Customer Segmentation Analysis

Presented by

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Objectives

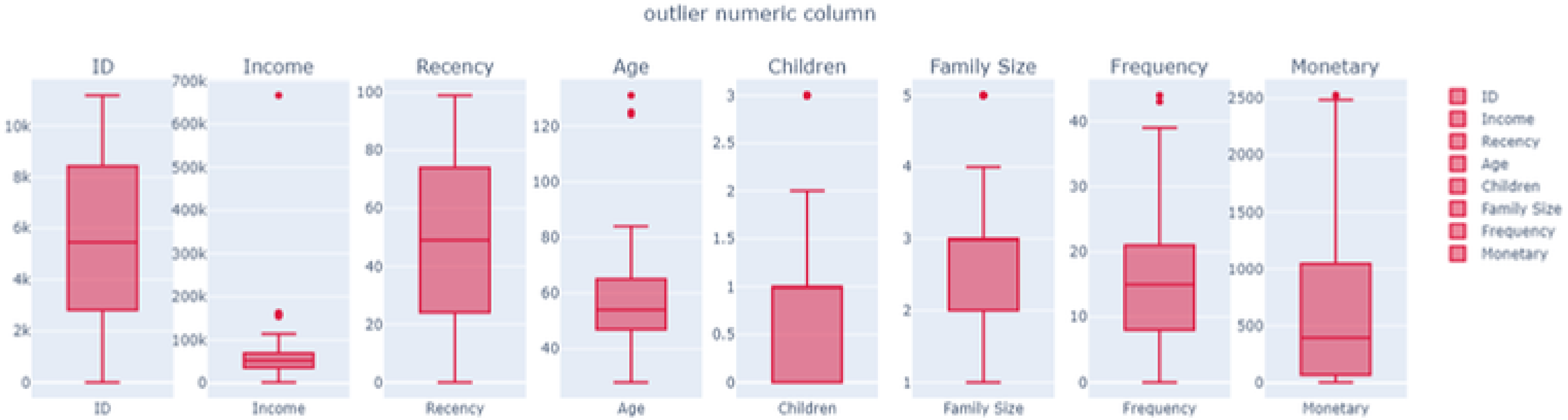
- Company wants to understand its customers
- Company is launching a new product and wants information on whom to target

Problem Statement

Customer Personality Analysis is a detailed analysis of a company’s ideal customers. It helps a business to better understand its customers and makes it easier for them to modify products according to the specific needs, behaviors and concerns of different types of customers.
Customer personality analysis helps a business to modify its product based on its target customers from different types of customer segments. For example, instead of spending money to market a new product to every customer in the company’s database, a company can analyze which customer segment is most likely to buy the product and then market the product only on that particular segment.

Handling Outliers

Outliers are data points that significantly deviate from the majority of the data in a dataset. They can be exceptionally high or low values compared to the rest of the data.
Identifying and handling outliers is crucial because they can distort statistical analyses and machine learning models. Outliers can result from data entry errors, measurement issues, or genuine extreme observations. Detecting and addressing outliers helps improve the accuracy and reliability of data analysis.



