Fig. 2 - Data shape of our dataset

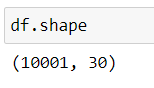


Fig. 3 - Data info of our dataset



Fig 4 – Initial Histograms

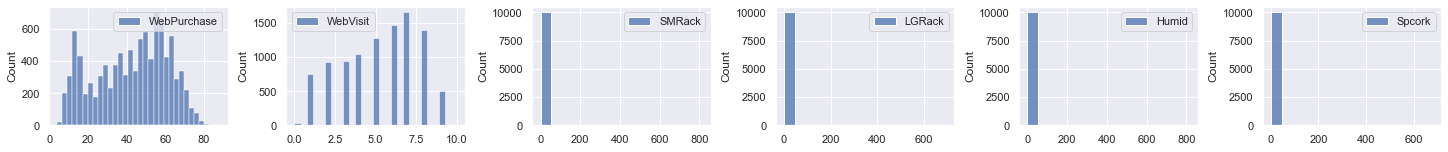
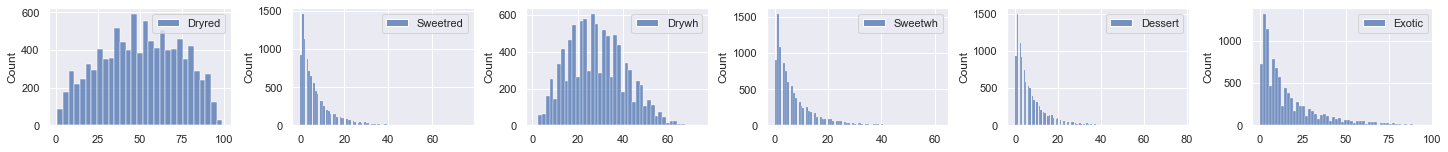
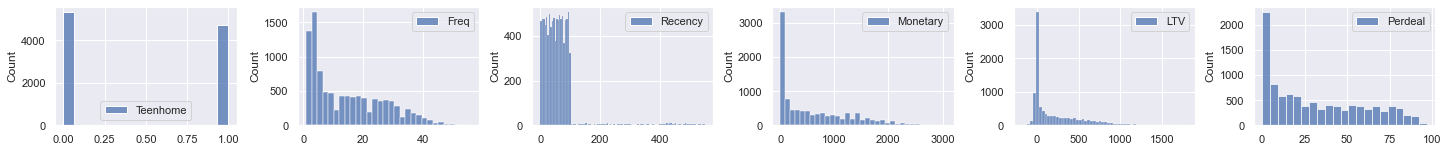
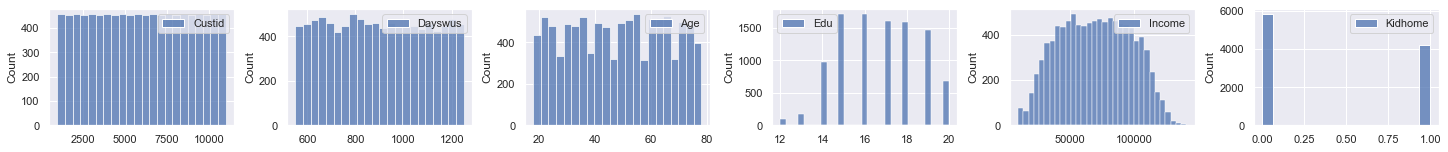
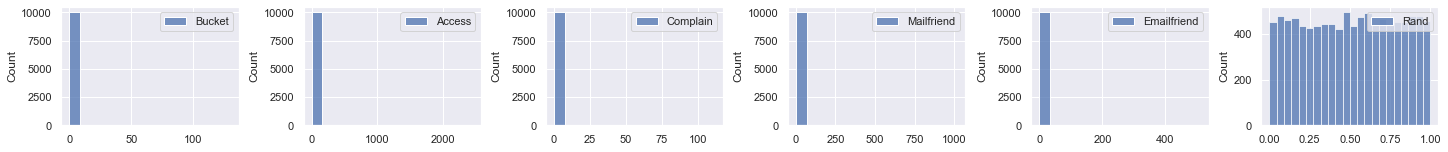
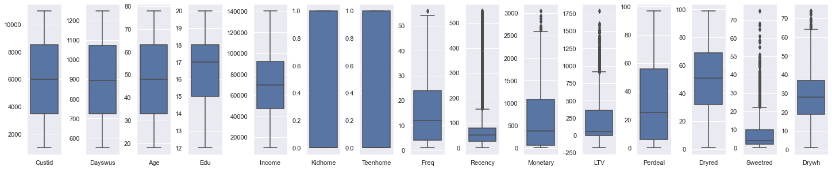


