

Research on Customer Attrition

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"There is only one boss. The customer. And he can fire everybody in the company from the chairman on down, simply by spending his money somewhere else."

—Sam Walton



Objective

Analyse the consumer credit card portfolio to understand reasons for customer attrition.

10,127

Customers

84%



Existing
Customers

16%



Attrited
Customers

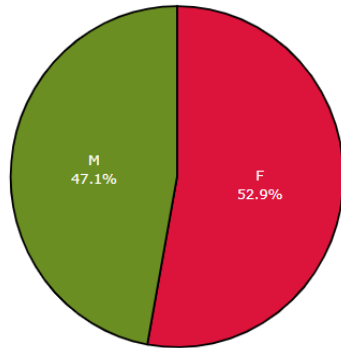


01

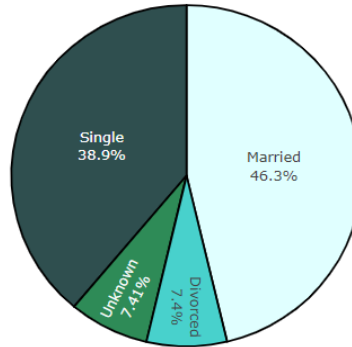
Customers Data Overview



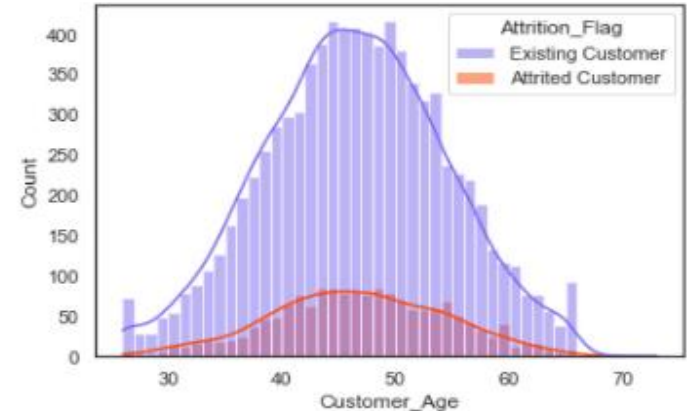
Customer Personal Data



Gender
Distrib



Marital Status
Distrib



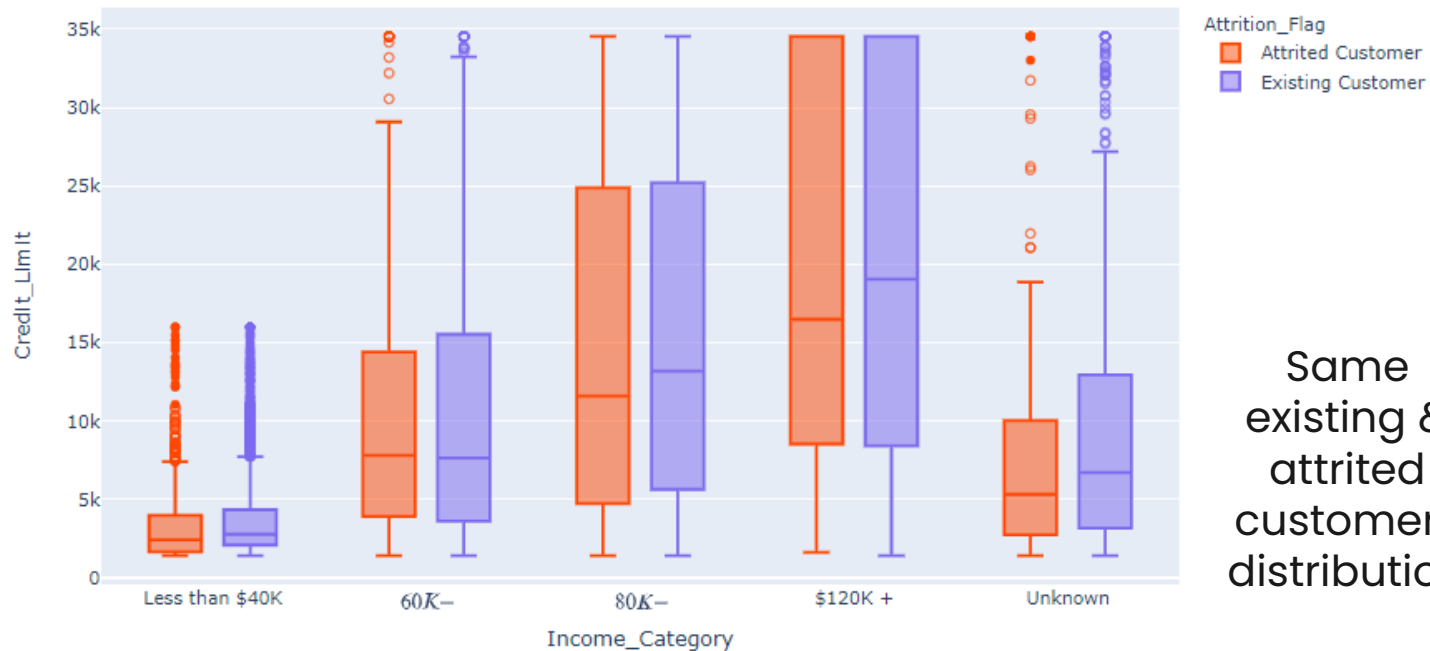
Age
Range

02

Account Data Overview

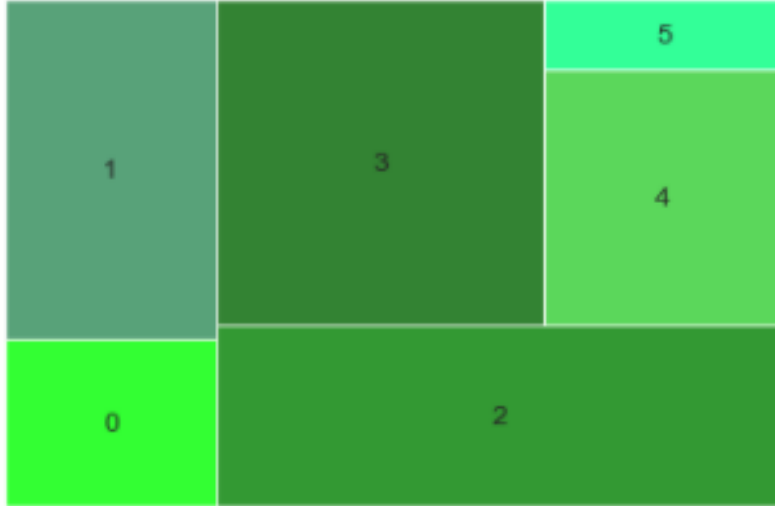


Credit Limit & Income



Same
existing &
attrited
customers
distribution

Accounts Associated



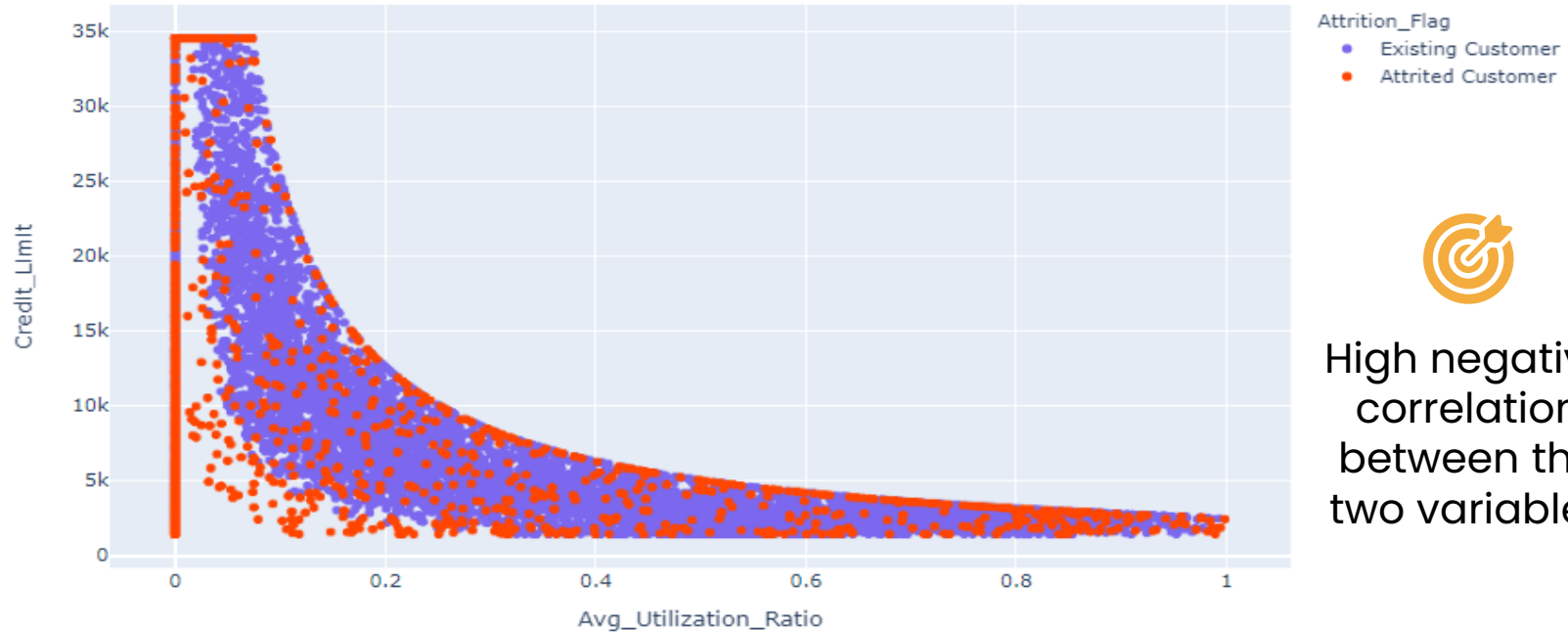
Same existing & attrited
customers distribution



