

## Clustering Results Report

Clustering Algorithm: K-Means

Scaling Method: StandardScaler

Encoding Method: LabelEncoder

Number of Clusters (k): 3

Davies-Bouldin Index: 1.28

Silhouette Score: 0.24

Note: A separate PCA visualization of the clusters was generated for analysis. It shows the clusters projected onto two principal components.

Interpretation of Davies-Bouldin Index: A Davies-Bouldin index of 1.28 suggests moderate overlap between clusters. This indicates that while the clustering has identified distinct groups, there may be some data points that could potentially belong to multiple clusters. Further analysis or refinement of the clustering parameters might be beneficial.

Interpretation of Silhouette Score: A Silhouette Score of 0.24 suggests that there might be some overlap between clusters. The score indicates that data points within each cluster are relatively close to each other, but also not very far from data points in other clusters, which indicates not so well separated clusters.