Fig 5 – Initial Boxplots



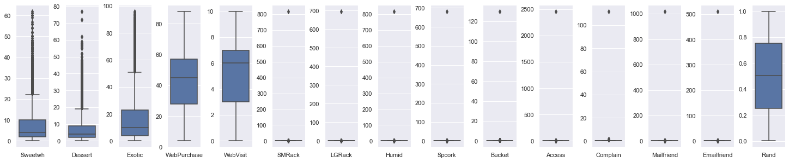


Fig 5 – Initial Pair Plot

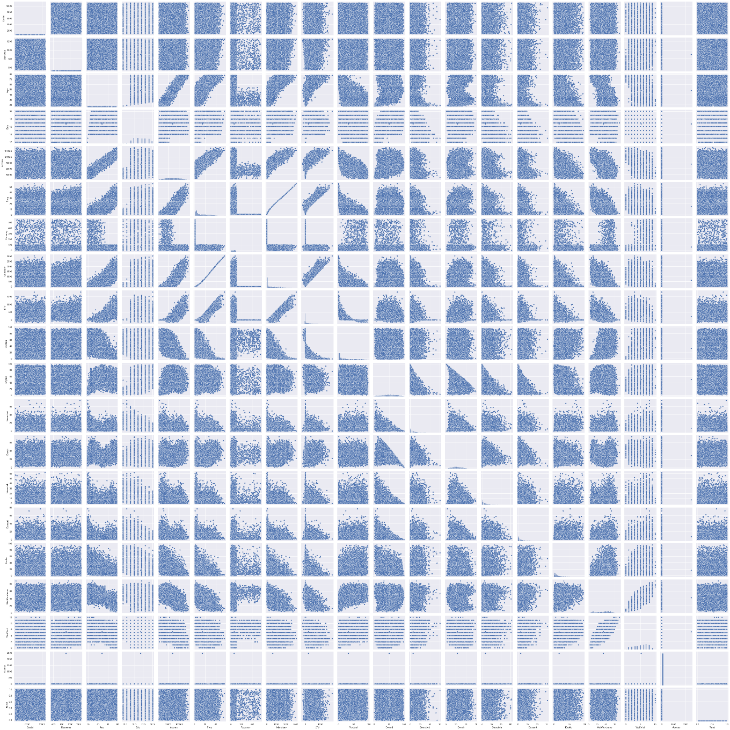


Fig 6 – Pearson Correlation

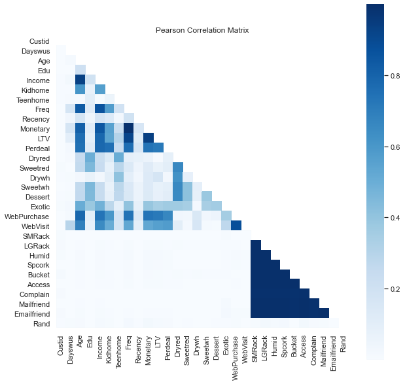


Fig 7 – Phik Correlation

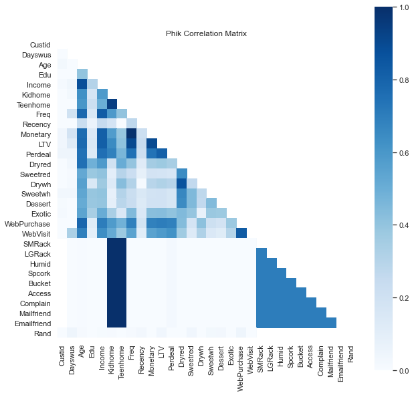


Fig 8 – Spearman Correlation

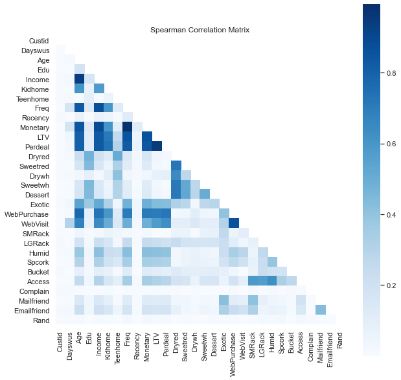


Fig 9 – Outliers PCA Visualization



Fig. 10 – Feature Importance with Random Forest

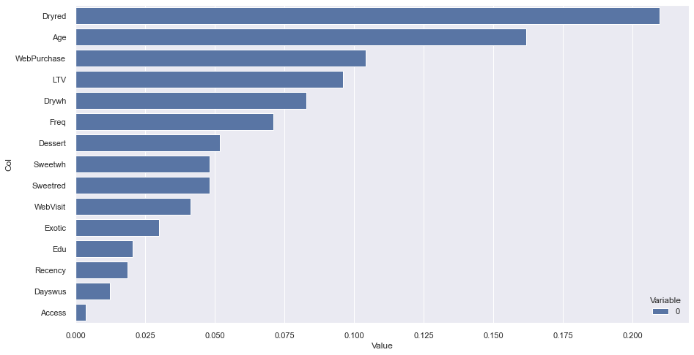