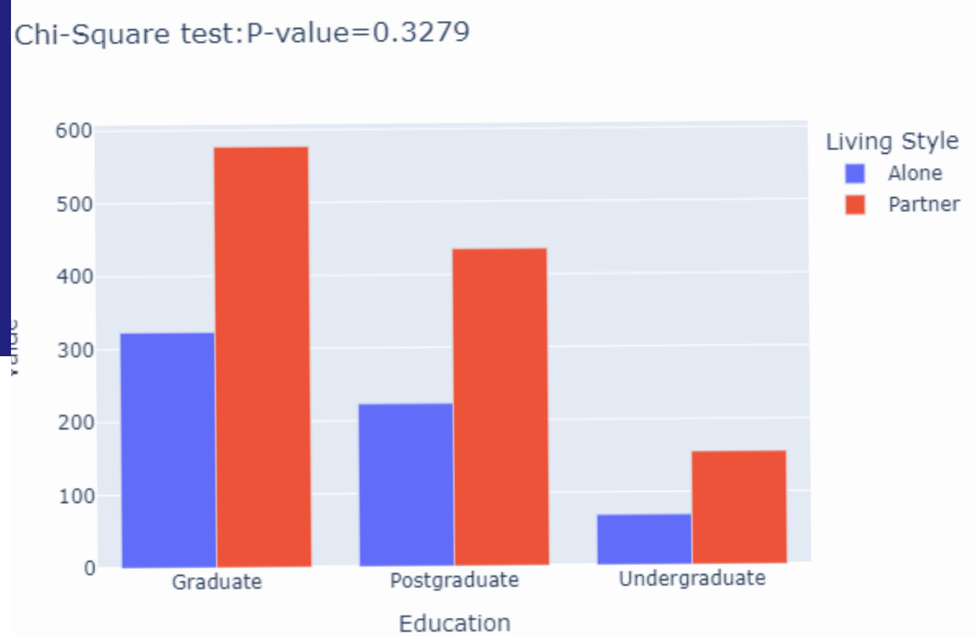
Clustering

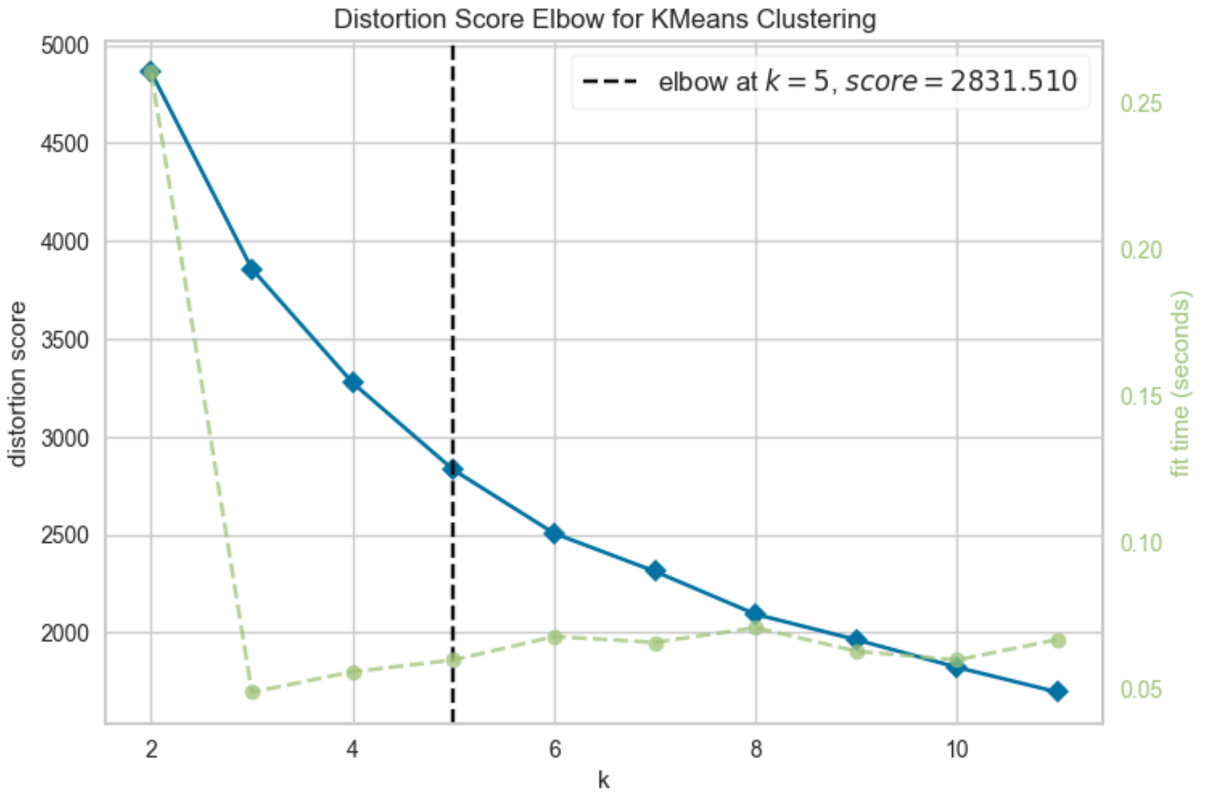
