Introduction

This Report Provides an indepth analysis of customer behaviour using cohort Analysis, RFM Analyis,Pareto Analysis and New vs repeat Customer Analysis The purpose is to help Business understand customer retention ,revenue trends and customer segmentation for better decision making.

Q. **An Retail company wants to understand its customer retention rate.They suspect that new customer are not returning after their first purchase**

output :

cohort_date	0	1	2	3	4	5	6	7	8	9	10	11
2011-01-01	100.00%	17.62%	16.35%	20.17%	21.44%	25.27%	24.63%	22.08%	21.44%	18.26%	19.96%	19.75%
2011-02-01	100.00%	13.58%	15.23%	13.91%	15.56%	17.88%	13.91%	18.21%	11.59%	13.25%	12.91%	
2011-03-01	100.00%	14.57%	15.75%	14.57%	16.54%	14.96%	11.81%	10.24%	14.17%	9.45%		
2011-04-01	100.00%	13.62%	16.28%	12.29%	14.29%	11.63%	14.29%	13.29%	8.97%			
2011-05-01	100.00%	11.99%	12.36%	12.73%	9.36%	8.99%	10.11%	8.61%				
2011-06-01	100.00%	12.88%	9.47%	10.98%	7.20%	9.47%	7.20%					
2011-07-01	100.00%	15.58%	12.99%	12.12%	11.26%	5.63%						
2011-08-01	100.00%	7.41%	7.94%	10.05%	7.94%							
2011-09-01	100.00%	5.26%	11.28%	5.26%								
2011-10-01	100.00%	7.36%	4.91%									
2011-11-01	100.00%	6.62%										
2011-12-01	100.00%											

Insights:

:- Retention rate decreases over time ,indicating a challenge in retaining customers

:- The biggest Drop within the first 3-4 months, suggesting weak onboarding or engagement

:- Some cohort show better retention, which could be due to special marketing campaigns or discounts

Q.   **The company wants to understand how much revenue comes from repeat customers**

output :

cohort_date	0	1	2	3	4	5	6	7	8	9	10	11
01-01-2011	100.00%	26.00%	35.00%	39.00%	42.00%	37.00%	40.00%	30.00%	32.00%	31.00%	50.00%	28.00%
01-02-2011	100.00%	35.00%	36.00%	32.00%	29.00%	40.00%	22.00%	34.00%	20.00%	13.00%	15.00%	
01-03-2011	100.00%	30.00%	35.00%	12.00%	19.00%	15.00%	15.00%	8.00%	22.00%	9.00%		
01-04-2011	100.00%	18.00%	27.00%	10.00%	15.00%	12.00%	18.00%	18.00%	14.00%			
01-05-2011	100.00%	12.00%	12.00%	13.00%	10.00%	9.00%	9.00%	10.00%				
01-06-2011	100.00%	14.00%	8.00%	13.00%	6.00%	13.00%	7.00%					
01-07-2011	100.00%	14.00%	11.00%	12.00%	15.00%	5.00%						
01-08-2011	100.00%	8.00%	8.00%	9.00%	8.00%							
01-09-2011	100.00%	2.00%	2.00%	1.00%								
01-10-2011	100.00%	7.00%	3.00%									
01-11-2011	100.00%	6.00%										
01-12-2011	100.00%											

Insights:

:- Revenue retention Declines over time, indicating fewer rpeat purchases

:- some cohort shows higher revenue retention, suggesting high-value customers

:- The january cohort had a customer retention rate of 19.96% in the 11 month
but the revenue retention rate for the same cohort was 50.00% showing
that the remaing customer were spendin more

Q.   The company wants to Analyze which countries contribute the most to the total sales.

output :