Fig. 11 – R2 Calculation for each Model

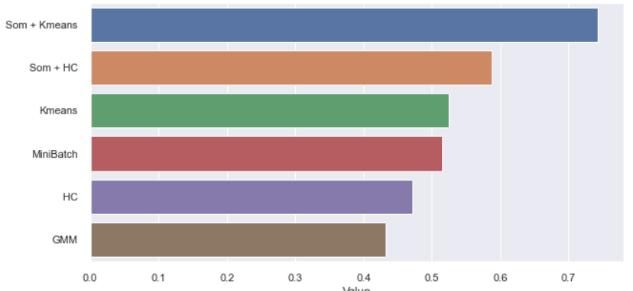


Fig. 12 – Multicorrespondence Analysis of Categorical Features

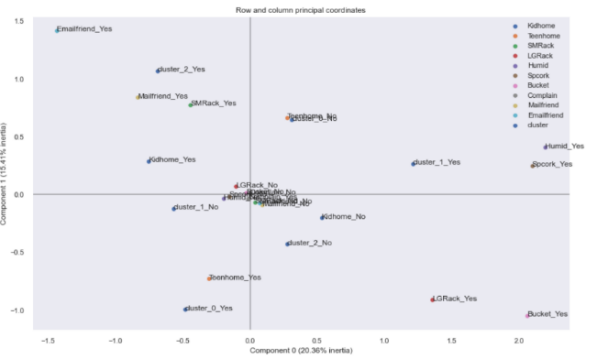
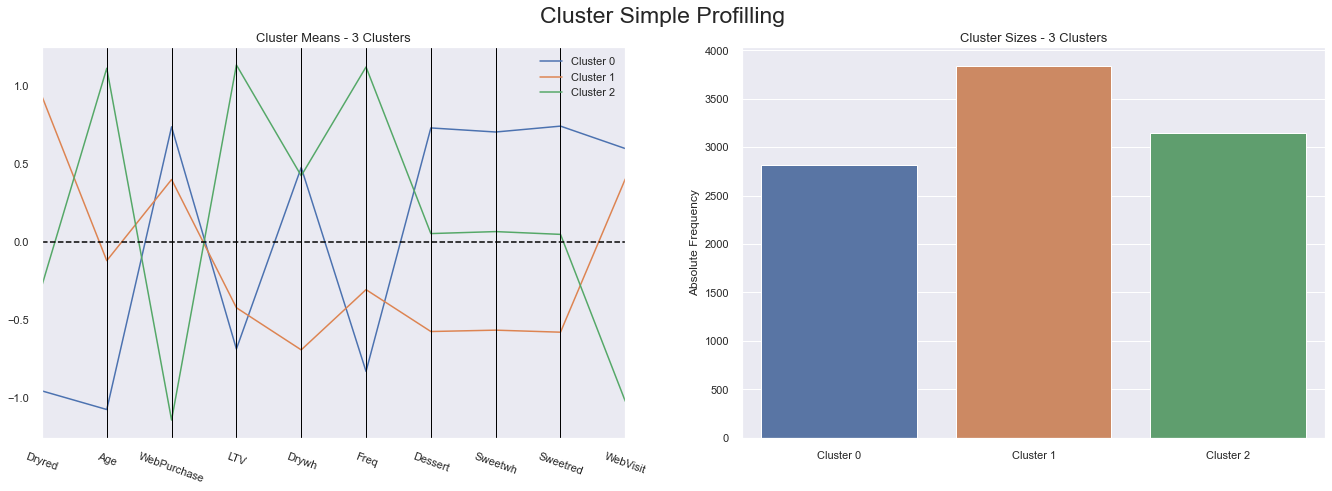
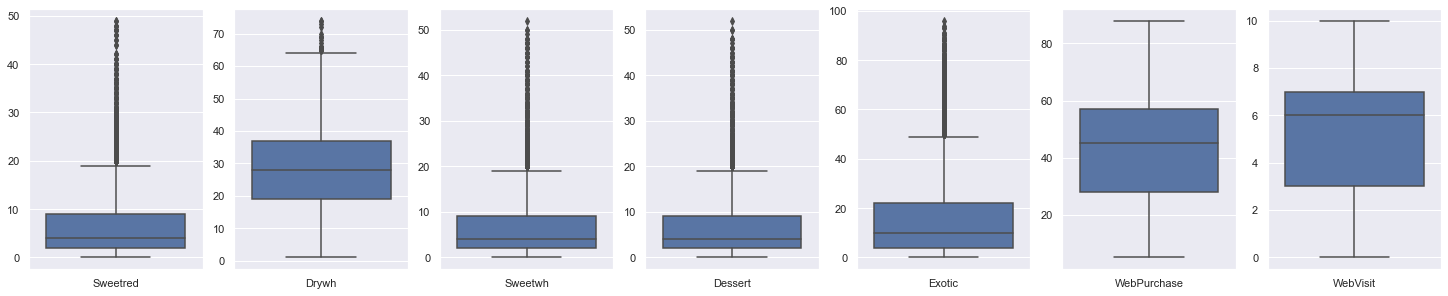
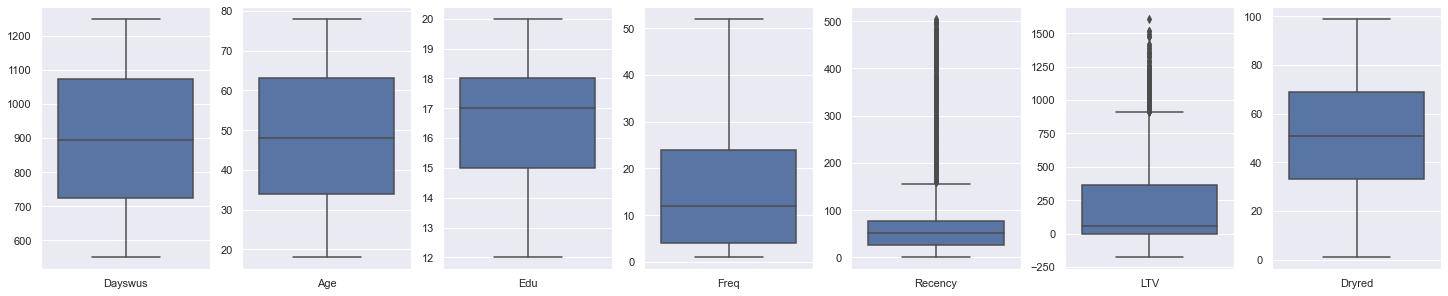


Fig. 13 – Cluster Simple Profiling (SOM + K-means)

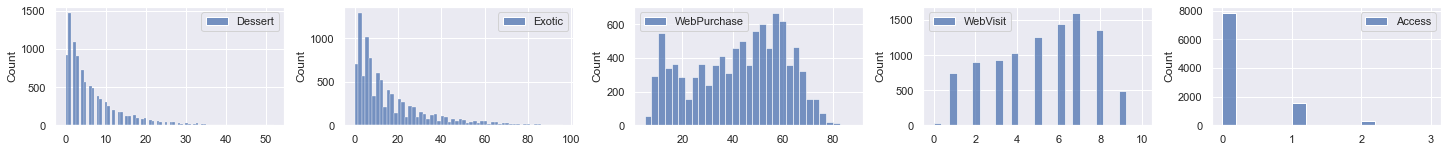
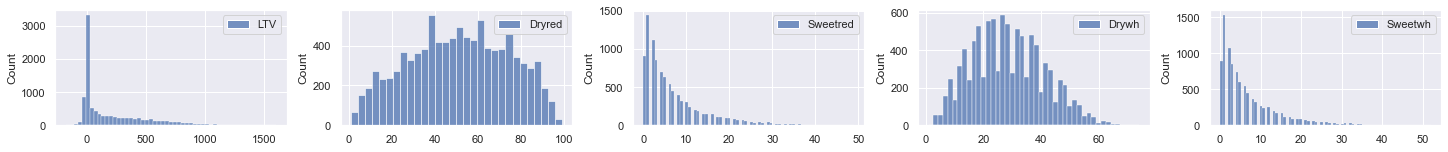
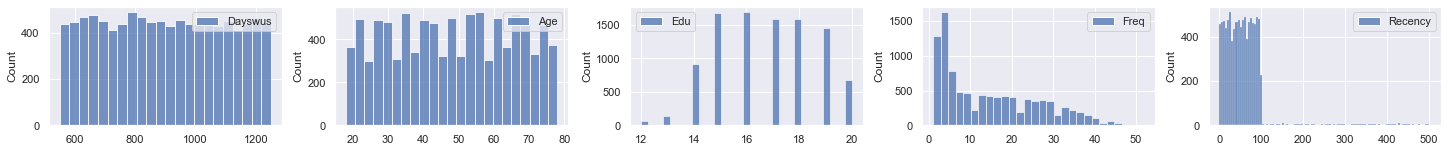


