



ALL LIFE BANK

Customer segmentation

Objective

Find the ideal number of clusters that maximize qualitatively the number of insights and recommendations.

Find insights to help with strategy to market penetration.

Segment the customer base in order Bank better target customers and upsell products.

Identify clusters with focus to improve service deliver model.

Explore and generate value out of company's data.

Perform uni-variate and multi-variate analysis.

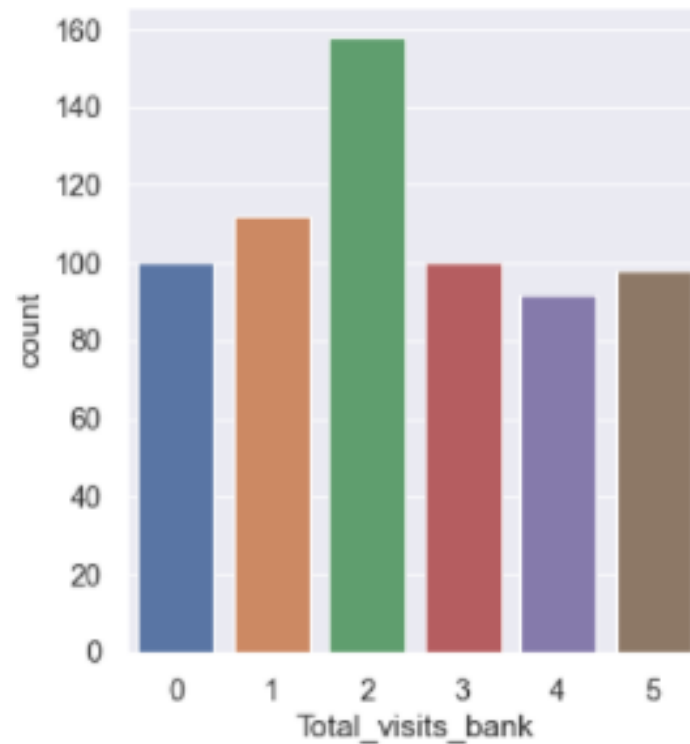
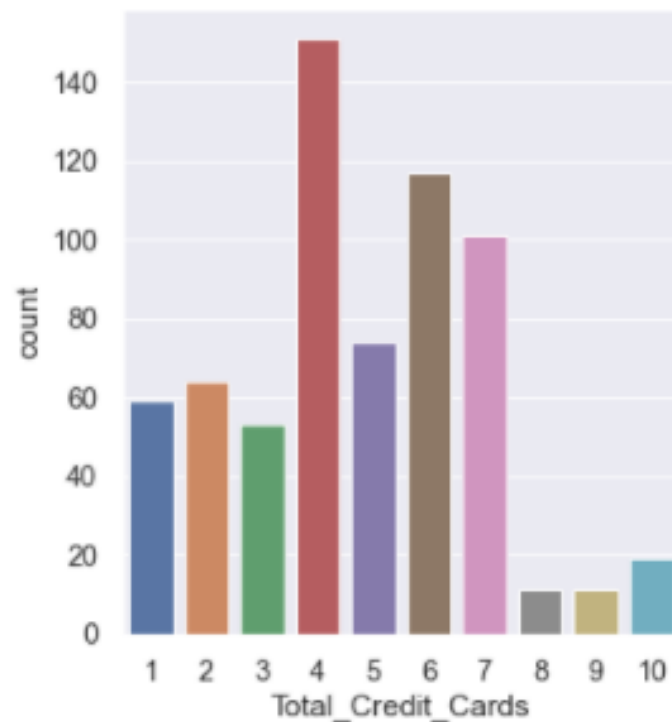
Data information

Variables	Description
Average Credit Limit	Average Credit Limit in a year
Total Credit Cards	Number of credit cards, total amount considering other brands
Total visits Bank	Number of visits in a year
Total visits Online	Number of visits in the Online Bank Website
Tota calls made	Number of calls made to Bank Central Office