Parerto Analysis on country'
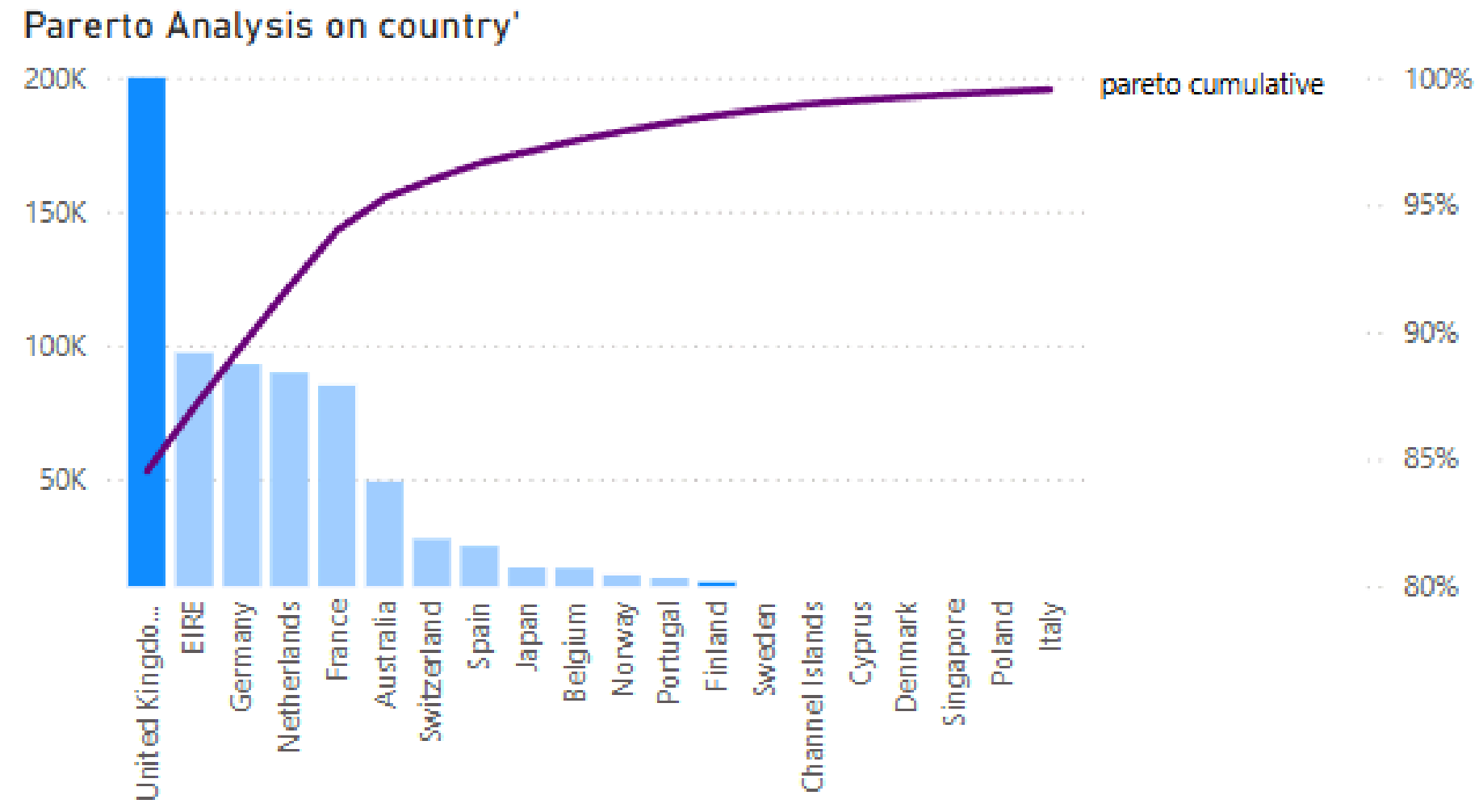
Insights:

More than 80% of total sale come from the united kingdom alone - other countries contribute very little to the total sales- this means the business heavily relies one country

**Q.** **The company wants to Analyze which Product contributes then most to total sales**

output :

product	product_sale	cumulative%
PAPER CRAFT , LITTLE BIRDIE	1,68,469.59	6.02%
REGENCY CAKESTAND 3 TIER	49,963.41	7.81%
WHITE HANGING HEART T-LIGHT HOLDER	42,686.03	9.33%
PICNIC BASKET WICKER 60 PIECES	39,619.50	10.75%
JUMBO BAG RED RETROSPOT	35,394.08	12.01%
POSTAGE	32,754.15	13.19%
PARTY BUNTING	27,624.72	14.17%
ASSORTED COLOUR BIRD ORNAMENT	25,833.56	15.10%
Manual	20,377.10	15.82%
BLACK RECORD COVER FRAME	18,333.44	16.48%
CHILLI LIGHTS	17,522.29	17.11%

Insights:

Out of 3571 total products only 744 products contribute to 80% of total sales.- This means that a small percentage of products are responsible for most of the sale