**Additional Visualizations:**

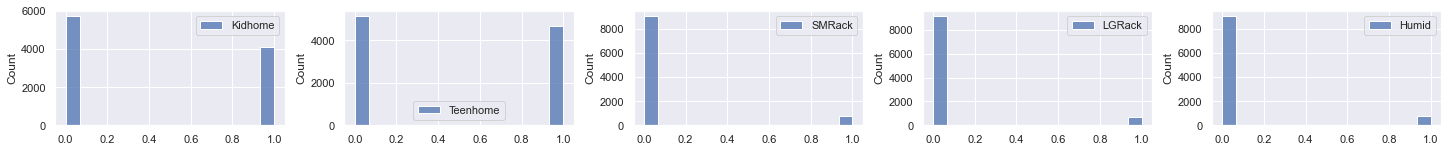
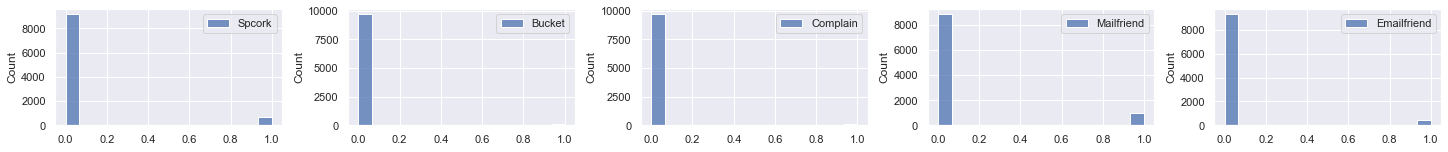
Boxplot of metric features after feature engineering



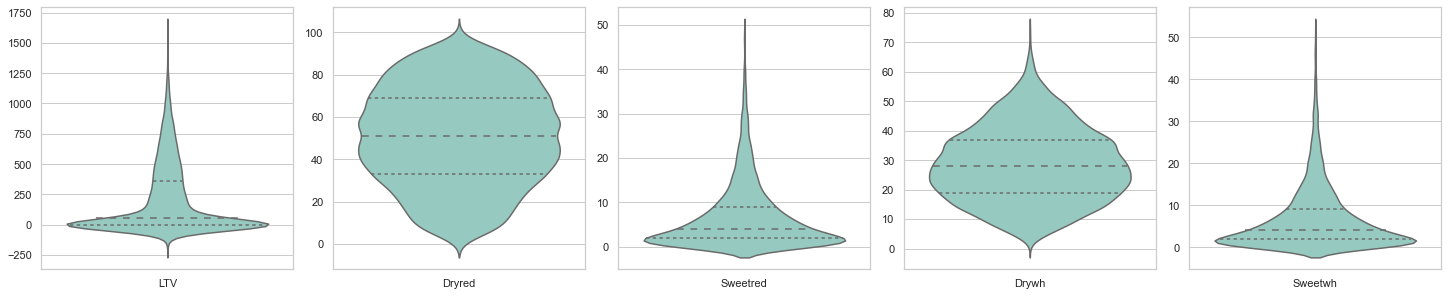
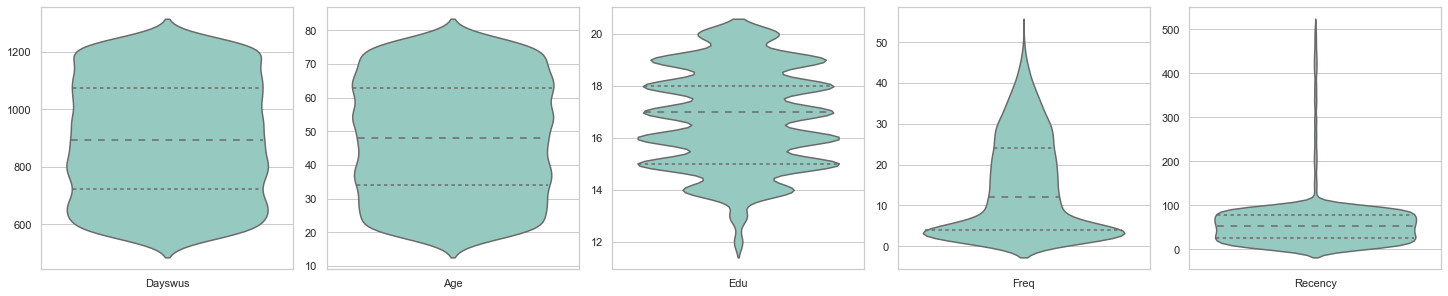
Histograms of metric features after feature engineering