01 **Chi- Square**

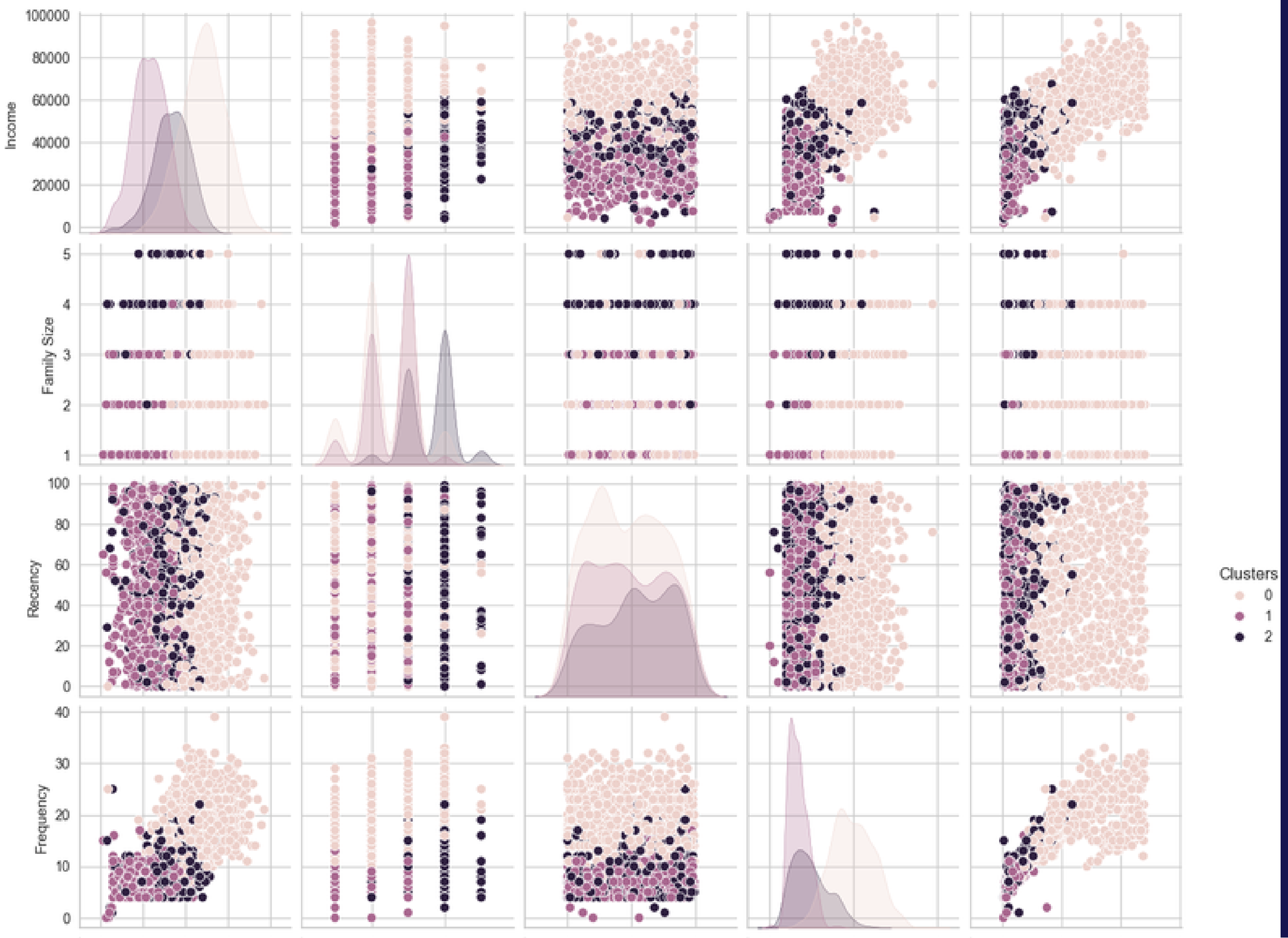
02 **Label Encoding for Categorical Variables**

