Cohort Analysis & Segmentation with RFM

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Cohort analysis is **a kind of behavioral analytics that breaks the data in a data set into related groups before analysis**. These groups, or cohorts, usually share common characteristics or experiences within a defined time-span.

Returned users over subsequent months

Cohort Month	Month 0	Month 1	Month 2	Month 3	Month 4	Month 5	Month 6	Month 7	Month 8	Month 9	Month 10	Month 11
Jan	573	38	31	39	29	25	12	27	24	27	11	5
Feb	682	35	26	22	15	14	11	13	20	19	3	
Mar	751	24	16	11	9	14	16	15	18	8		
Apr	727	27	25	15	17	18	14	17	13			
May	666	14	15	11	23	36	9	10				
Jun	617	17	19	4	11	14	7					
Jul	709	15	15	17	17	6						
Aug	755	16	25	27	4							
Sep	712	20	15	10								
Oct	747	26	5	1								
Nov	800	12										
Dec	843											

% of Returned users over subsequent months

Cohort Month	Month 0	Month 1	Month 2	Month 3	Month 4	Month 5	Month 6	Month 7	Month 8	Month 9	Month 10	Month 11
Jan	100.00%	6.63%	5.41%	6.81%	5.06%	4.36%	2.09%	4.71%	4.19%	4.71%	1.92%	0.87%
Feb	100.00%	5.13%	3.81%	3.23%	2.20%	2.05%	1.61%	1.91%	2.93%	2.79%	0.44%	
Mar	100.00%	3.20%	2.13%	1.46%	1.20%	1.86%	2.13%	2.00%	2.40%	1.07%		
Apr	100.00%	3.71%	3.44%	2.06%	2.34%	2.48%	1.93%	2.34%	1.79%			
May	100.00%	2.10%	2.25%	1.65%	3.45%	5.41%	1.35%	1.50%				
Jun	100.00%	2.76%	3.08%	0.65%	1.78%	2.27%	1.13%					
Jul	100.00%	2.12%	2.12%	2.40%	2.40%	0.85%						
Aug	100.00%	2.12%	3.31%	3.58%	0.53%							
Sep	100.00%	2.81%	2.11%	1.40%								
Oct	100.00%	3.48%	0.67%	0.13%								
Nov	100.00%	1.50%										
Dec	100.00%											

Cohort Analysis Insights

- In general, the retention rate is so low under 10%.

- Customers in Jan was 573 after one month returned just 38 and after 3 months returned 39 and then the retention started to decrease, and so on for the remained months.

RFM Analysis

RFM stands for segmenting your customer base on Recency, Frequency, and Monetary behavior took together.

- **Recency – How recently did the customer purchased or did the desired event?**

- **Frequency – How often do they purchase or do the desired event?**

- **Monetary – How much do they spend / monetary value of the desired event?**

RFM DATA

Customer ID	MostRecentOrderDate	DaysSinceLastOrder	SalesOrderCount	TotalSalesAmount	R score	F score	M score	RFM Score	Segment
11000	5/3/2013	288	3	8248.99	1	2	3	123	Can't Lose Them
11001	12/10/2013	67	3	6383.88	2	2	3	223	Loyal Customers
11002	2/23/2013	357	3	8114.04	1	2	3	123	Can't Lose Them
11003	5/10/2013	281	3	8139.29	1	2	3	123	Can't Lose Them
11004	5/1/2013	290	3	8196.01	1	2	3	123	Can't Lose Them
11005	5/2/2013	289	3	8121.33	1	2	3	123	Can't Lose Them
11006	5/14/2013	277	3	8119.03	1	2	3	123	Can't Lose Them
11007	3/19/2013	333	3	8211	1	2	3	123	Can't Lose Them
11008	3/2/2013	350	3	8106.31	1	2	3	123	Can't Lose Them
11009	5/9/2013	282	3	8091.33	1	2	3	123	Can't Lose Them
11010	5/23/2013	268	3	8088.04	1	2	3	123	Can't Lose Them
11011	3/19/2013	333	3	8133.04	1	2	3	123	Can't Lose Them
11012	10/15/2013	123	2	81.26	2	2	2	222	Promising
11013	1/21/2014	25	2	113.96	2	2	2	222	Promising
11014	4/30/2013	291	2	138.45	1	2	2	122	At Risk
11015	1/18/2013	393	1	2500.97	1	1	3	113	Can't Lose Them
11016	2/9/2013	371	1	2332.28	1	1	3	113	Can't Lose Them
11017	10/14/2013	124	3	6434.31	2	2	3	223	Loyal Customers
11018	10/24/2013	114	3	6533.28	2	2	3	223	Loyal Customers
11019	1/12/2014	34	17	882.7	2	3	3	233	Champions

RFM Groups and Their Definition

RFM Groups	Group Definition	Score
Champions	Your Best Customer	333
Loyal Customers	Can become best, either stopping on revenue, or frequency. But they like you.	323
Potential Loyalists	Need more convincing. Can become loyal.	232
Promising	Showing interest in brand / product with either repeat purchase or good ticket size.	313
New Users	Recently Bought Low Ticket	311
At Risk	Repeat Buyers Long Time Ago.	131
Cant Lose Them	Former Power Users, High Ticket One Timers.	133
Hibernating	Long Ago One Time Buyers	112

