represents each customer's overall purchasing behavior and helps segment customer value.

# Key RFM Driver & Segment Distribution Insights

## Key RFM Driver

- Based on RFM segmentation analysis, **Monetary Value** appears to be the most significant driver of customer behavior.
- Segments like “Others” and “New Low Value” contribute disproportionately high revenue despite lower engagement.

## Segment Distribution Insights

- The distribution of customers across RFM segments reveals that the company's overall customer base is **skewed toward lower engagement and spending**.
- Most customers fall into the "**Others**" segment, indicating they either purchase infrequently, or haven't bought recently.
- In contrast, **high-value segments** like “**Champions**”, “**Recent High Value**”, “**New Big Value**”, “**Frequent High Value**”, “**Infrequent High Value**” together capture around **10% in total**, suggesting that while the company has a few highly profitable and loyal customers, the majority may require reactivation or nurturing strategies to increase their lifetime value.

# Strategic Recommendations

- Focus more on the high-value customers with special offers or loyalty programs.
- Spend less on general campaigns for low-value groups.
- Create region-specific promotions for places like France and Argentina.
- Use spending amount (monetary value) as the main way to find important customers, even if they don't buy often.

## Further Analysis:-

# Customer Lifetime Value (CLV) Estimation & Analysis Method

- Estimates how much revenue a customer will generate over their relationship with the company. It prioritizes marketing spend, retention efforts, and product targeting.
- A **retained customer** is one who continues to make purchases over weeks, months, or years.
- Retention Rate** = (Customers who stayed / Customers at start) × 100

## Analysis Method

recency_score	Interpretation	retention_multiplier	Meaning
5	Very recent purchase	1.5	Highly likely to stay and repurchase
4	Recent	1.3	Good chance of retention
3	Moderate recency	1.1	Neutral retention
2	Less recent	0.9	At risk of churn
1	Long time since last purchase	0.7	Low retention likelihood

# Customer Lifetime Value (CLV) Estimation- Results

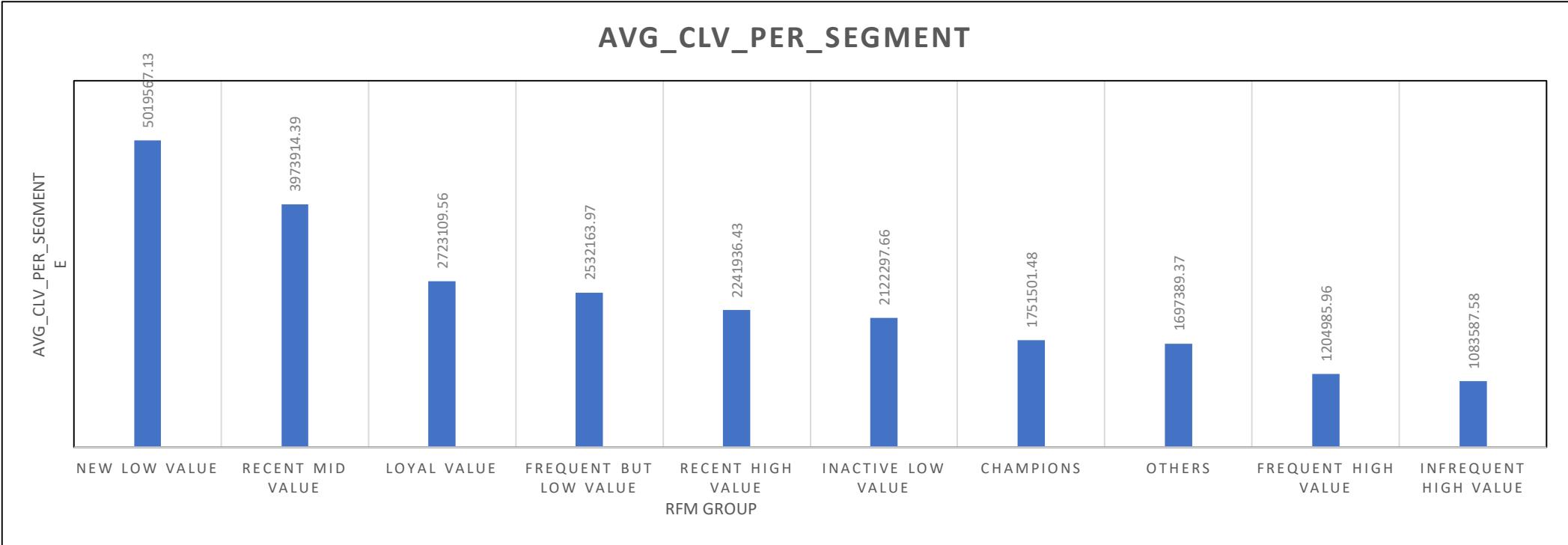
```
105  
106 -- Common Table Expression (CTE) to estimate retention likelihood based on recency_score  
107 customer_lifetime_value AS (  
108     SELECT *,  
109         -- Assign a retention multiplier based on how recently the customer made a purchase  
110         -- Higher recency_score + higher likelihood of retention  
111         CASE  
112             WHEN recency_score = 5 THEN 1.5 -- Very recent → high retention  
113             WHEN recency_score = 4 THEN 1.3 -- Recent → good retention  
114             WHEN recency_score = 3 THEN 1.1 -- Moderate → neutral retention  
115             WHEN recency_score = 2 THEN 0.9 -- Less recent → at risk  
116             ELSE 0.09  
117         END AS retention_multiplier  
118     FROM final  
119 )  
120  
121 -- Calculate average estimated Customer Lifetime Value (CLV) per RFM segment  
122 SELECT  
123     rfm_group, -- Segment label (e.g., Champions, Others, etc.)  
124  
125     -- Estimate CLV using: avg_order_value × total_orders × retention_multiplier  
126     -- Next took the average CLV across all customers in the segment  
127     ROUND(AVG(avg_order_value * total_orders * retention_multiplier), 2) AS avg_clv_per_segment  
128 FROM customer_lifetime_value  
129 GROUP BY rfm_group -- Group results by segment  
130 ORDER BY avg_clv_per_segment DESC; -- Rank segments by CLV from highest to lowest  
131
```