Observations	Variables
3300	5

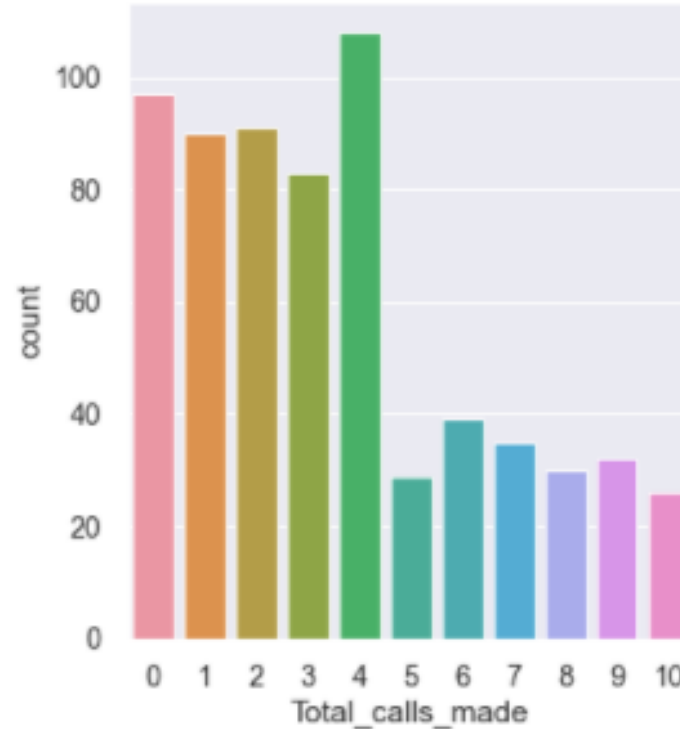
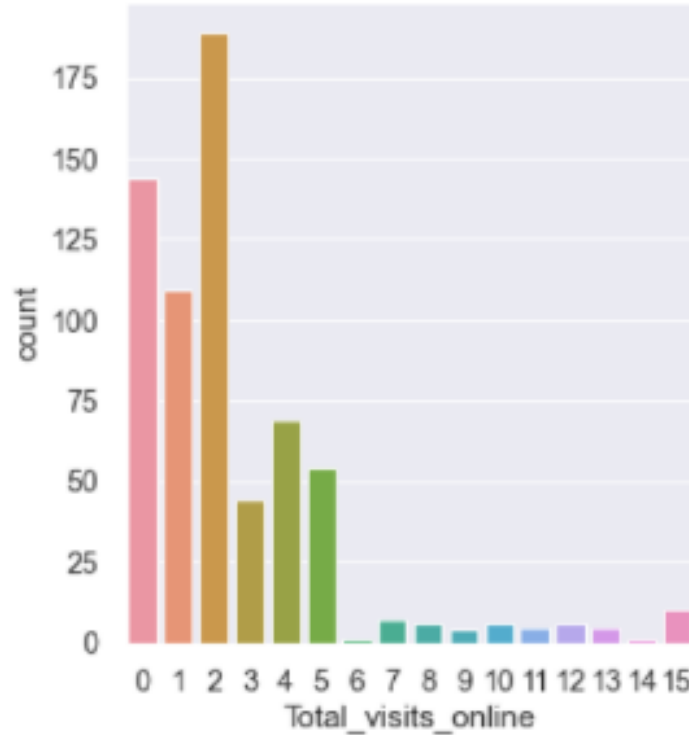
Notes:

- There are few duplicates
- No missing values
- One variable with high amount of outliers