03

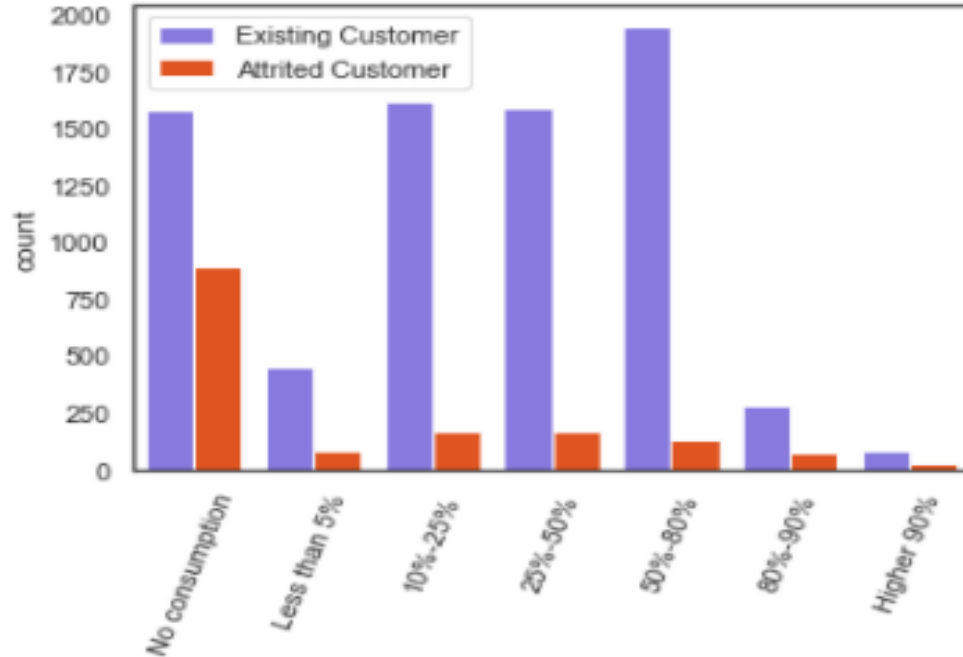
Customer Consumption Behaviour

Credit Limit vs Average Utilization Ratio

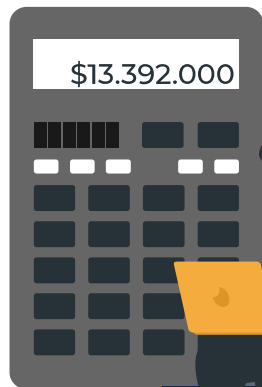


High negative correlation between the two variables

Categorizing Consumption Behaviour of Credit Limit



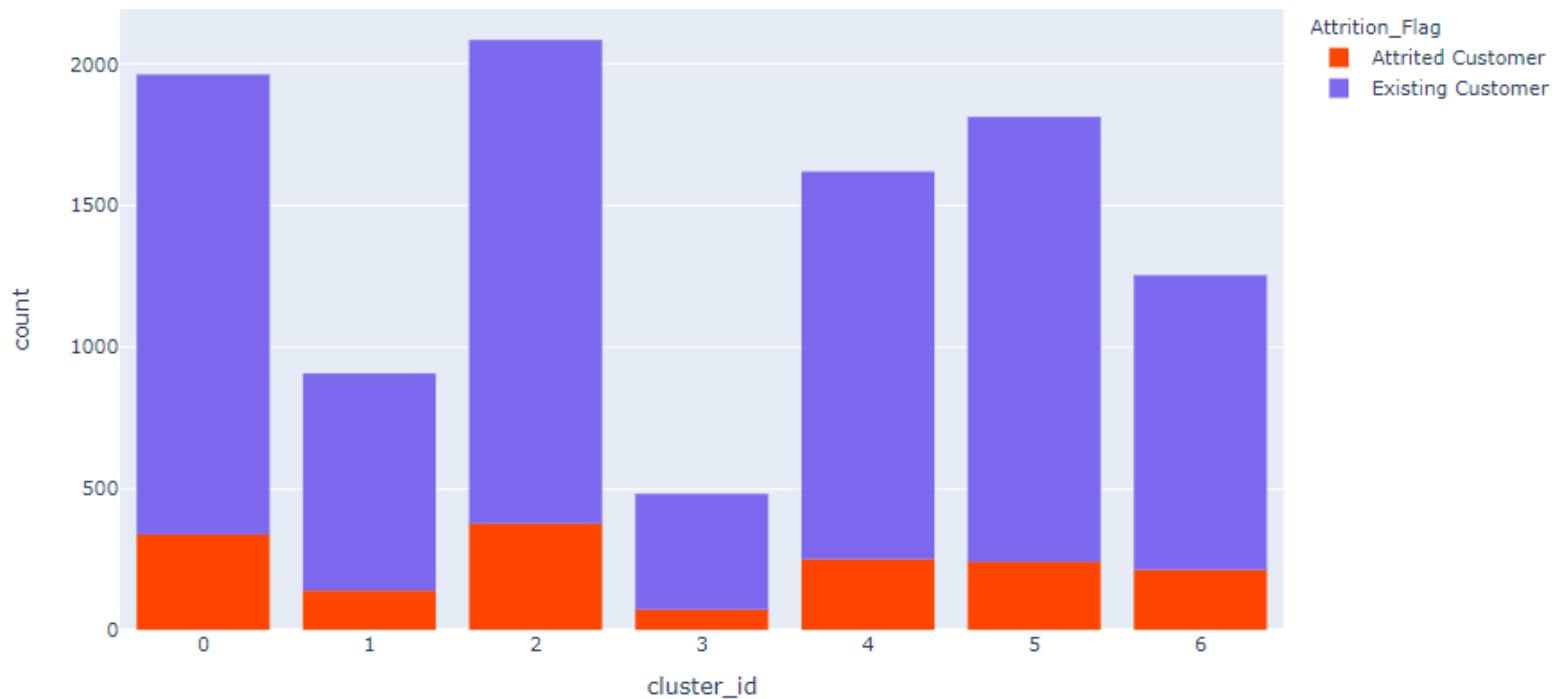
Attrited Customers have a higher tendency to reduce their consumption to null