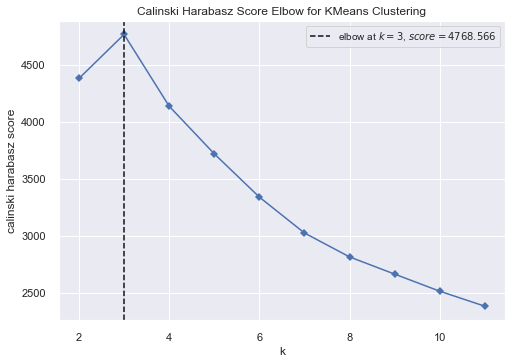
Histograms of non-metric features after feature engineering



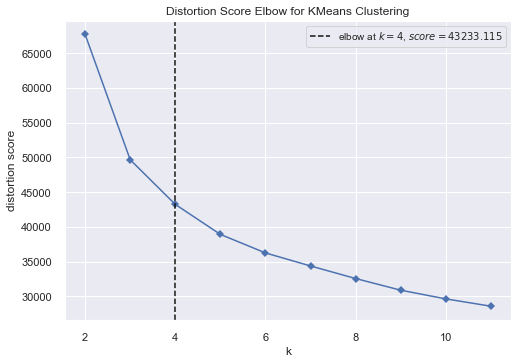
Violin Plot for metric features after feature engineering



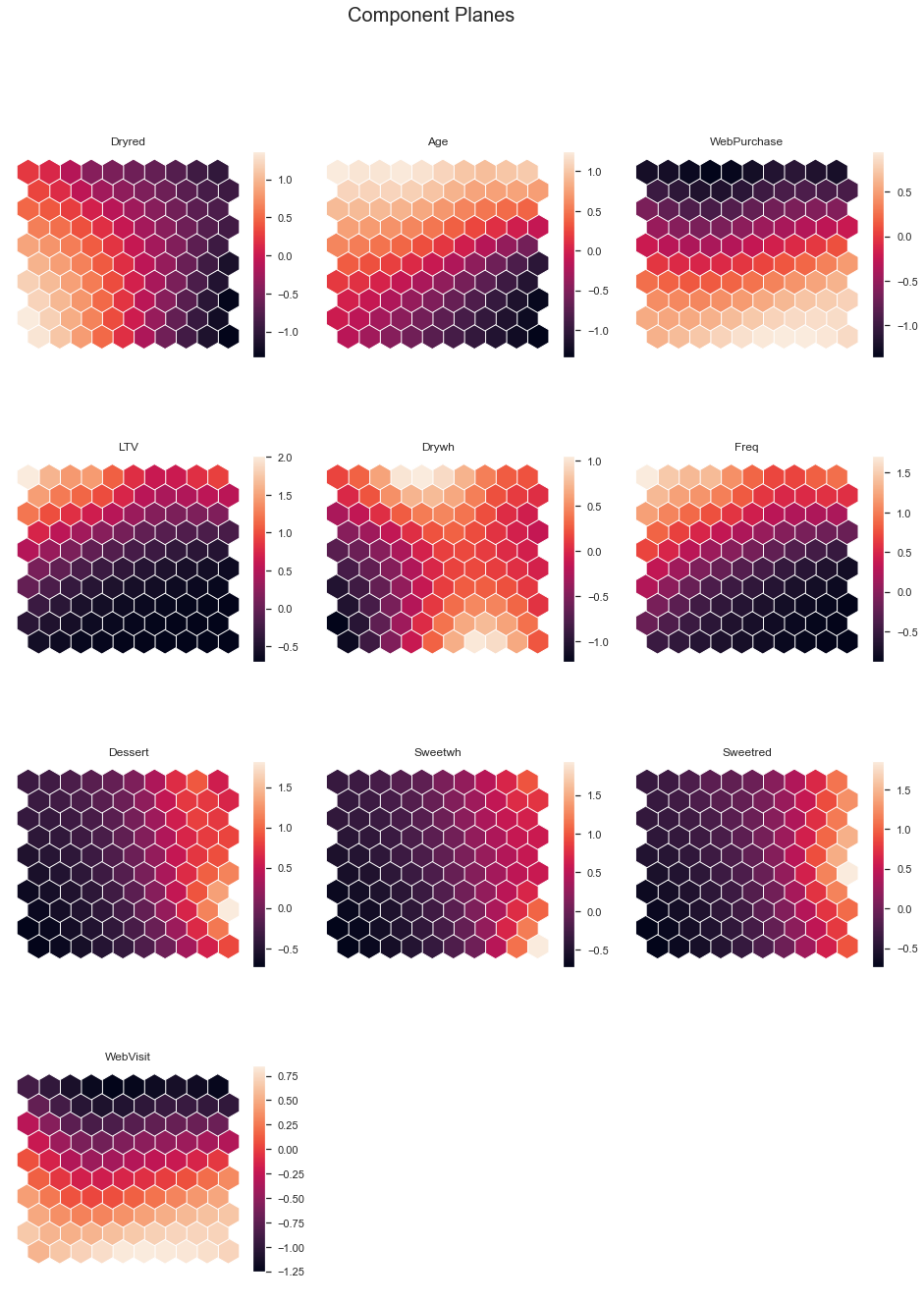
SOM + K-Means Calinski-Harabasz Elbow Plot