↳ Results

↗ Chart

#	RFM_GROUP	Avg CLV per Segment
1	New Low Value	5019567.13
2	Recent Mid Value	3973914.39
3	Loyal Value	2723109.56
4	Frequent but Low Value	2532163.97
5	Recent High Value	2241936.43
6	Inactive Low Value	2122297.66
7	Champions	1751501.48
8	Others	1697389.37
9	Frequent High Value	1204985.96
10	Infrequent High Value	1083587.58

# Customer Lifetime Value (CLV) Estimation- Analysis



# CLV-Based Recommendations

RFM Group	Behavior Insight	Recommended Strategy
New Low Value	Recently acquired, low spend	Onboard effectively and incentivize repeat buys
Recent Mid Value	Newly active with solid CLV	Nurture with personalized engagement
Loyal Value	Consistent buyers with strong CLV	Strengthen loyalty programs and upsell paths
Inactive Low Value	Low activity but moderate CLV	Reactivate with targeted offers
Frequent but Low Value	Regular buyers, low spend	Promote higher-value products
Recent High Value	Recently active with high spend and frequency	Retain with exclusive offers and personalized upsell strategies.
Others	Broad, undefined group	Segment further and test conversion tactics
Champions	Highly engaged but lower-than-expected lifetime value	Reassess monetization; offer bundles or upsells
Infrequent High Value	Previously valuable, now disengaged	Winback campaigns with tailored messaging
Frequent High Value	High frequency, low CLV	Encourage higher spend through premium incentives

# Product-level purchasing behaviour

## Business Objective

Identify product-level purchasing behavior segmented by **customer order segment** and **brand** to uncover buying patterns and discount impact.

## Analysis Method

- Segmented results by **customer type** and **brand**
- Sorted output to highlight top-performing brand-segment combinations

Customer Order Segment Analysis						
	CUSTOMER_ORDER_SEGMENT	TOTAL_ORDERS	UNIQUE_CUSTOMERS	TOTAL_REVENUE	Avg_Price	Avg_Discount_Percent
1	BUILDING	303959	20177	44141243552.35	36337.93	4.99
2	HOUSEHOLD	300147	20028	43645871354.68	36334.80	5.00
3	FURNITURE	299461	19966	43570497982.24	36324.22	5.00
4	MACHINERY	298980	19949	43462016360.30	36341.54	5.01
5	AUTOMOBILE	297453	19876	43282594635.42	36376.91	5.00

