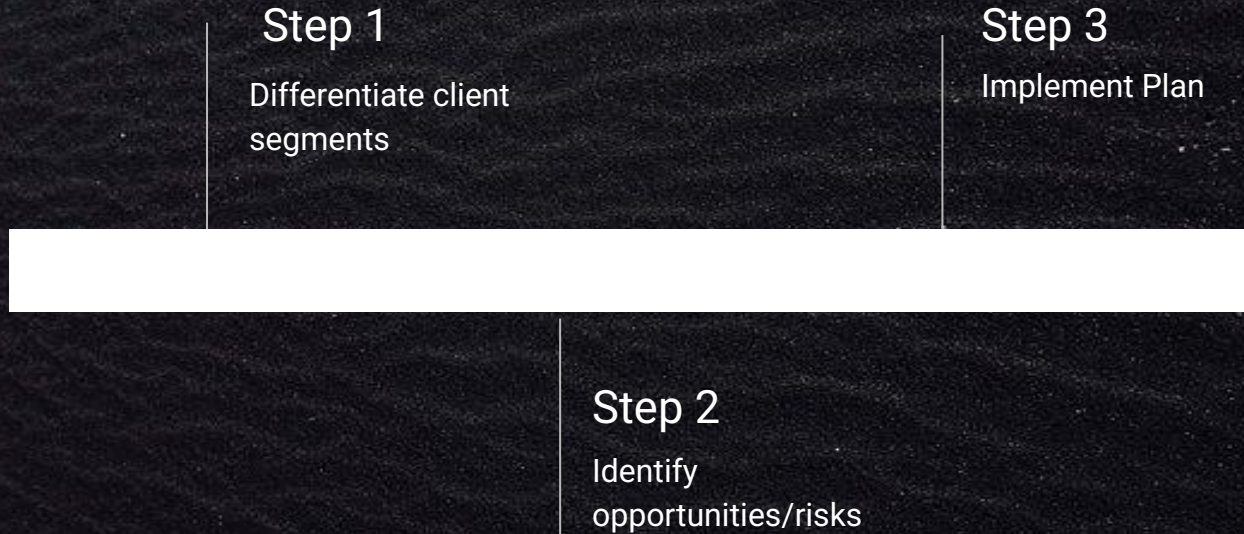


Machine Learning Customer segmentation: Credit Cards



New Marketing Campaign

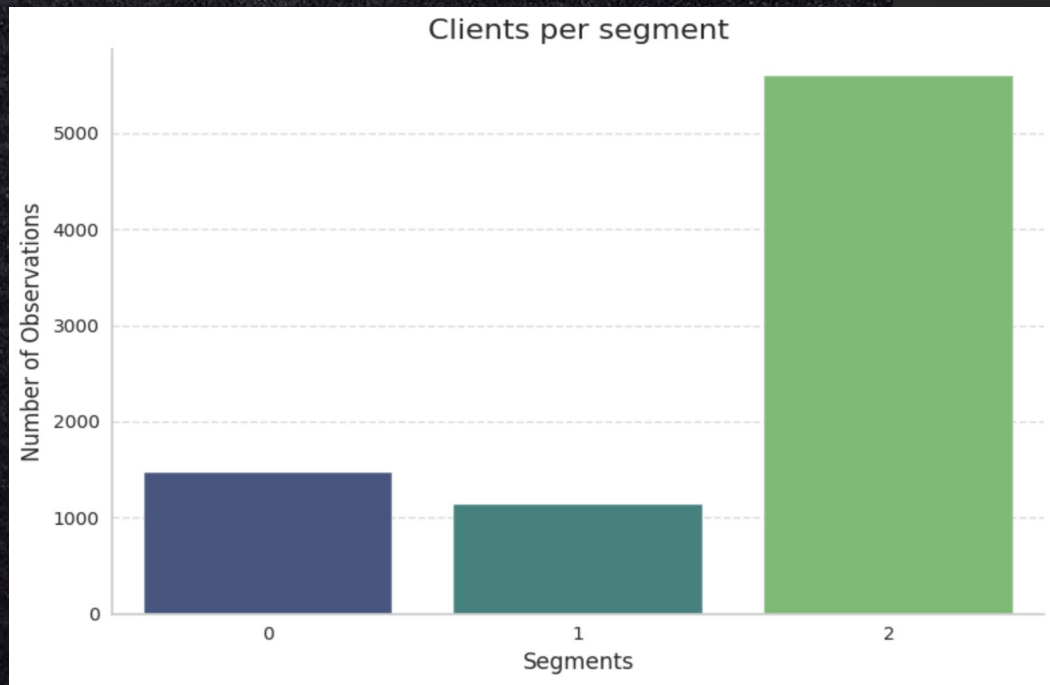


Our focus

>8k customers data



3 client segments