04

Unsupervised Machine Learning

Applying K-Means Model



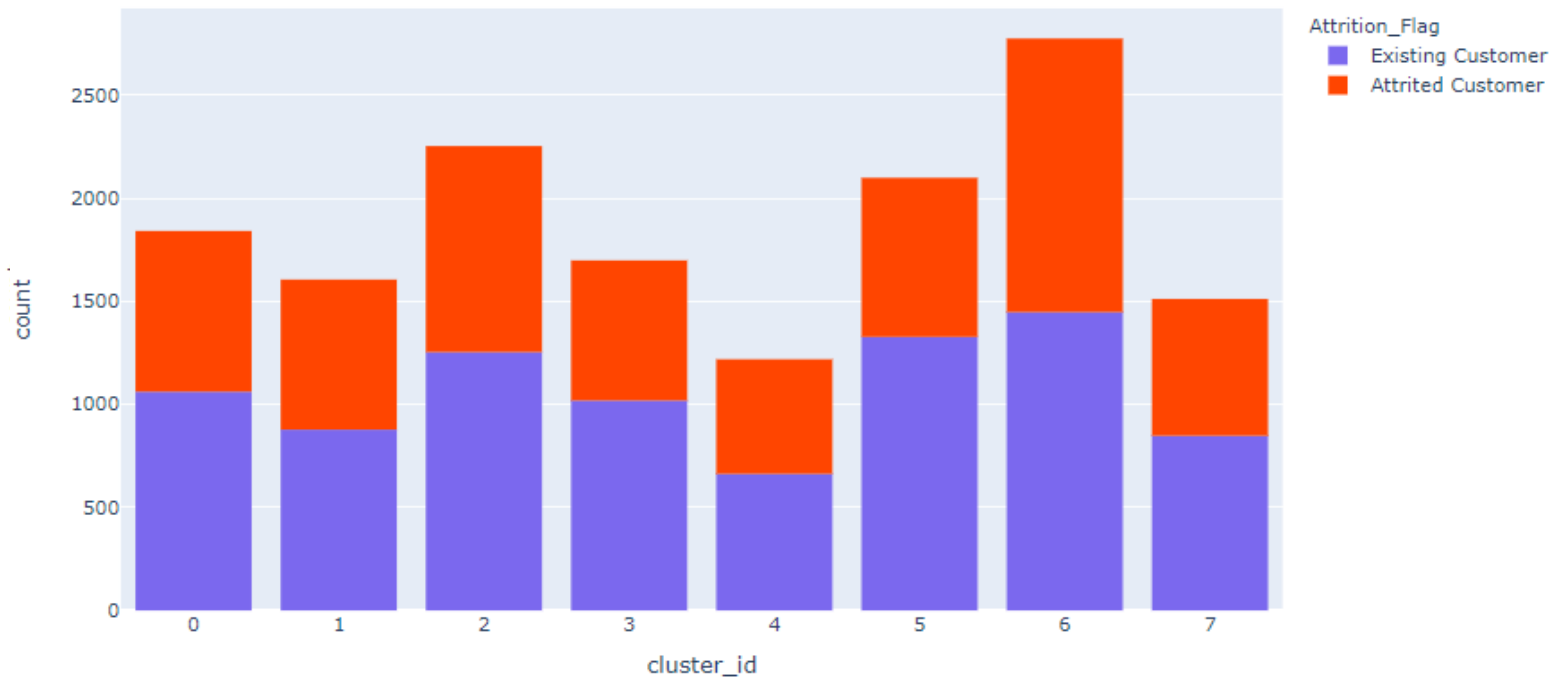
Iterations over the model



1

DATA for Attrited
Customer is small

Iteration K-Means Model 1 – Adding Attrited