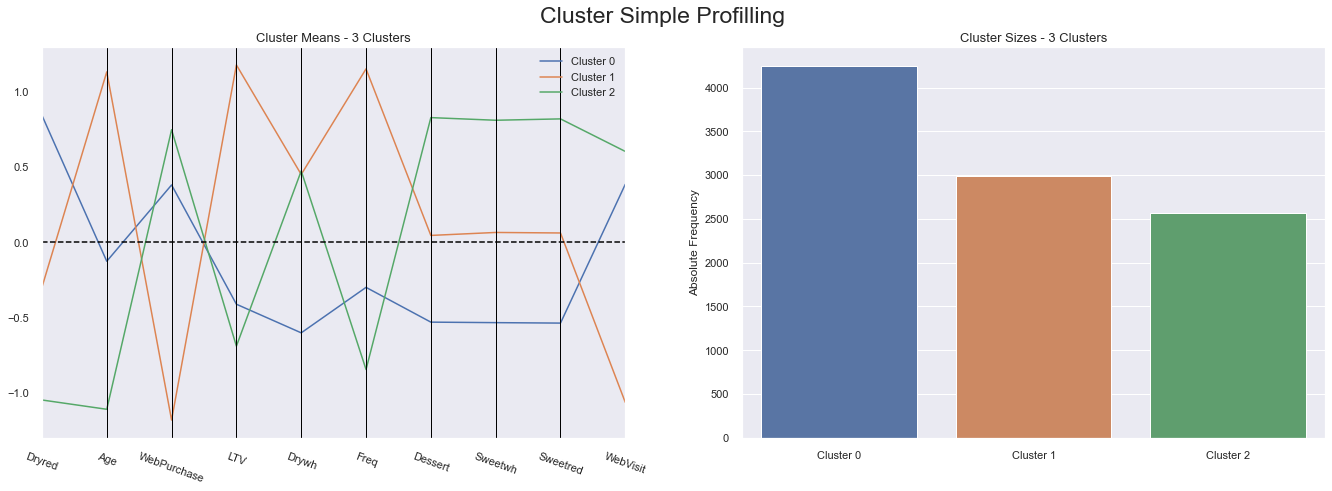
SOM + K-Means Distortion Elbow Plot



Component Planes for the SOM + K-Means Clustering



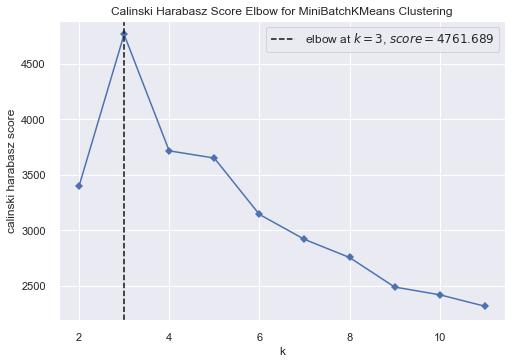
Cluster Simple Profiling K-means



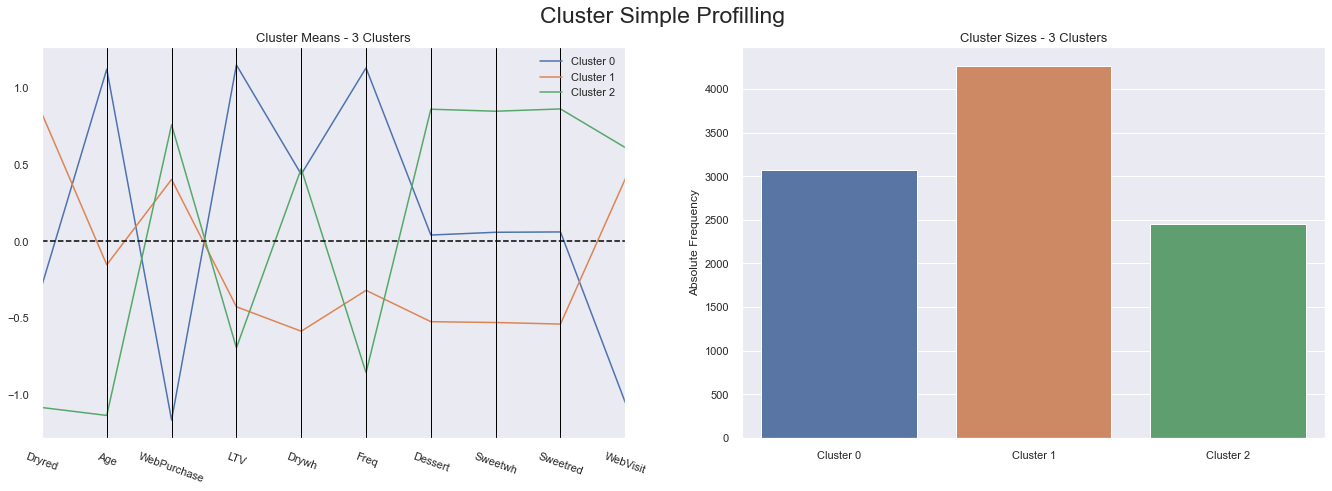
Mini Batch K-Means Distortion Elbow Plot



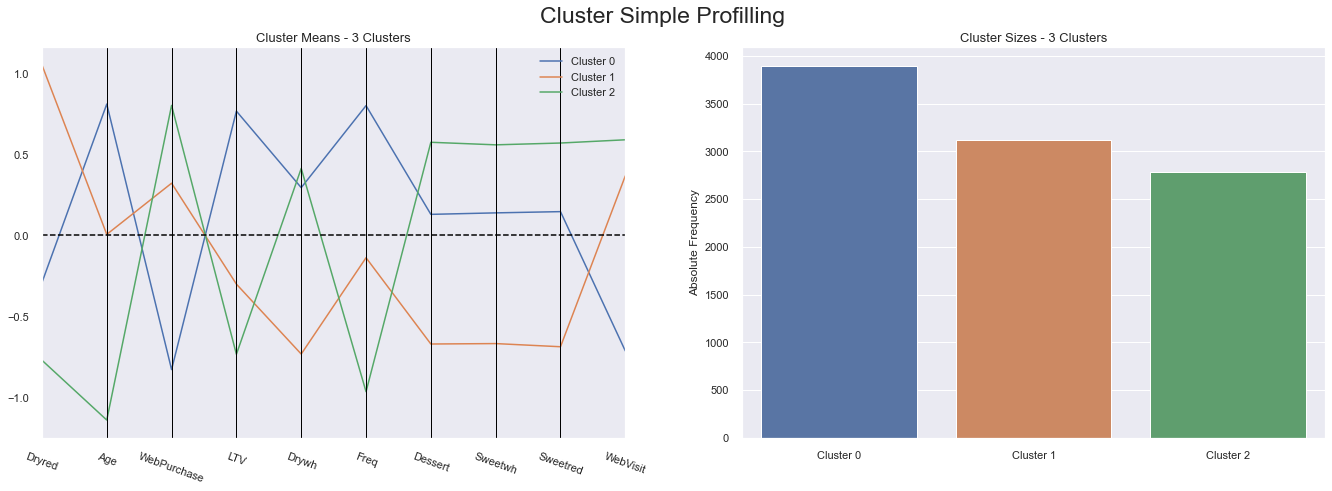
Mini Batch K-Means Calinski-Harabasz Elbow Plot