6 KPIs

FOR



2 targets

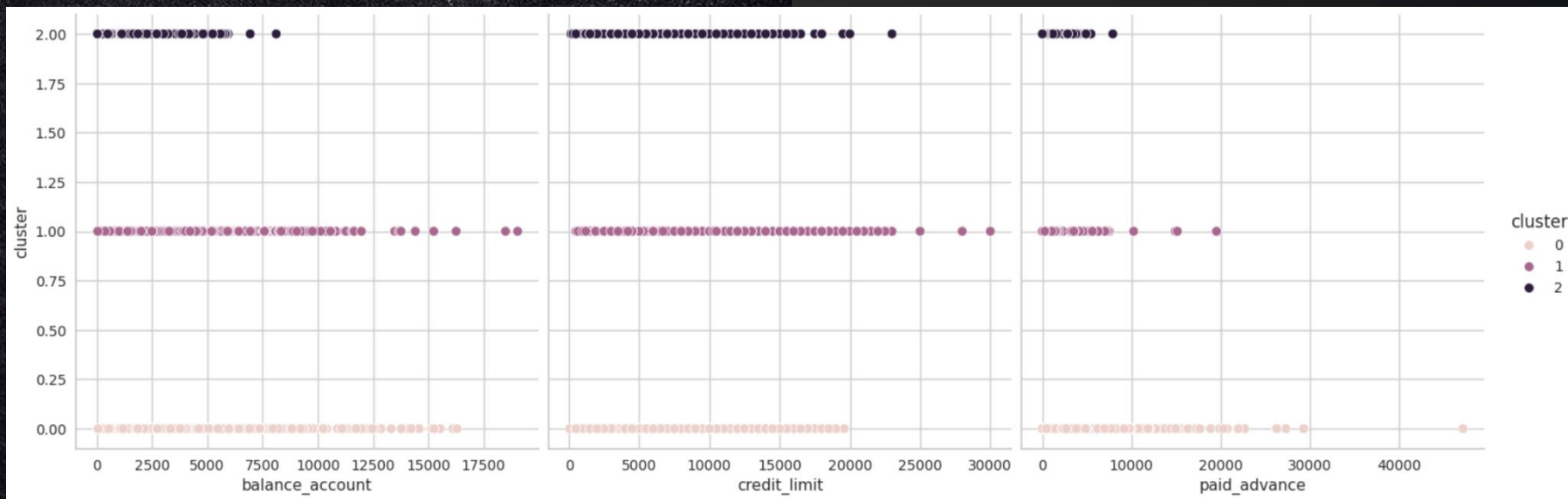
1. **Balance account**
2. **Purchases amount**
3. **Purchases frequency**
4. **Installments**
5. **Credit Limit**
6. **Paid Advance**