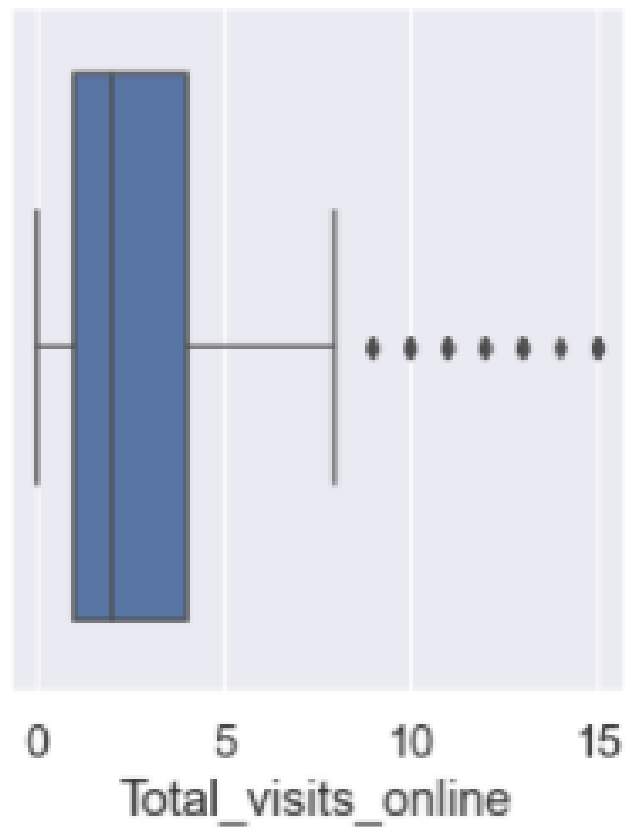
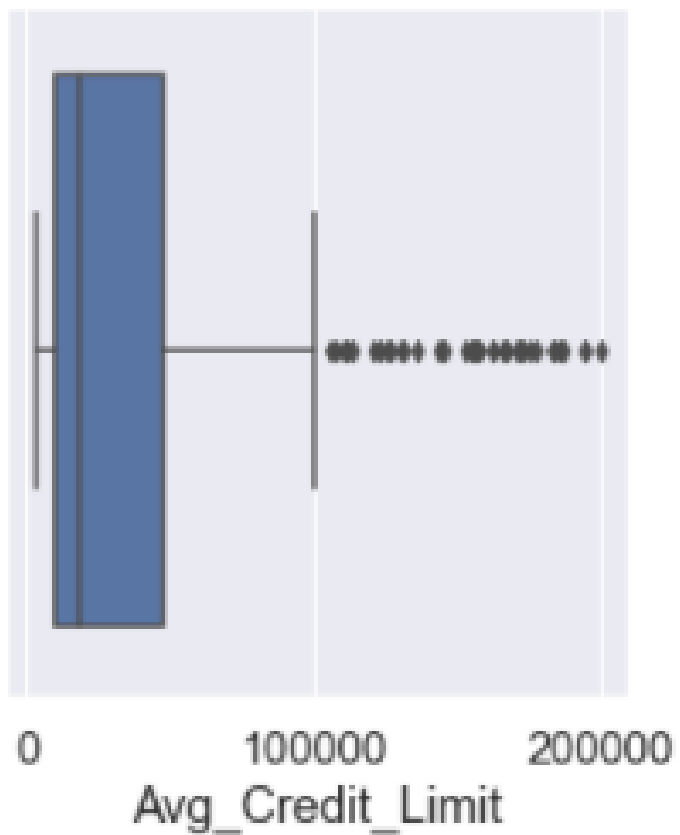
EDA – Univariate Analysis

- Most of the customers have 4 credit cards, followed by 6, 7 and 5 credit cards.
- Most of customers visit the bank in average 2 times.