03 **Scaling**

04 **Principal component analysis and Elbow Method**

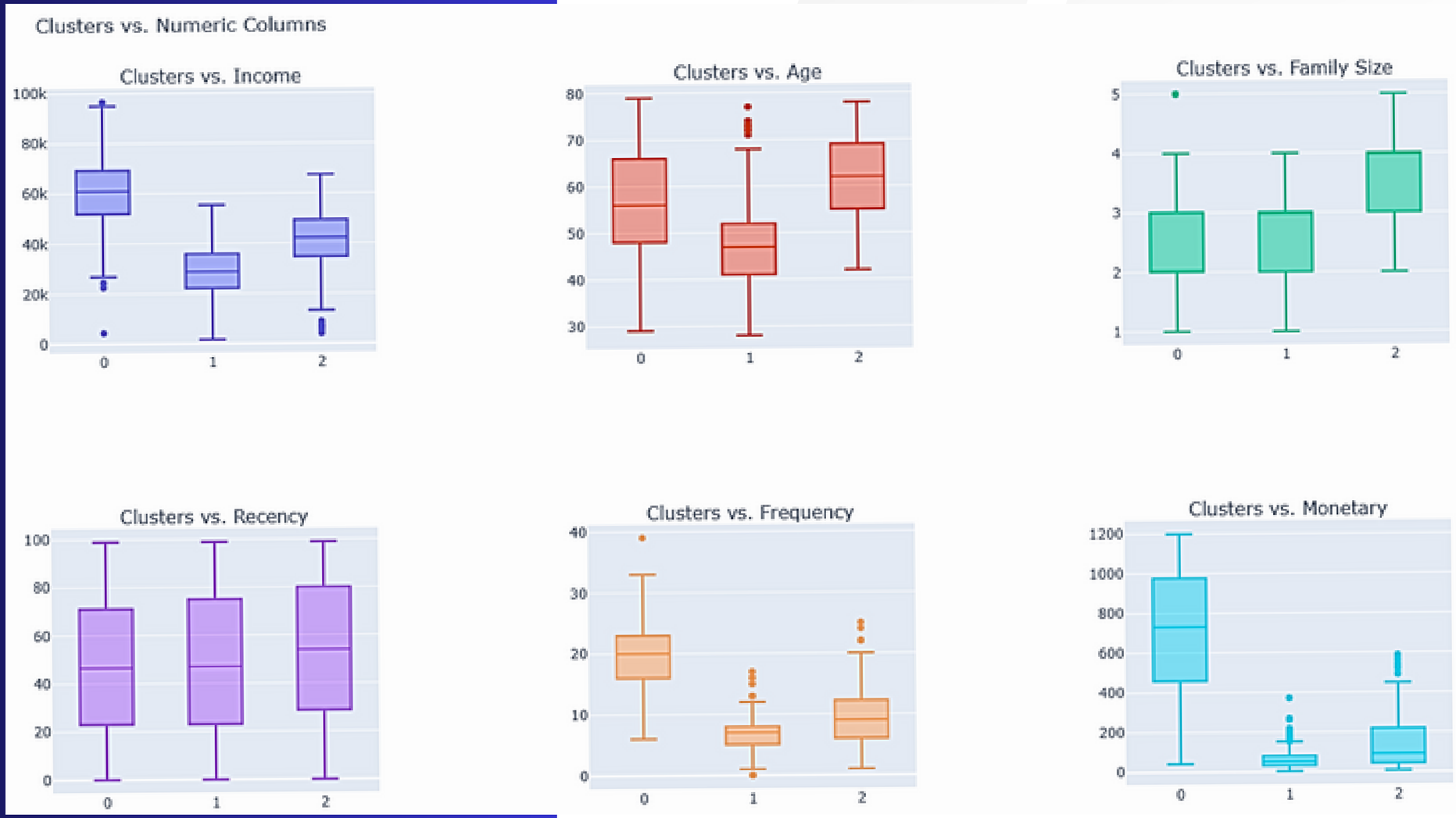






Pair Plots

Cluster v/s Numeric Columns



Cluster v/s Income

Cluster Description

Cluster 0

Total member of this cluster is 794

- Compared to other clusters, they have high income and high spent.
- Age is between 50 to 60