- Under financed
- Over financed



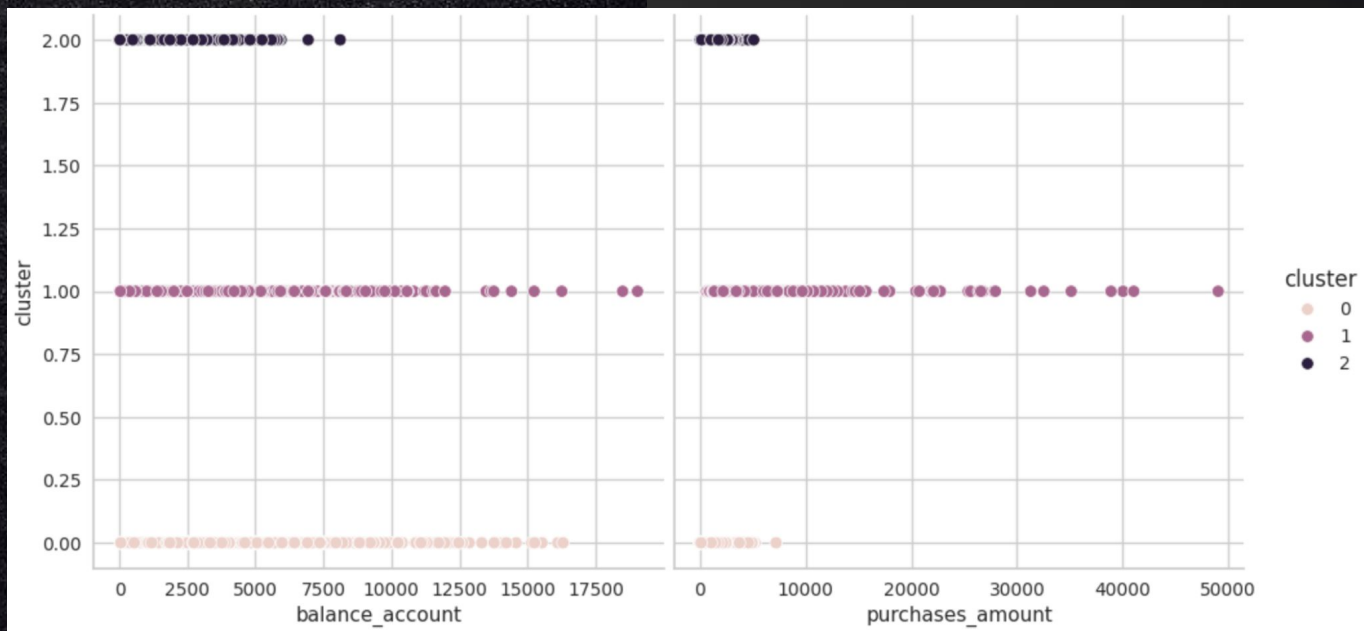
Segments Profiles

- Seg.2 Riskier
- Seg. 0/1 Under-use



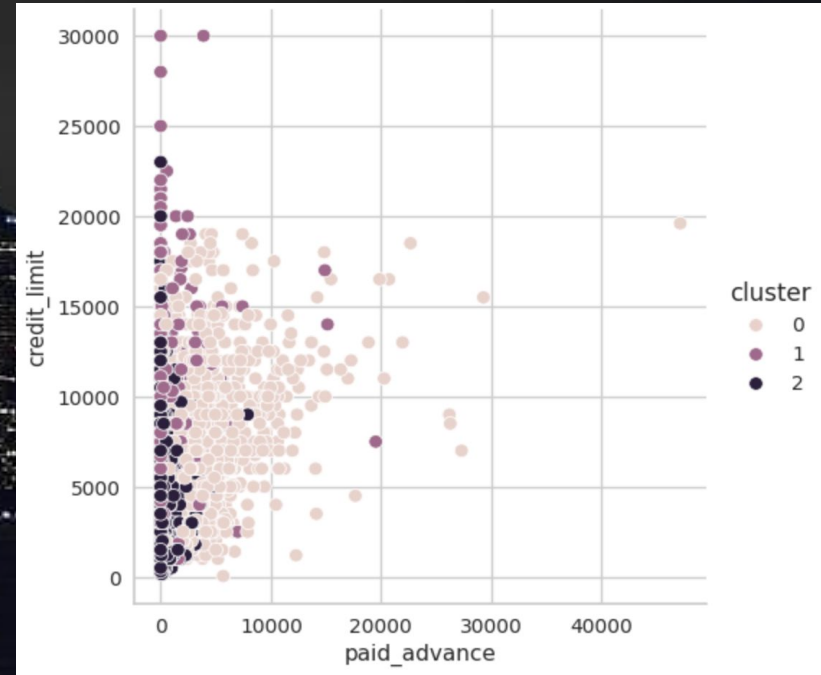
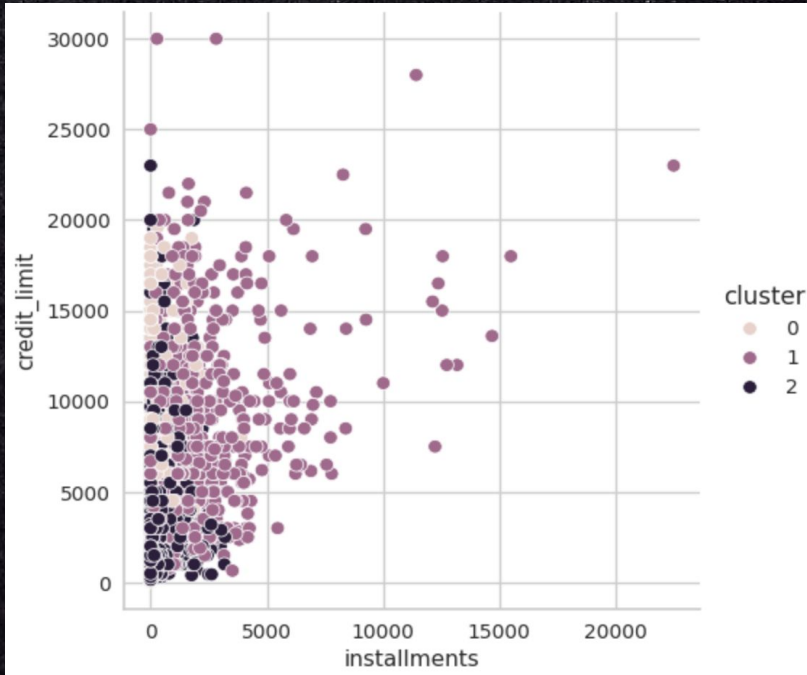
Segments Profiles