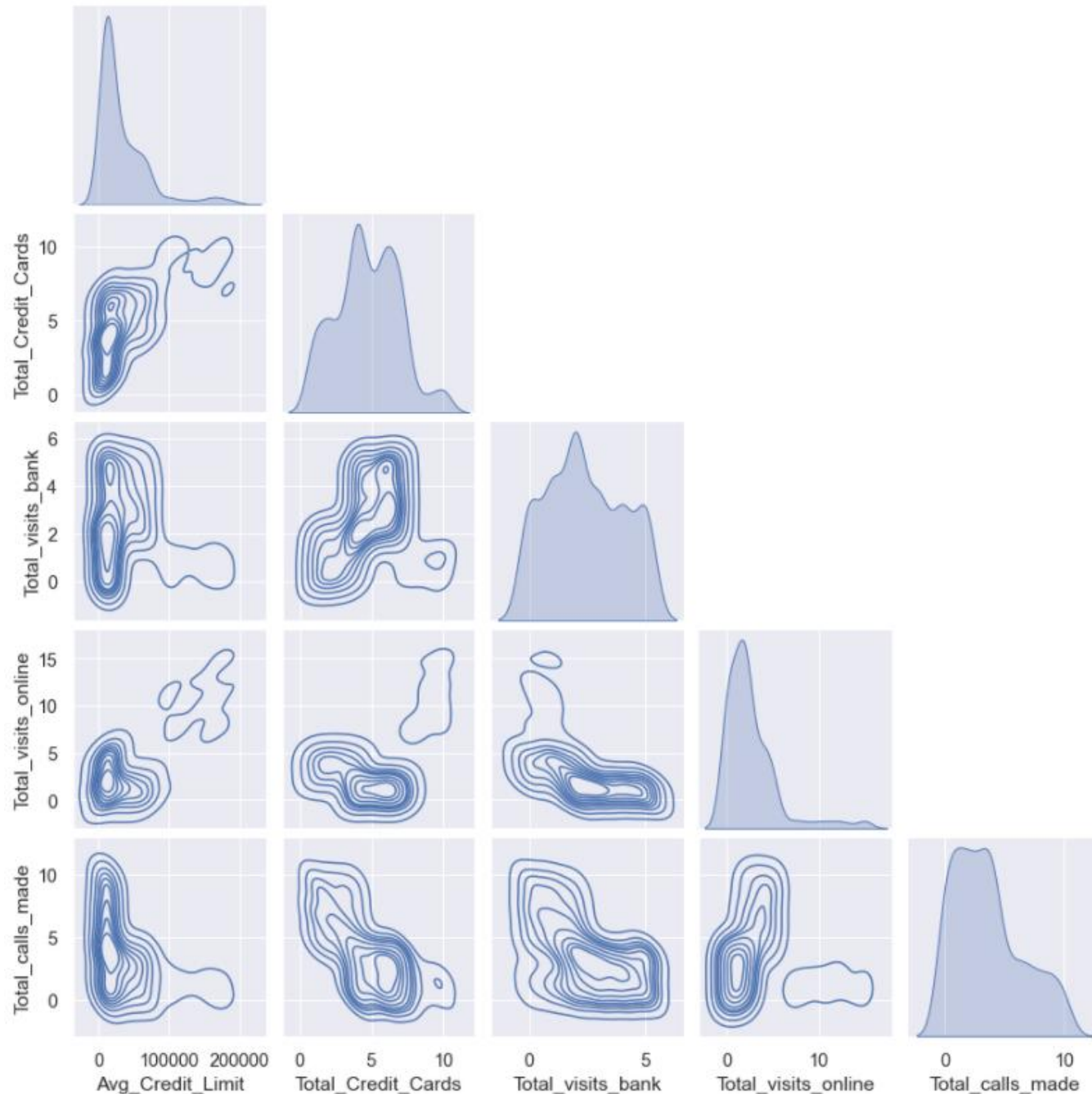
EDA – Univariate Analysis

- Total visits online in most cases are concentrated between 0 – 5.
- Most calls made to Bank's support team were from 0-4, with 4 calls being the most frequent case followed by 0 and 2.