# Brand-level purchasing behaviour

```
105
106 -- Product-level purchasing behavior segmented by customer_order_segment
107 product_behavior AS (
108     SELECT
109         c.customer_order_segment,                      -- Marketing segment
110         p.p_brand AS brand,                         -- Product brand from PART table
111         COUNT(DISTINCT o.o_orderkey) AS total_orders, -- Orders containing this brand
112         COUNT(DISTINCT o.o_custkey) AS unique_customers, -- Customers who bought this brand
113         ROUND(SUM(l.l_extendedprice * (1 - l.l_discount)), 2) AS total_revenue, -- Revenue after discount
114         ROUND(AVG(l.l_extendedprice * (1 - l.l_discount)), 2) AS avg_price,      -- Average price after discount
115         ROUND(AVG(l.l_discount) * 100, 2) AS avg_discount_percent -- Avg discount %
116     FROM SNOWFLAKE_SAMPLE_DATA.TPCH_SF1.LINEITEM AS l
117     INNER JOIN SNOWFLAKE_SAMPLE_DATA.TPCH_SF1.ORDERS AS o
118         ON l.l_orderkey = o.o_orderkey
119     INNER JOIN SNOWFLAKE_SAMPLE_DATA.TPCH_SF1.PART AS p
120         ON l.l_partkey = p.p_partkey
121     INNER JOIN customer_demography AS c
122         ON o.o_custkey = c.customer_id
123     GROUP BY c.customer_order_segment, p.p_brand
124 )
125
126 -- Final output
127 SELECT *
128 FROM product_behavior
129 ORDER BY total_revenue DESC;
130
131
```

↳ Results    ↗ Chart

	CUSTOMER_ORDER_SEGMENT	BRAND	TOTAL_ORDERS	UNIQUE_CUSTOMERS	TOTAL_REVENUE	Avg_Price	Avg_Discount_Percent
1	BUILDING	Brand#12	45656	17418	1813031332.77	36602.49	4.99
2	BUILDING	Brand#52	45957	17492	1810463080.81	36308.02	4.99
3	BUILDING	Brand#35	45639	17520	1806506933.53	36486.24	5.01
4	HOUSEHOLD	Brand#12	45779	17389	1805028190.65	36308.98	5.01
5	MACHINERY	Brand#35	45611	17334	1795208083.92	36213.42	5.05
6	FURNITURE	Brand#35	45486	17283	1793971944.97	36332.14	4.97
7	HOUSEHOLD	Brand#52	45464	17293	1792377787.45	36358.02	5.02
8	AUTOMOBILE	Brand#35	45221	17162	1790273887.83	36519.81	5.00
9	BUILDING	Brand#33	45541	17409	1783584685.14	36175.25	5.02
10	HOUSEHOLD	Brand#35	45258	17325	1782188009.88	36332.63	5.02
11	BUILDING	Brand#53	45311	17416	1778789015.08	36292.19	4.99
12	BUILDING	Brand#44	45334	17396	1778504166.41	36233.89	4.97

# Churn Prediction Modeling

## Business Objective

Identify low-engagement customer segments to support **churn prediction modeling** and proactive retention strategies.

## Analysis Method

- Calculate total orders, revenue before/after discount, and discount percentage
- Segmented results by **customer type** and **brand**
- Sorted output to highlight top-performing brand-segment combinations

106     SELECT \*  
107     FROM final  
108     WHERE rfm\_score\_segment IN :  
109       '111', '112', '121', '122',     -- Very low engagement and spend  
110       '211', '212', '221', '222',     -- Slightly better recency but still low frequency and spend  
111       '311', '312', '321', '322'     -- Moderate recency but still low frequency and monetary  
112     |  
113  
114     ORDER BY total\_revenue DESC;  
115  
116  
117