- Seg. 0 low vol
- Seg. 0 & 2 small exp./purchase
- Seg.1 more exp. C. limit var.?



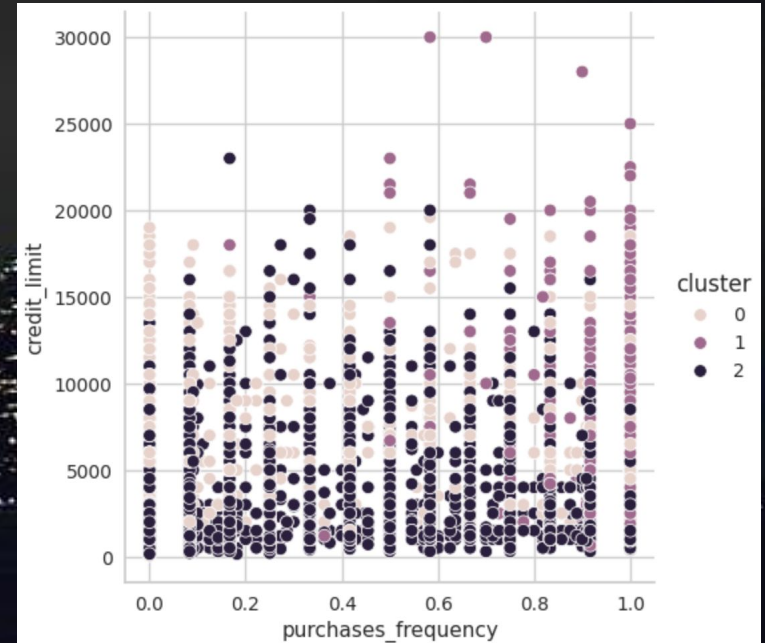
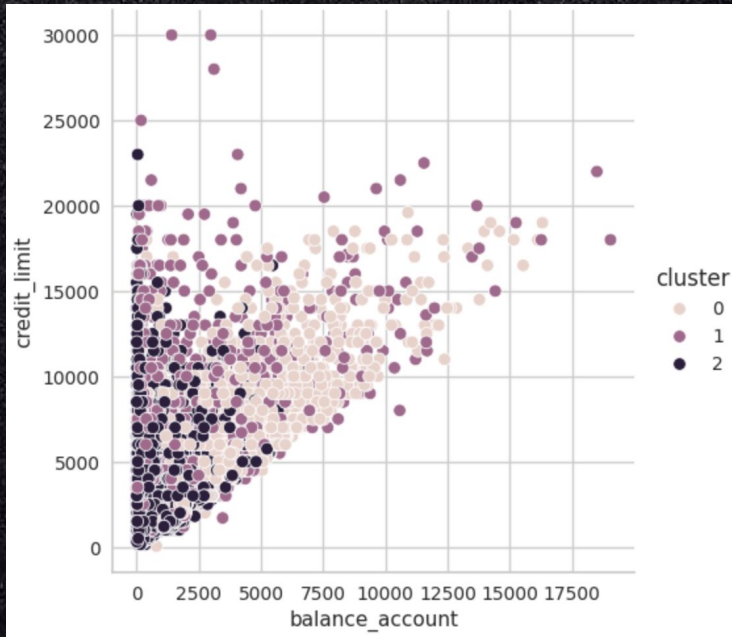
Segments Profiles

- Seg. 0 Target
- Seg. 1 > monitor
- Link c.limit to adv. pay.?