Iterations over the model



1

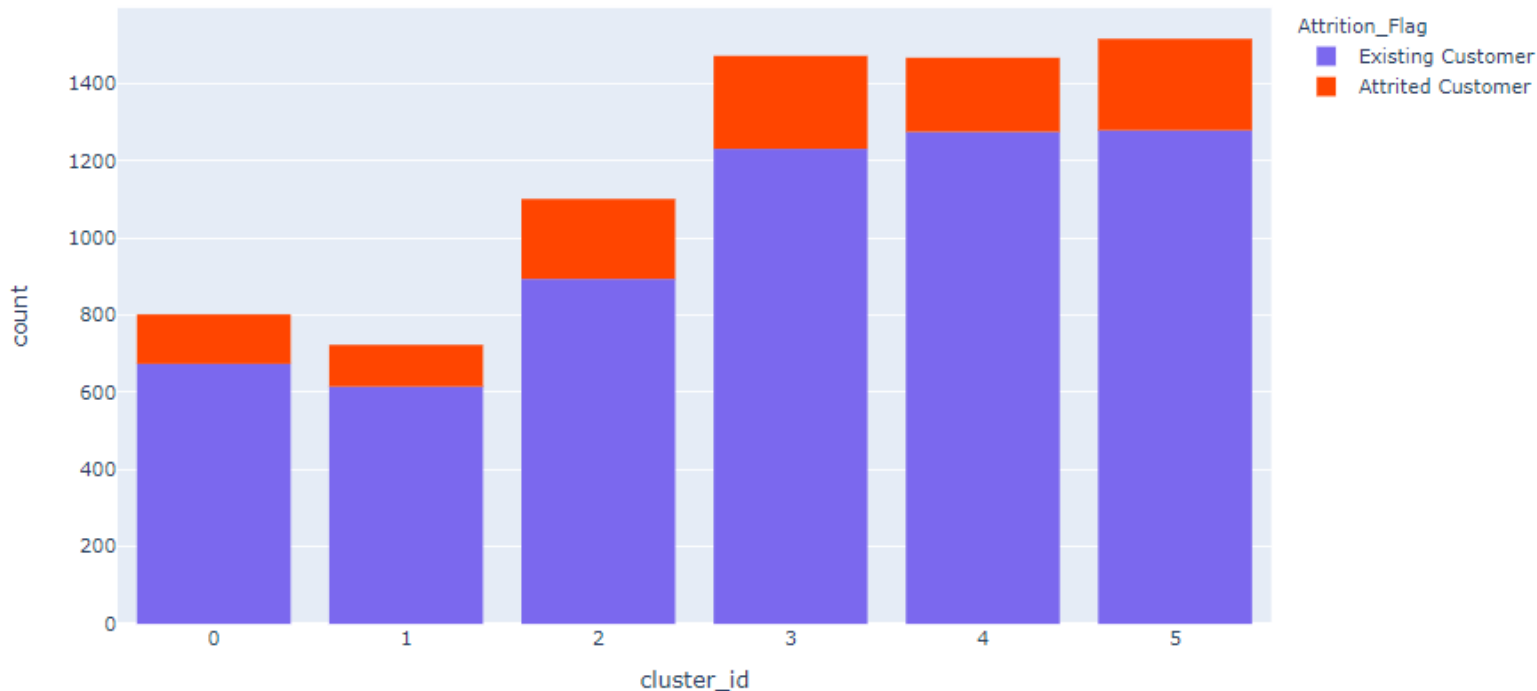
DATA for Attrited
Customer is small



2

DATA Unknown in
certain categorical
variables might be
adding noise

Iteration K-Means Model 2 – Removing Unknown