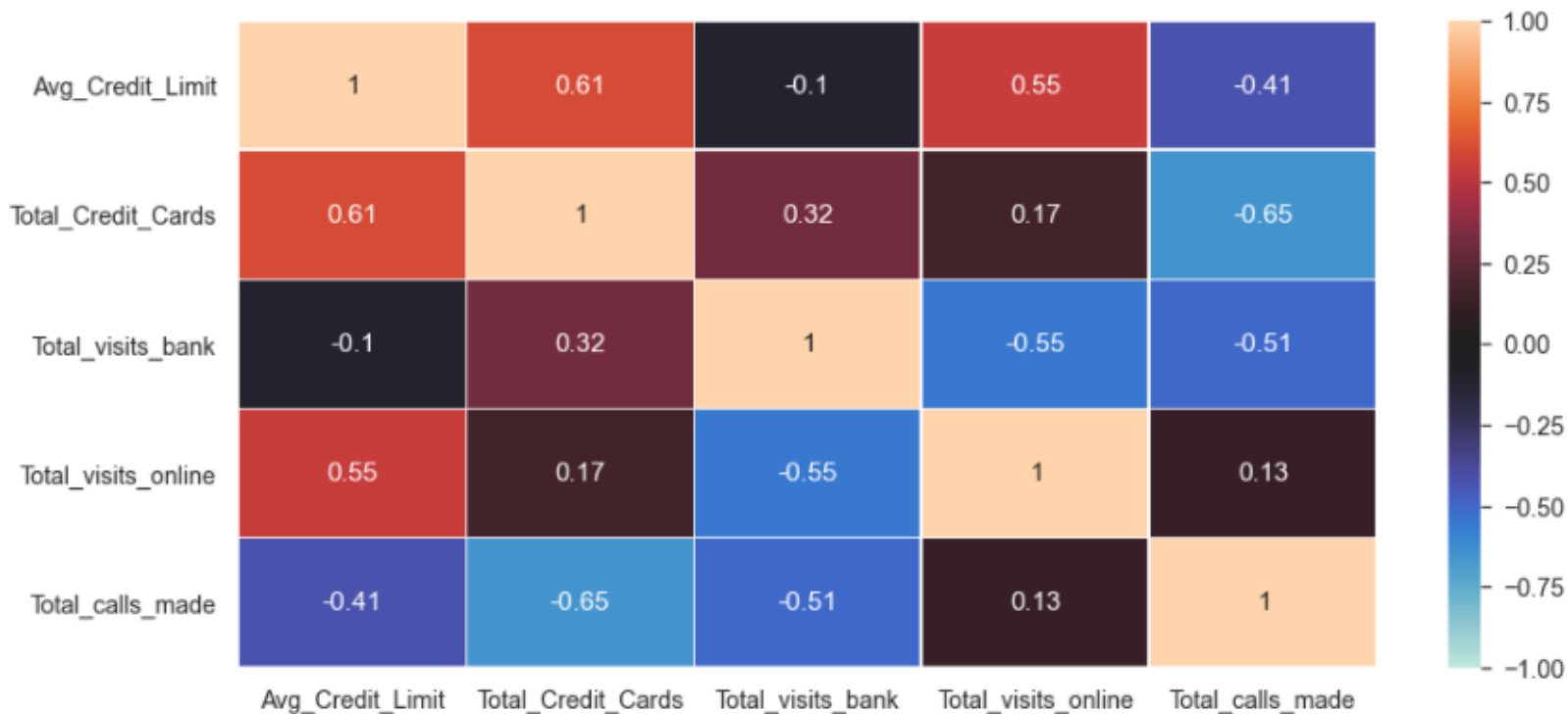
EDA – Univariate Analysis

- Variables with right skew distribution
- Average Credit Limit presents a big amount of outliers
- Total visits online present an insignificant number of outliers.



EDA – Bivariate Analysis

- Can be observed in almost all variables several clusters not smaller than 2 and some of them seems to have 3 or 4.