Cluster 1

Total member of this cluster is 571

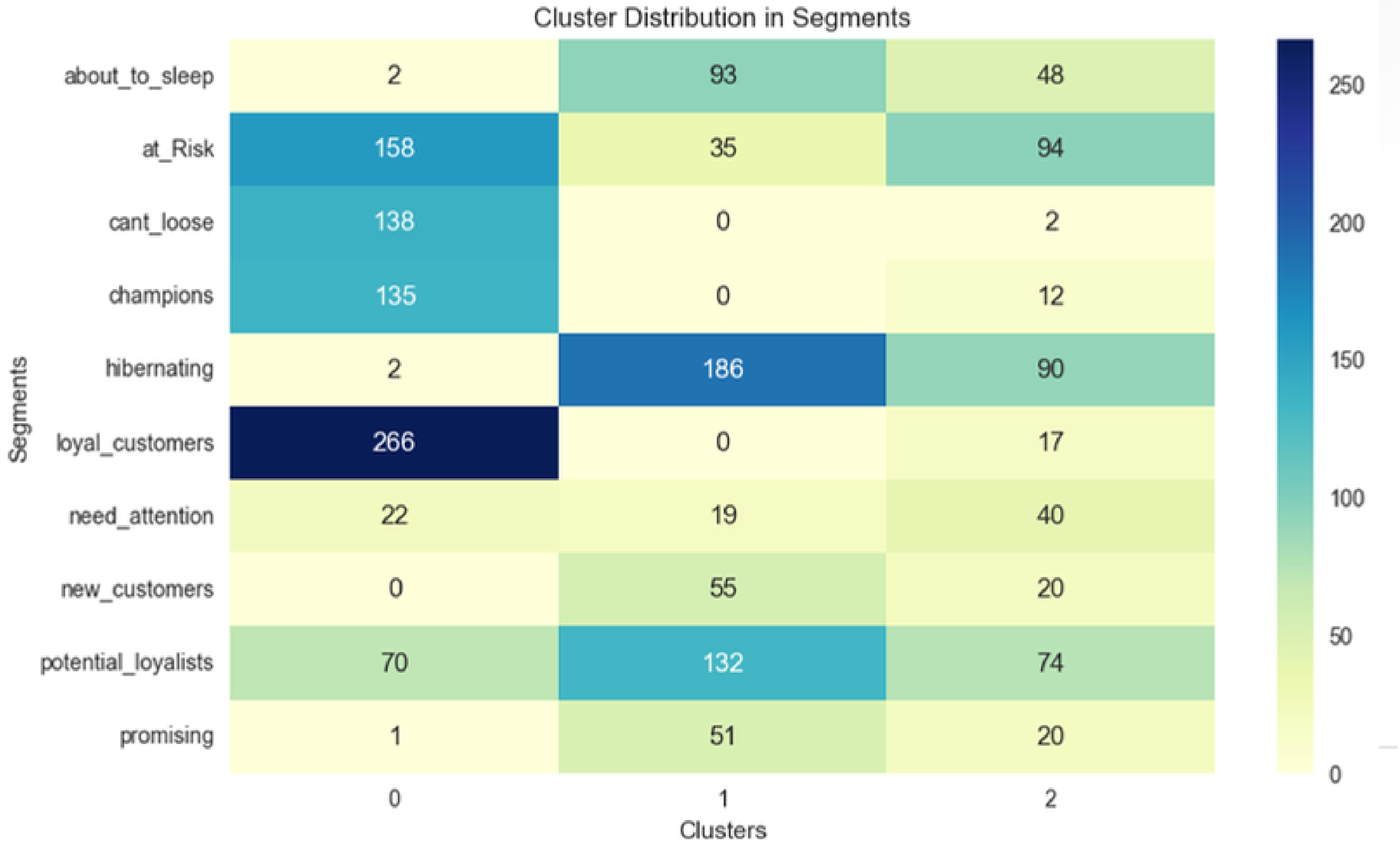
- Compared to other clusters, they have low Income and low spending.
- age is between 40 to 50