Iterations over the model



1

DATA for Attrited Customer is small



3

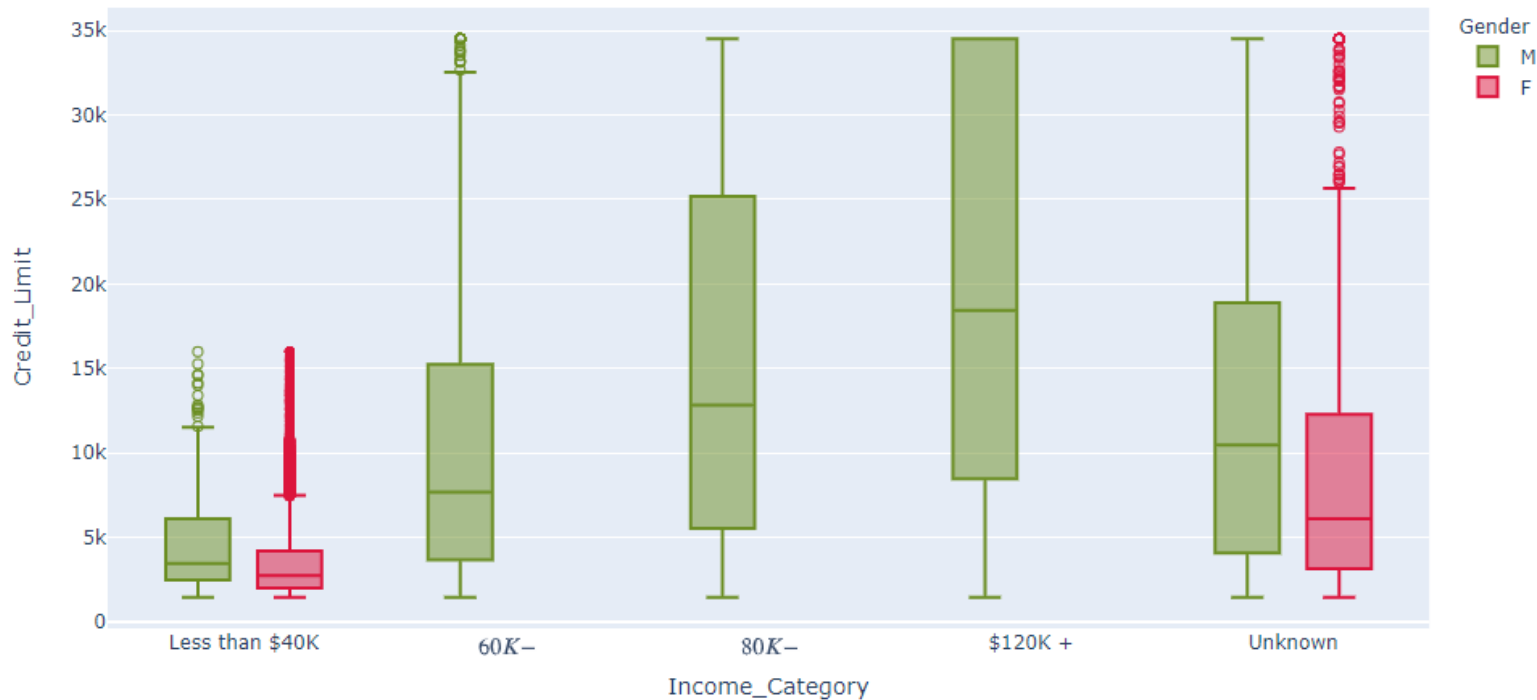
DATA display for female gender is not equally distributed in Income Category