Q.   The company wants to Analyze How much of its revenue is generated by a small group of customer
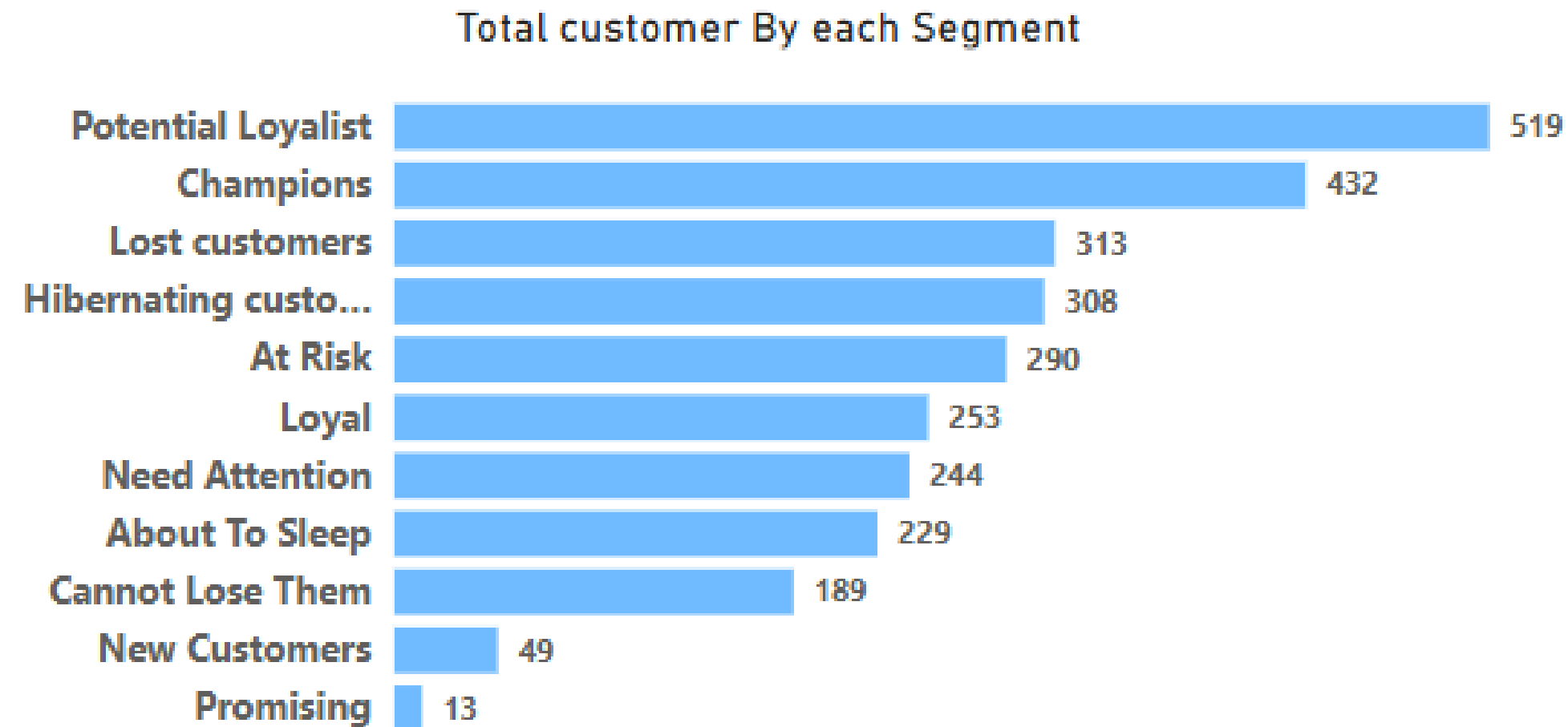
output :