Cluster 2

Total member of this cluster is 417

- Compared to other clusters, they have avg Income and avg spending.
- - age is between 55 to 65

Cluster Segmentation

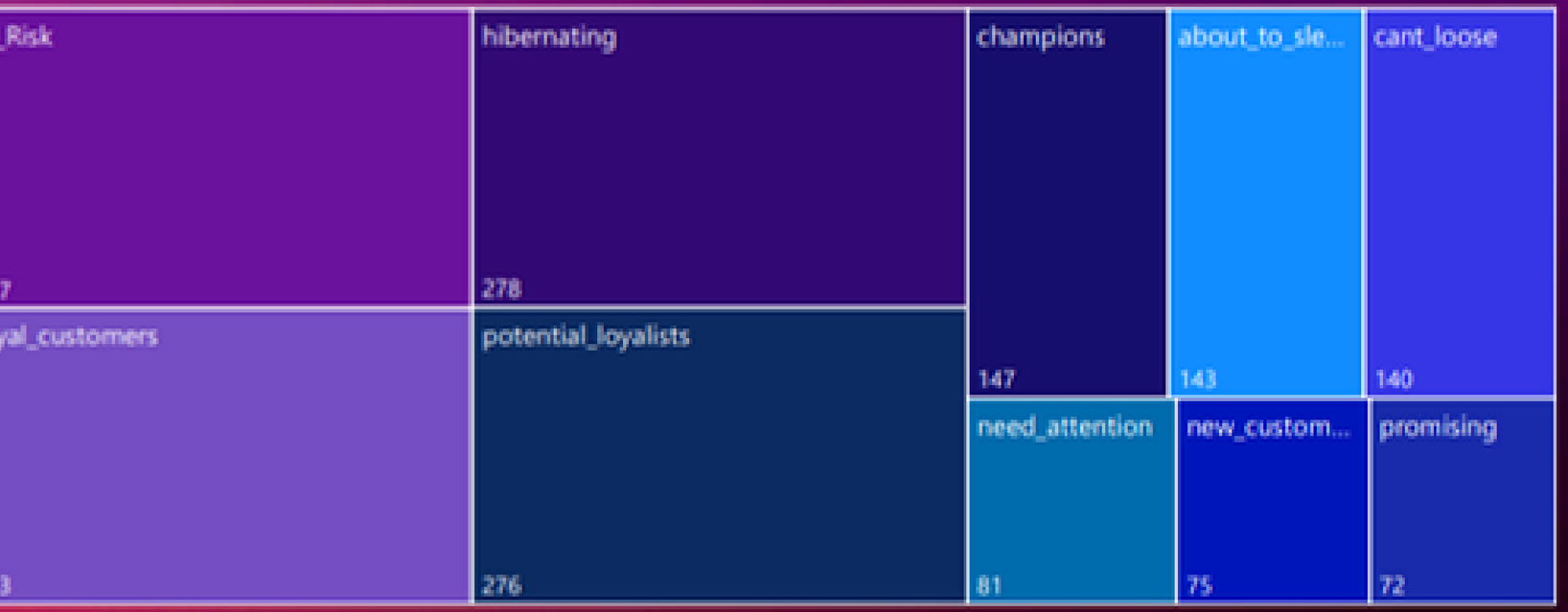


1782
Count of ID

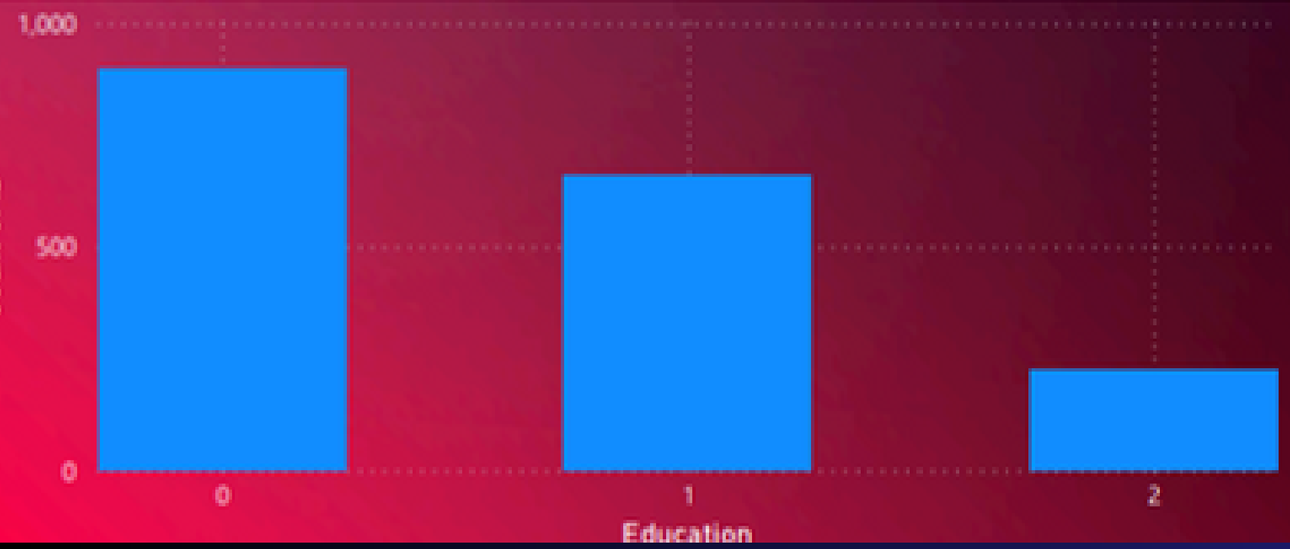