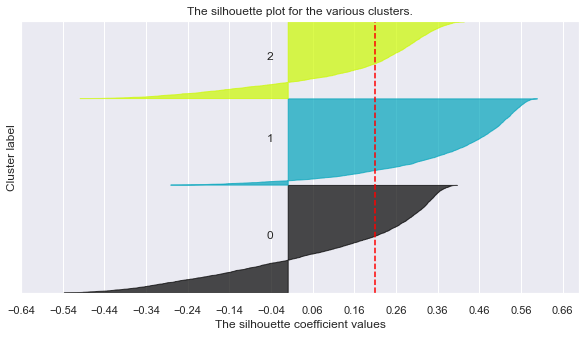
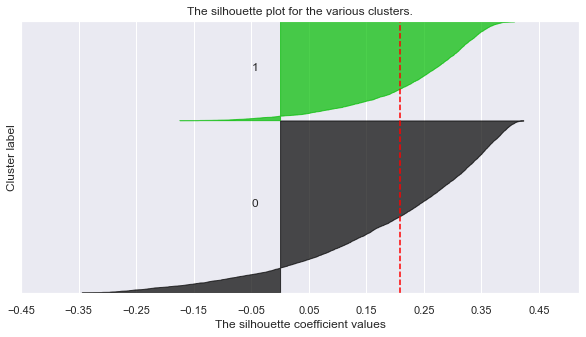
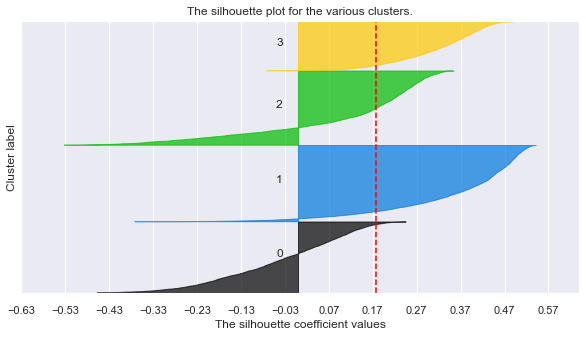
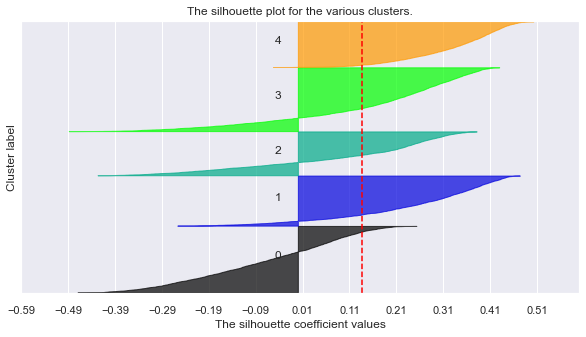
Cluster Simple Profiling Mini Batch K-means



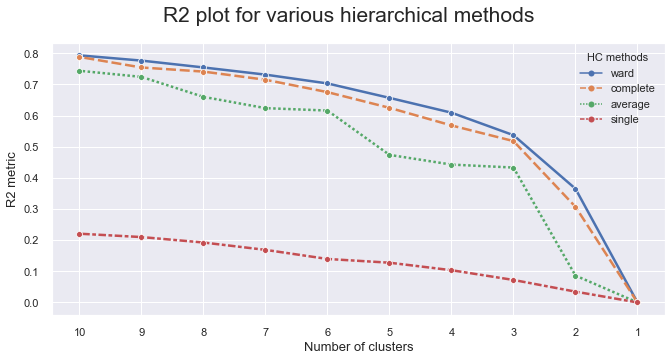
Cluster Simple Profiling for Gaussian Mixture Model (GMM)