Pareto analysis on customer
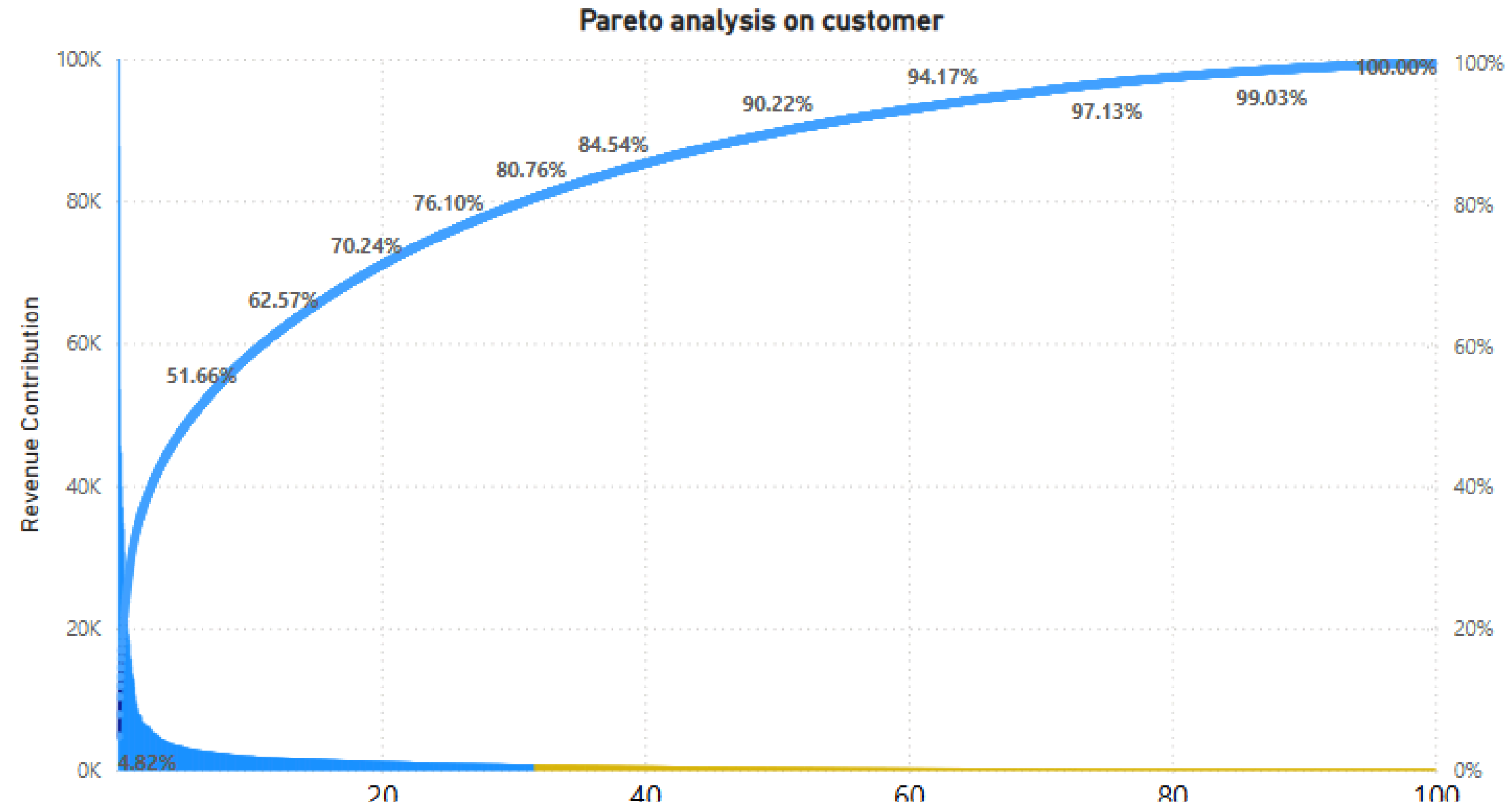
Insights:

:- Only 30 % of customer contribute to 80% of total sales

:-The company highly dependent on a small group og high value customers

After performing an RFM (Recency ,Frequency,Monetary) analysis customer were segmented into different categories