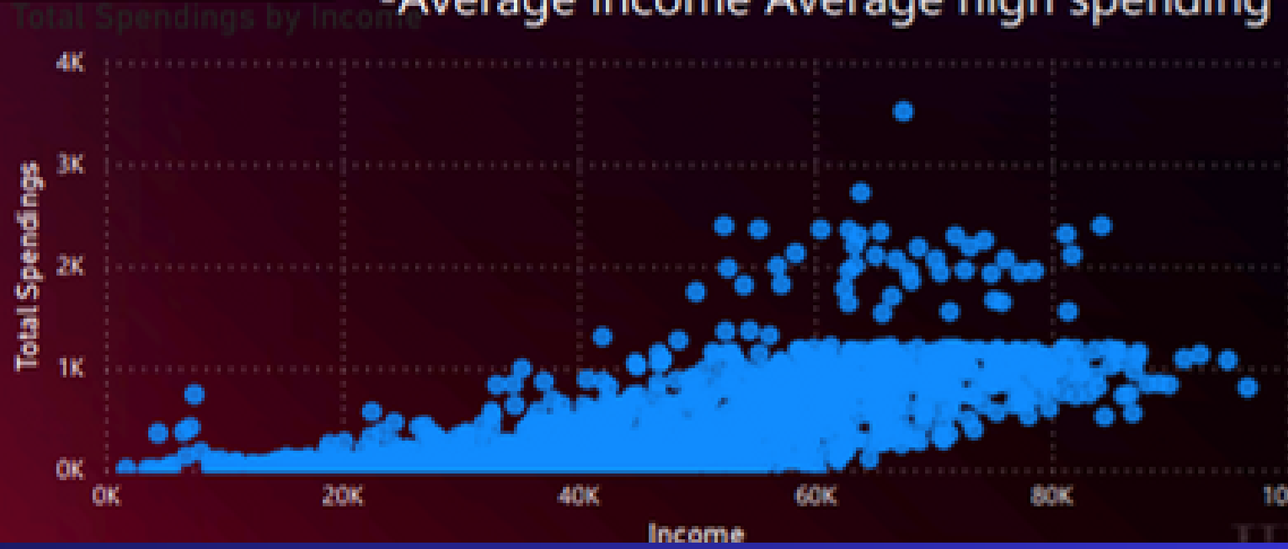
54.79
Average of Age

666K
Total Sales

Clusters
- 0
- 1
- 2



Cluster 0
-Between 40 and 60 years
-high income high avg spending

Cluster 1
-Between 30 and 50 years
-low income and low spent

Cluster 2
-Between 55 and 60 years
-Average income Average high spending