**Results** **Chart**

#	CUSTOMER_ID	CUSTOMER_NAME	NATION_NAME	CUSTOMER_ADDRESS	CUSTOMER_PHONE	CUSTOMER_ORDER_SEGMENT	TOTAL_ORDERS	FIRST_ORDER_DATE	LAST_ORDER_DATE	TOTAL_REVENUE	Avg_Order_Value
1	103834	Customer#000103834	IRAN	M10 vnlD42IM5xLMuUWlmlsTBKhl5I	21-672-567-3247	MACHINERY	31	1992-01-09	1998-02-03	6059770.32	1954
2	69682	Customer#000069682	MOZAMBIQUE	0vPfHsRQ68.9B_dvpnBv6FOMtk	26-584-640-4523	AUTOMOBILE	39	1992-05-22	1998-04-21	6057779.03	1553
3	99587	Customer#000099587	CHINA	IwEorIKUWK9R3	28-380-593-1288	BUILDING	37	1992-01-02	1998-01-30	6027621.59	1628
4	85102	Customer#000085102	MOROCCO	rPmgsOMF	25-981-842-5067	AUTOMOBILE	34	1992-02-08	1998-05-09	5901955.65	1735
5	127213	Customer#000127213	IRAN	yt50EzadqPg01maHDcLUSUK	20-347-802-8353	FURNITURE	35	1992-01-05	1998-04-28	5889360.90	1682
6	133089	Customer#000133089	FRANCE	DvEkyTyMjS8AwXCM	10-253-911-9804	FURNITURE	34	1992-02-17	1998-04-21	5803243.34	1706
7	35776	Customer#000035776	ROMANIA	y2fJYrmadHtHNYZ2qB	29-888-264-7288	FURNITURE	35	1992-08-22	1998-02-23	5725268.73	1635
8	31660	Customer#000031660	KENYA	cGZZWB8NaQbH7VvYpISqB-PFJsq200u	24-378-483-5335	MACHINERY	32	1992-02-08	1998-01-30	5678307.84	1773
9	31495	Customer#000031495	UNITED KINGDOM	x1KX7D9CyG61mEHYTQVWfF2z0u	33-441-158-3881	MACHINERY	35	1992-03-28	1998-01-17	5634484.12	1609
10	121909	Customer#000121909	CHINA	z0vyAICtEWYtB8wXYPaClhynsharIMs0	28-765-474-9868	AUTOMOBILE	36	1992-03-19	1998-01-20	5622777.54	1656
11	57058	Customer#000057058	UNITED STATES	AcIwvVtW05eUv0xFZ0Bm5gQ7KnfkH	34-468-656-8418	AUTOMOBILE	34	1992-04-01	1998-05-08	5629887.49	1655
12	28118	Customer#000028118	MOZAMBIQUE	L5ZoHtHvBtgCZNjs3RqCilajKzQ A-9ID	26-550-183-5083	MACHINERY	29	1992-01-21	1998-03-15	5612204.16	1825
13	67198	Customer#000067198	JAPAN	ETgzwuif7vVndWB3	22-673-185-5782	MACHINERY	33	1992-02-15	1998-03-01	5599598.30	1698
14	111280	Customer#000111280	ARGENTINA	p10m4 eJL2	11-211-658-8107	FURNITURE	35	1992-07-15	1998-03-16	5568861.80	1580
15	94618	Customer#000094618	IRAN	WjctKtHaknQXmFu5g98nIVJOU	20-748-374-4414	HOUSEHOLD	32	1992-02-19	1997-11-11	5554710.27	1735
16	120802	Customer#000120802	ROMANIA	uY2OuVtHdFetge_h5QVJRHxF Yk5yJWM3C	29-397-477-7913	AUTOMOBILE	35	1992-04-21	1998-01-14	5543654.21	1583
17	29326	Customer#000029326	Vietnam	u42g0csmHt8y93	31-470-876-4298	HOUSEHOLD	32	1992-08-25	1998-04-17	5529135.48	1727
18	93885	Customer#000093885	MOROCCO	yuIC94e7estz84H6crgg80Cs7M	25-118-550-8632	HOUSEHOLD	31	1992-02-03	1997-12-30	5513784.55	1778
19	7963	Customer#00007993	SAUDI ARABIA	tcvMwv3QaRCJTdwzwpo6Wld0SwPD	30-753-428-9489	MACHINERY	31	1992-03-28	1998-04-20	5457583.88	1760
20	130372	Customer#000130372	MOZAMBIQUE	CO4JUUuLnhWpcnPFerJ3vneFiy0Hw	26-791-756-7475	AUTOMOBILE	31	1992-05-22	1998-05-04	5441881.15	1755

# Churn Prediction Modeling - Insights and Recommendation

Segment Group	Recency Codes	Behaviour Insight	Recommended Strategy
<b>Very Low Engagement &amp; Spend</b>	111, 112, 121, 122	Customers with very low recency and spend; likely disengaged	Launch reactivation campaigns with strong incentives or personalized win-back messaging
<b>Slightly better recency but still low frequency and monetary value</b>	211, 212, 221, 222	Recently active but still low engagement and spend; potential early-stage churn risk	Send personalized reminders and low-risk offers to re-engage interest
<b>Moderate Recency, Low frequency &amp; Spend</b>	311, 312, 321, 322	Moderate recent activity but low purchase frequency and value	Offer targeted promotions and highlight value products to encourage repeat purchases

# Customer not placed any orders - Result

## Business Objective

Identify customers who have **not placed any orders** to assess engagement gaps and potential churn risk.