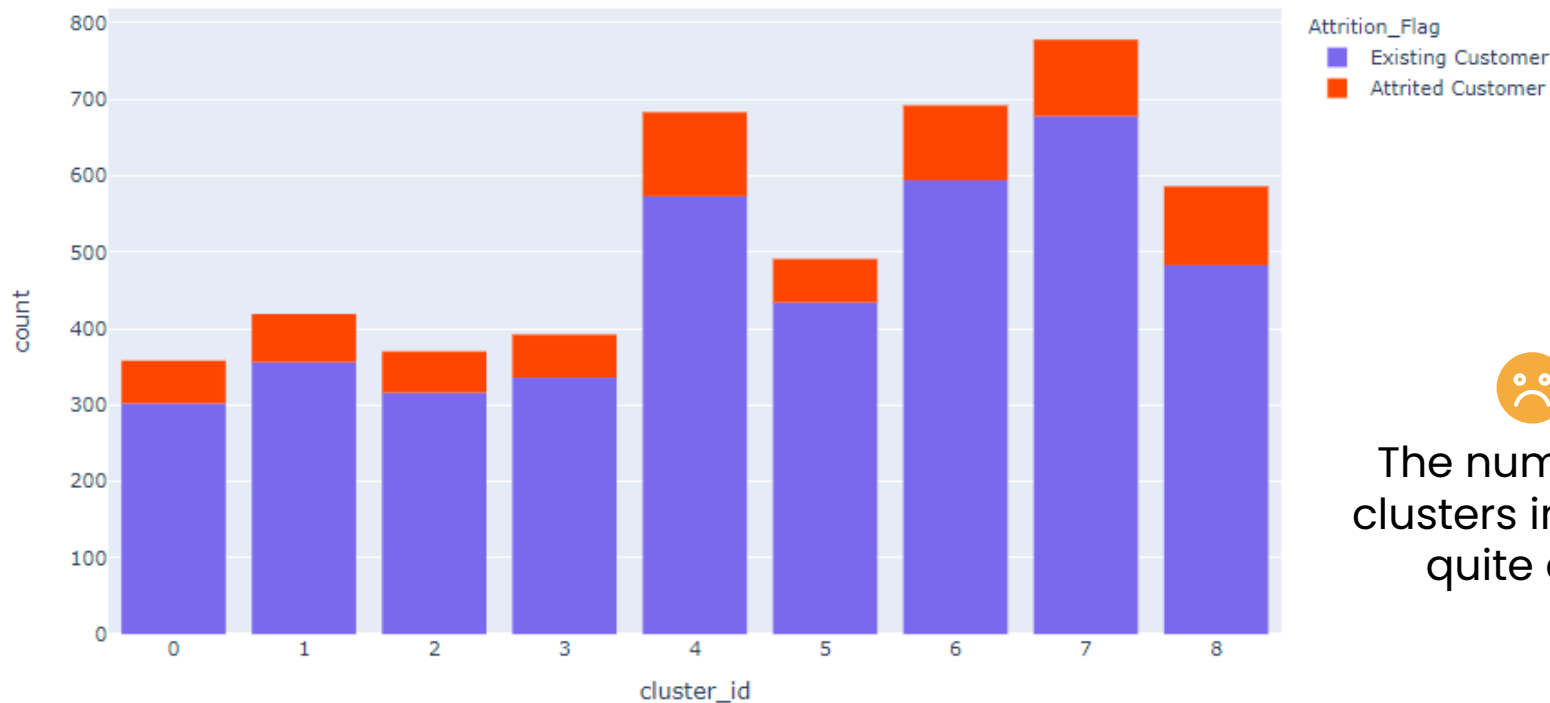
2

DATA Unknown in certain categorical variables might be adding noise

Income boxplot per gender



Iteration K-Means Model 3 – Only Male Data



The number of clusters increase quite a lot

05



Conclusions

Some Learnings



Consumption Behaviour trend

It is shown that attrited customers tend to reduce their average of utilization to null.



Lack of data for attrited costumers