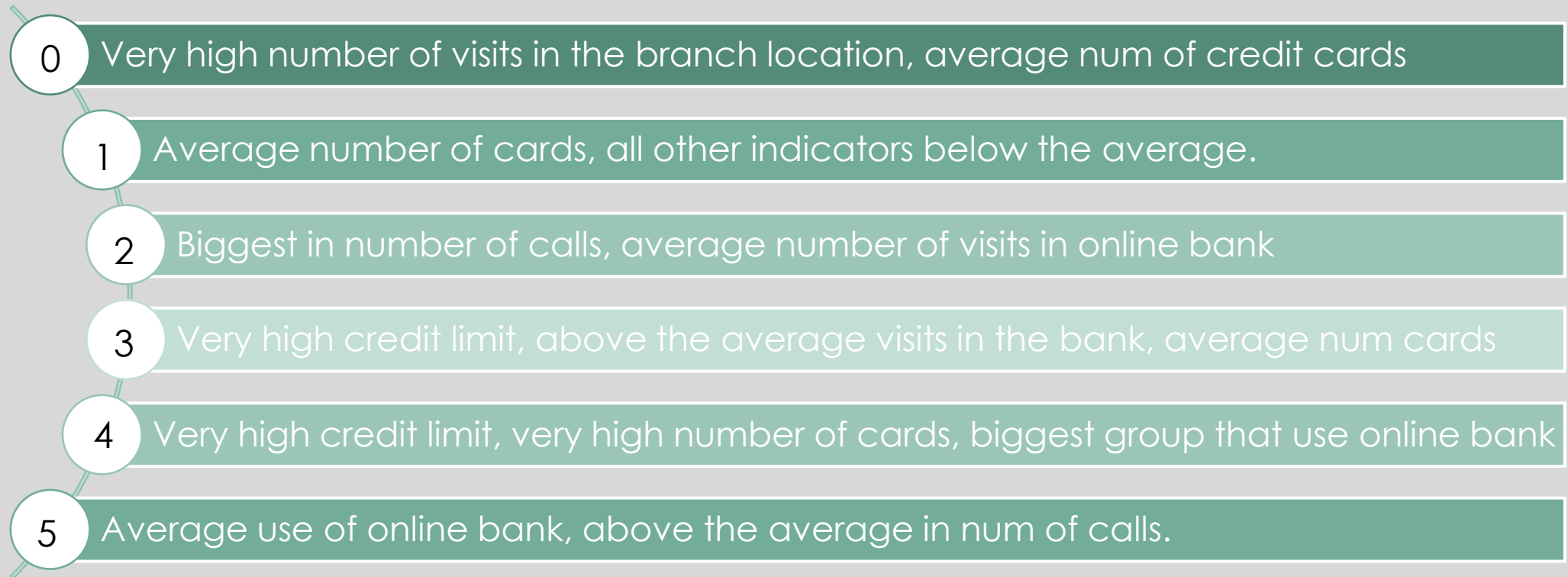


EDA – Correlation Matrix

- A positive correlation between visits to the bank and total number of credit card. As the number of visits increase the number of cards also increases.
- Visits online also have a positive correlation with number of credit cards, but it is almost half of the number in comparison to visit in the physical branch.
- Total calls made have a negative correlation with visits to the bank, indicating as more as customer call to the bank less they go to their physical branch.
- Total call made also have a negative correlation with Total credit card number, as the number of call increases, the number of credit cards decrease.

Customers Segmentation

(Strengths of each group, 6 in total)

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- 0 Very high number of visits in the branch location, average num of credit cards
 - 1 Average number of cards, all other indicators below the average.
 - 2 Biggest in number of calls, average number of visits in online bank
 - 3 Very high credit limit, above the average visits in the bank, average num cards
 - 4 Very high credit limit, very high number of cards, biggest group that use online bank
 - 5 Average use of online bank, above the average in num of calls.

Recommendations

Cluster 4

Cluster of customers which predominantly prefer online services, they do have a great number of cards and high credit limit then they represent a very valuable clusters with high profitability and lower costs. Bank can upsell products to such group since they tend to accept more cards or credit limit increase offering.

Cluster 0

Customers which prefer presential visit and since there is a positive correlation between visits to the bank and number of cards this group can be target to upsell credit cards.

Cluster 2

are the group of customers which the make a strong use of phone calls to solve their queries. This groups of customers are the ones Bank should invest to better understand their needs related to support service so that Bank can improve their service delivery model based on the feedback of this cluster.

Cluster 3

Group of customers with the highest average credit limit. Most of customers with high credit limit do not fear credit and pursue a great responsibility to manage their finances. Bank can offer different products like investment funds, savings account with returns over investments or retirement plans in order to increase its penetration in the market.

Cluster 5

Customers with very low number of cards and credit limit. These customers might be included on the bottom of the list regarding investment priorities.

Cluster 1

Customers with very low credit limit but above the average in number of cards. These customers should be verified regarding their credit score so that credit limit increases might be offered.