Count of Customers in each Segment

At Risk	459
Can't Lose Them	4724
Champions	35
Hibernating	4060
Loyal Customers	2694
New Users	5
Potenial Loyalists	14
Promising	6493

RFM SEGMENTS

Promising | Can't Lose Them | Loyal Customers | Hibernating | At Risk | C... | P...
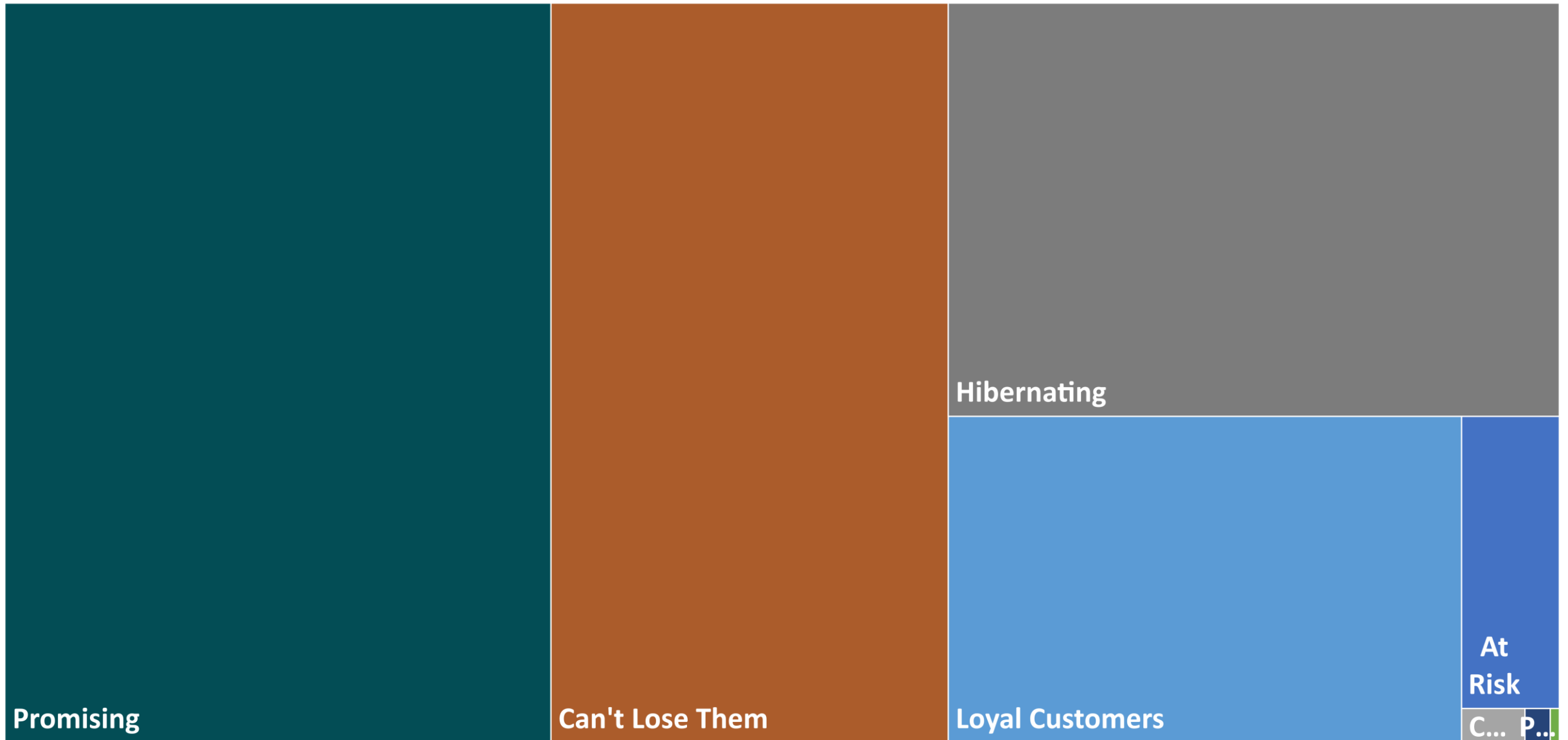
Insights on RFM Analysis

- Promising Segment has the highest number of customers (6493), They Purchased from us recently and paid good amount of money, but with low quantity of items.

- Can't lose them Segment has the second highest number of customers (4724), They haven't purchased from us for a long time, but they pay great amount of money and more quantity of items that's why we can't lose them.

- Champions are our best customers, but they are so few (35).

RFM Actionable Analysis (The next step)

1. Acquire :

More customer like our best customers and loyal customers.

2. Reward :

Best and Loyal customers for their loyalty.

3. Monetize :

Potential loyalist and promising customers.

4. Retain :

New customers and promising customers.

5. Reactivate :

At Risk, Hibernating, Can't Lose Them customers.