In this dataset, there are no features that are characteristic only to attrited customers



High feature correlation

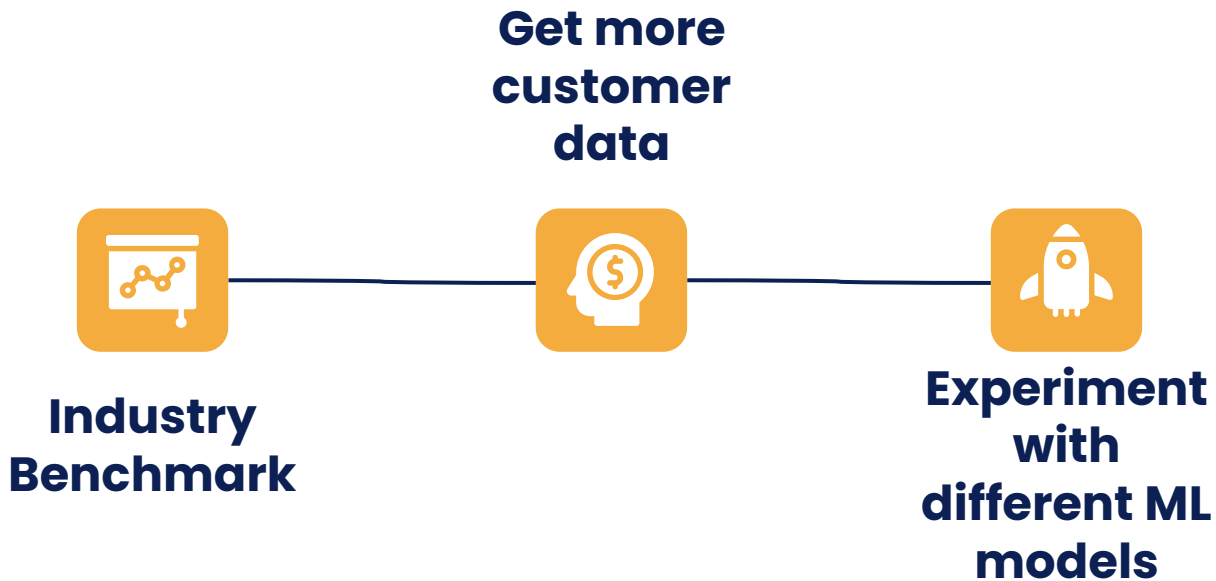
Credit Limit is correlated with many transactional features



K-Means model non-fit

For this dataset, it seems that the K-means algorithm is not appropriate.

Tentative Next Steps





Thank you!

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