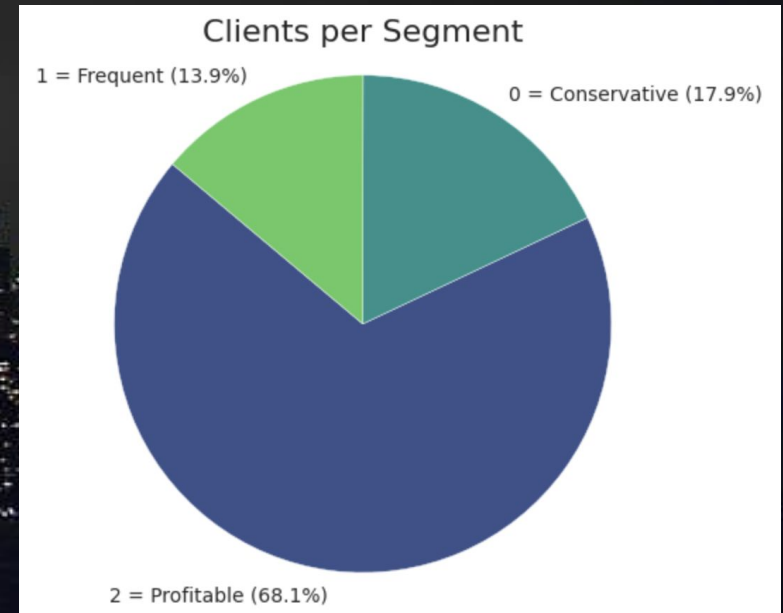
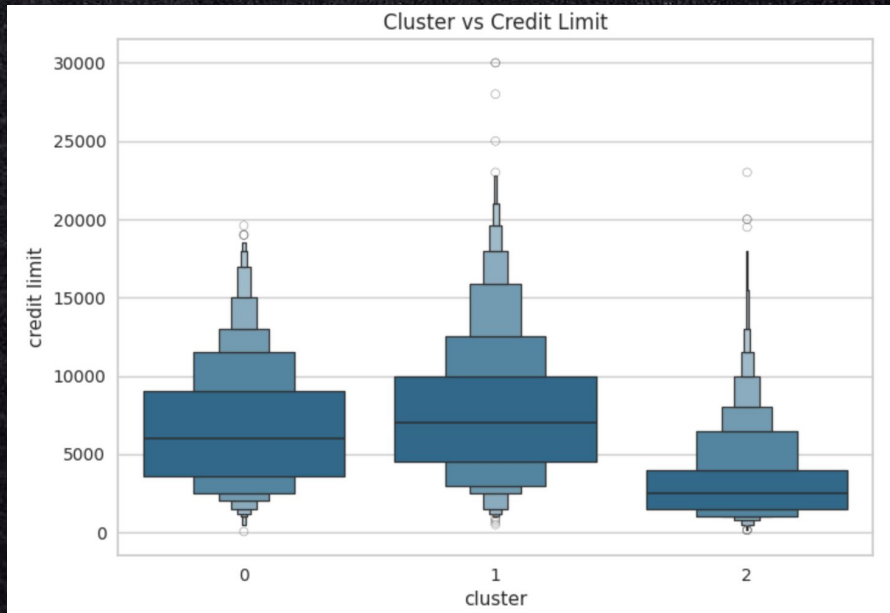
Segments Profiles

- Seg. 2 <? Credit limit
- Seg. 1 buys most freq.
- Seg. 0 not very freq.



Segments Profiles

- Credit limits actively managed
- Seg. 2 deserves focus



Focus

Recommendations

1. > *credit limit Seg. 0 + send reminders*
2. > *vol purchases Seg. 0 + shops deals*
3. > *installments Seg. 0 + positioning*
4. > *frequency Seg. 0 + visibility / adds*
5. <? *credit limit Seg. 2 vs small purchases*
6. *monitor installments Seg. 1*
7. *Seg. 1 award its freq.? + discounts*
8. *Offers for Seg. 1 large purchases*

Thanks

Appendix Methodology

- ❖ *Data cleaning: isnull, duplicates, deleted ID column, info, desc*
- ❖ *Feature engineering*
- ❖ *Correlation / heatmap*
- ❖ *Distribution plotting*
- ❖ *StandardScaler + Boxplot*
- ❖ *Clustering: K-Means*
- ❖ *Data plot K vs the SS error*
- ❖ *Elbow Method*
- ❖ *Silhouette Method*
- ❖ *Silhouette Score for each value of K.*
- ❖ *Visualizing Clusters using PCA*
- ❖ *Merging clusters with data*
- ❖ *Plot # observations by cluster*
- ❖ *K-Means clustering pairplot*
- ❖ *pairplots/boxplots/pie chart*