Total customer By each Segment

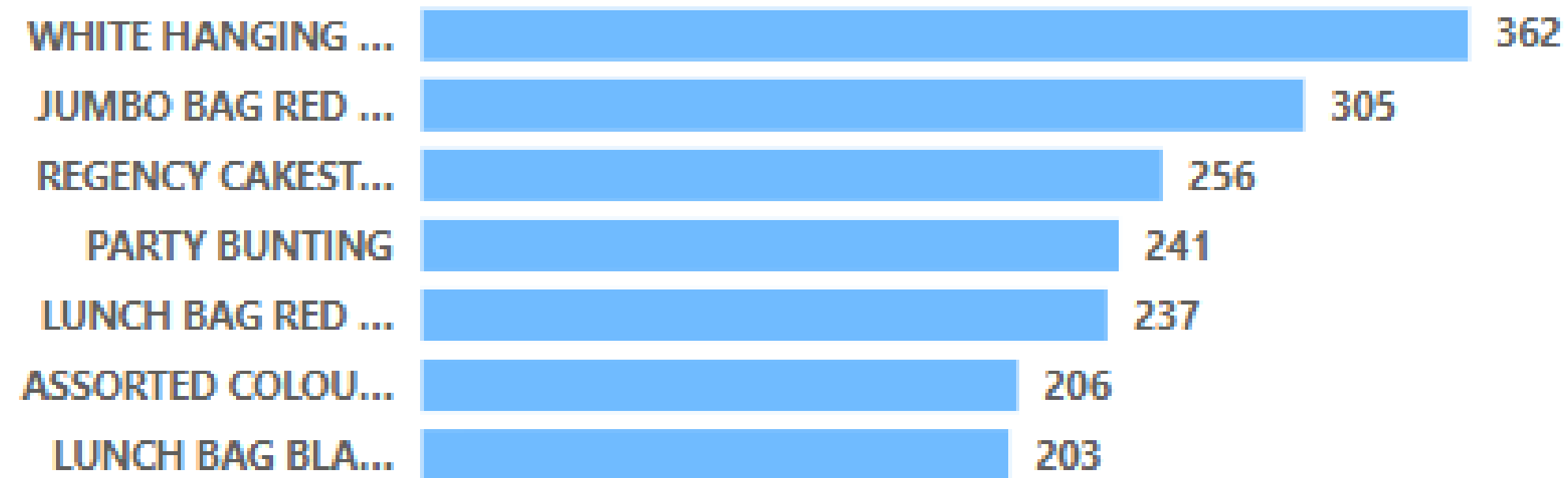| Segment	Value
Potential Loyalist	519
Champions	432
Lost customers	313
Hibernating custo…	308
At Risk	290
Loyal	253
Need Attention	244
About To Sleep	229
Cannot Lose Them	189
New Customers	49
Promising	13

Insights:

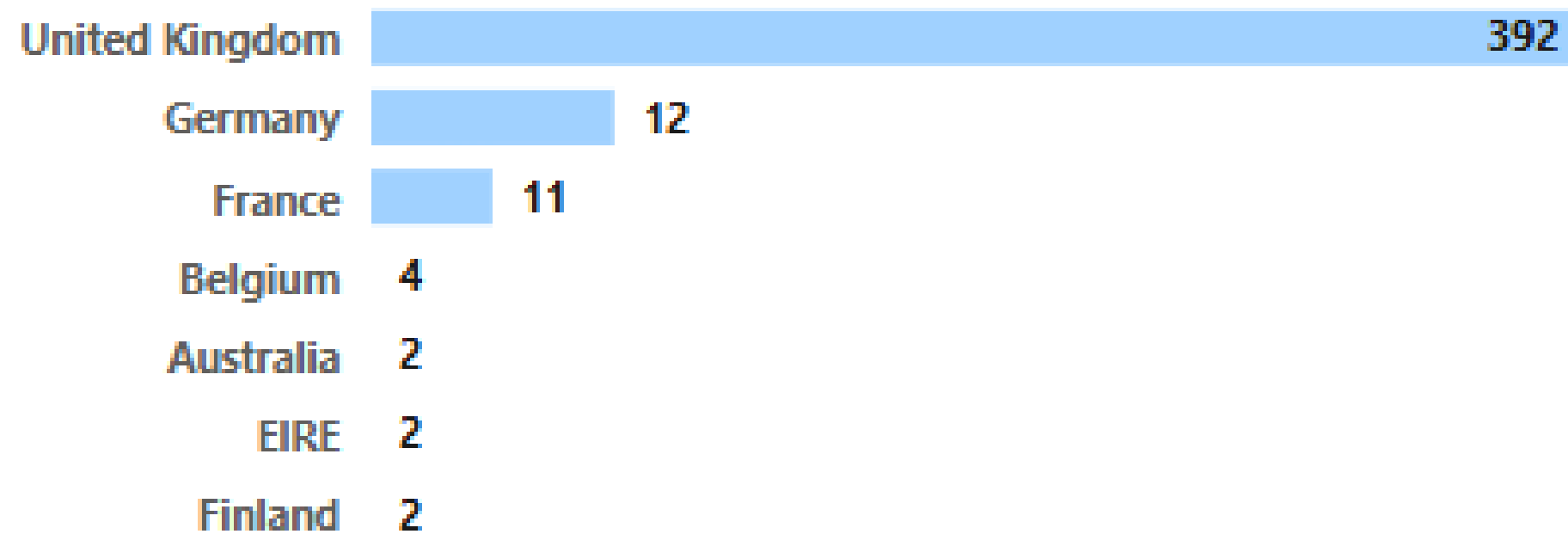Total champion customer (432) but most champion customer are from united kingdom (392)