## Analysis Method

- Queried customer data to find those with **zero total orders**
- Calculated the **total number** and **percentage** of inactive customers
- Provided insight into **customer onboarding effectiveness** and areas for reactivation strategy

```
120
121  SELECT
122      MAX(customer_id) AS total_customers,          -- customer_id is sequential; max value = total number of customers
123      COUNT(customer_id) AS customer_not_placed_any_order,    -- Counts customers who have not placed any orders (i.e., total_orders = 0)
124      ROUND(COUNT(customer_id)/MAX(customer_id) * 100, 0) AS percentage  -- Calculates % of customers who haven't placed orders
125  FROM final
126  WHERE total_orders = 0                         -- Filters only customers with zero orders
127  ORDER BY customer_id;                         -- Orders result by customer_id
128
129
130
131
132
133
```

↳ Results    ↲ Chart    🔍    ⏪    ⏴    ⏵    ⏷    ⏸

# TOTAL_CUSTOMERS	# CUSTOMER_NOT_PLACED_ANY_ORDER	# PERCENTAGE
1	150000	50004
		33

# Customers List not placed any orders - Result

```
120
121  SELECT
122      customer_id,          -- Unique customer identifier
123      customer_name,        -- Customer's full name
124      customer_address,     -- Customer's address
125      customer_phone       -- Customer's phone number
126  FROM final
127 WHERE total_orders = 0    -- Filter for customers who have placed zero orders
128 GROUP BY
129      customer_id,
130      customer_name,
131      customer_address,
132      customer_phone
133 ORDER BY customer_id;    -- Sort results by customer ID
134
135
136
137
138
```

↳ Results    ↳ Chart

🔍    ⏷    ⏸    ⏹    ⏴

#	CUSTOMER_ID	CUSTOMER_NAME	CUSTOMER_ADDRESS	CUSTOMER_PHONE
1	3	Customer#000000003	MG9kdTD2WBHm	11-719-748-3364
2	6	Customer#000000006	sKZz0CsnMD7mp4Xd0YrBvx,LREYKUWAh yVn	30-114-968-4951
3	9	Customer#000000009	xKiAFTjUsCuxfeleNqefumTrjs	18-338-906-3675
4	12	Customer#000000012	9PWKuhzT4Zr1Q	23-791-276-1263
5	15	Customer#000000015	YtWggXoOlwdwo7b0y,BZaGUQMLJMX1Y,EC,6Dn	33-687-542-7601
6	18	Customer#000000018	3txGO Aiufux3zT0Z9NYaFRnZt	16-155-215-1315
7	21	Customer#000000021	XYmVpr9yAHDEn	18-902-614-8344
8	24	Customer#000000024	HXAfglAyjtdqwimt13Y3OZO 4xeLe7U8PqG	23-127-851-8031
9	27	Customer#000000027	IS8GlyxpBrLpMT0u7	13-137-193-2709
10	30	Customer#000000030	nJDsELGAavU63Jl0c5NKsKfl8rIJQQkQnYL2QJY	11-764-165-5076
11	33	Customer#000000033	qFSIMuLucBmx9xnn5ib2csWUweg D	27-375-391-1280
12	36	Customer#000000036	3TvCzjuPzpJ0,DdJ8kW5U	31-704-669-5769
13	39	Customer#000000039	nnbRg,Pvy33dfkorYE FdeZ60	12-387-467-6509
14	42	Customer#000000042	ziSrvyyBke	15-416-330-4175

# Turning Signups into Buyers: Recommendations for Inactive Customers

Focus Area	Recommended Action
Onboarding Optimization	Review the onboarding journey—are customers dropping off before checkout? Simplify sign-up, add welcome incentives.
First-Purchase Incentives	Offer exclusive discounts or free shipping for first-time buyers to reduce hesitation.
Behavioral Segmentation	Segment these users by signup date, location, or interest to tailor outreach campaigns.
Email/SMS Re-engagement	Send personalized “Still thinking about it?” messages with curated product suggestions.

**THANK YOU**