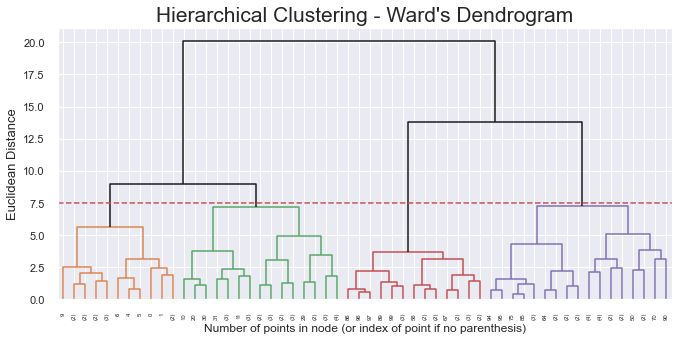
Average Sillhouete Plot for GMM

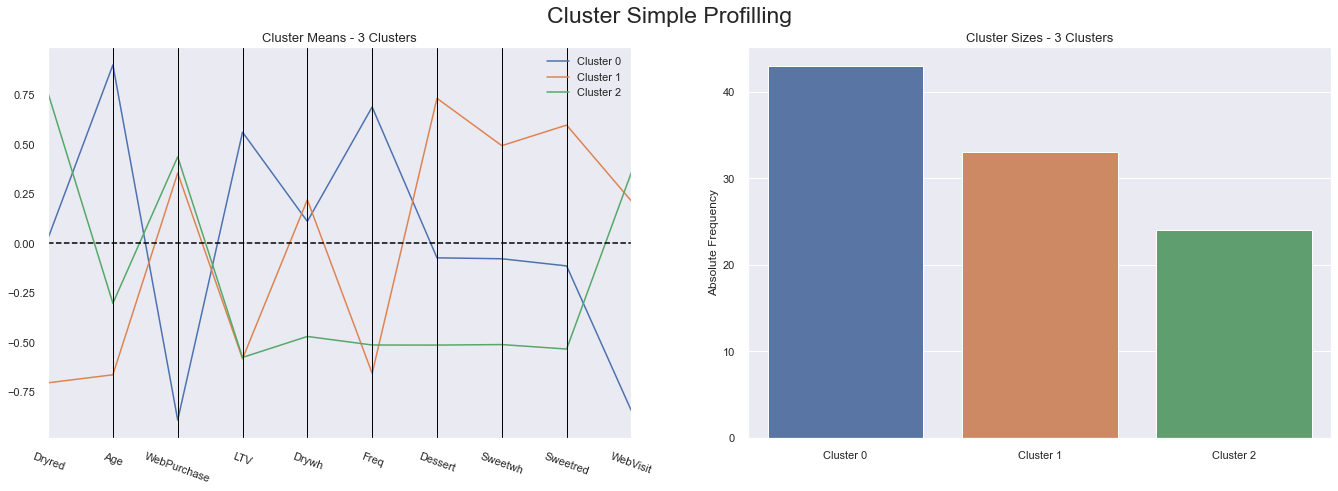
R2 plot for Hierarchical Methods (SOM + HC)



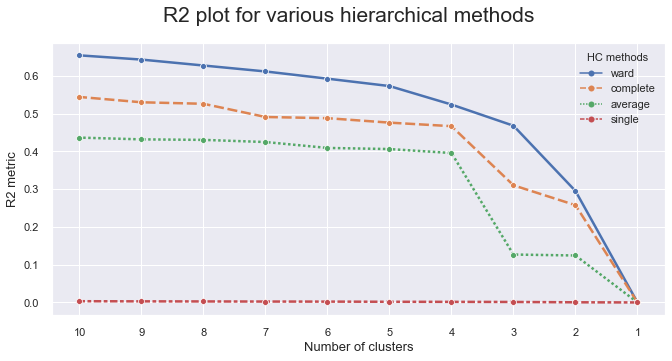
Hierarchical Clustering Dendrogram (SOM + HC)



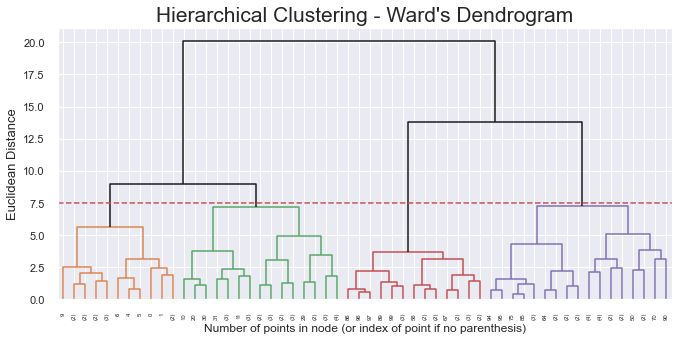
Cluster Simple Profiling for SOM + HC



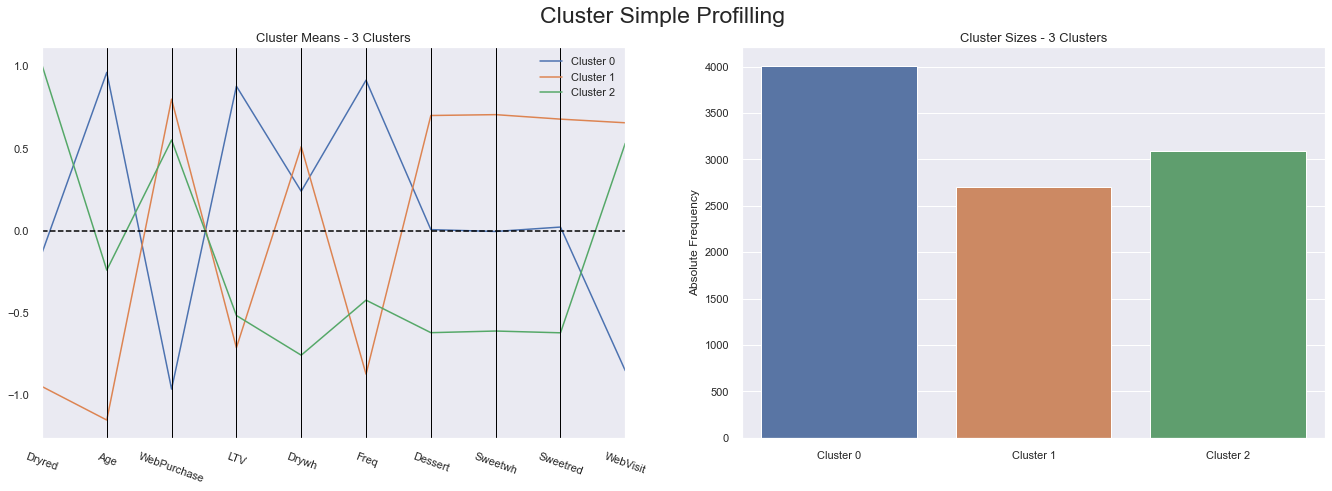
R2 plot for Hierarchical Methods HC



Hierarchical Clustering Dendrogram HC



Cluster Simple Profiling for HC



t-SNE Visualization for SOM+K-means Clustering