Analyzing the top 2 product preferred by Champion customer product in UK
1.White hanging was one of the most favored products
2.jumbo Bag red was also a top choice for champion….

Top purchase product by champion in uk

Product	Value
WHITE HANGING ...	362
JUMBO BAG RED ...	305
REGENCY CAKEST...	256
PARTY BUNTING	241
LUNCH BAG RED ...	237
ASSORTED COLOU...	206
LUNCH BAG BLA...	203

Champion Customer By Country

Country	Value
United Kingdom	392
Germany	12
France	11
Belgium	4
Australia	2
EIRE	2
Finland	2

The company analyzed new and repeat customer trends over time to understand customer retention and acquistion patterns
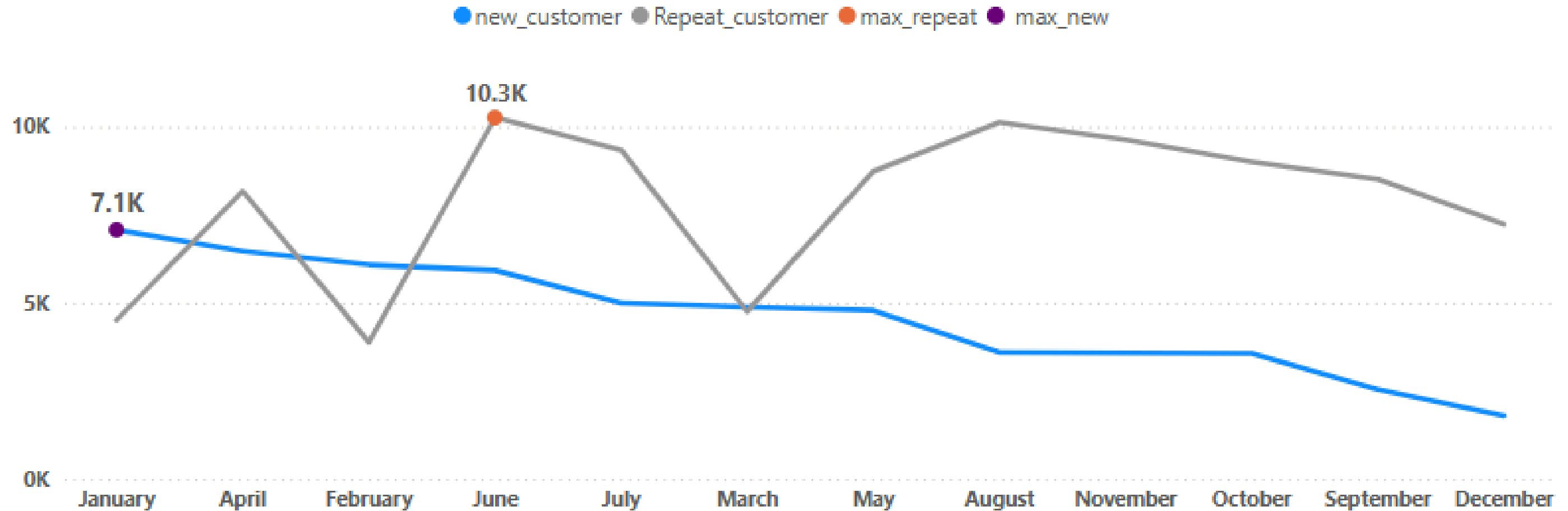
Insights:

:- The highest number of new customer joined in january after january, new customer acquisition declined steadly

:- Repeat customer peaked at 10.3k in june ,showing strong customer retention also in august 10.1k repeat cutomers were recorded, maintaining a high retention rate