

# AN APPLICATION OF K-MEANS CLUSTERING FOR CUSTOMER SEGMENTATION IN ONE LUXURY GOODS COMPANY

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**Abstract:** *In this paper K-means clustering algorithm is applied in order to classify customers into several groups showing the similarity within a group is better than among groups. After determining the relevant client's attributes in a SQL Server database, K-means is applied in MATLAB programming environment, using fixed number of clusters. Each centroid defines one of the clusters, while each data point is assigned to the nearest centroid, based on the squared Euclidean distance. In this research, centroids are randomly generated, while the separation distance between the resulting clusters is analyzed and illustrated using the Silhouette index. The analysis and results presented in this paper could determine a similarity in purchasing or using the services by a population cluster in one luxury goods company, to develop market segments, to identify repetitive behavior or trends in order to evaluate client actions and to create some new customer loyalty campaigns.*

**Keywords:** *cluster analysis, dendrogram, K-means, Silhouette index*