

**Customer Segmentation Using K-Means Clustering and Decision Trees:  
A Research Review**

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**ABSTRACT**

Customer segmentation has been a critical element of the marketing mix, and is one of the most important strategic concepts contributed by the marketing discipline to business firms and other types of organizations. The methods developed and used for customer segmentation have widespread applications in various fields. Enterprises can help smaller homogenous customers cluster with similar customer values via market segmentation and thus efficiently focus their efforts, identify opportunities and develop products and services strategies in a tailor-made manner

Data mining technology can be employed to excavate out hidden information behind the data and identify useful patterns and associations. Many data mining technologies supply enterprises with better methods of segmenting their customers and developing marketing strategies tailored to specific segments and individuals.

We begin this paper with a discussion of the most commonly advocated customer segmentation methods and processes. K-means clustering has become a preferred means for identifying homogeneous groups of buyers, particularly according to benefit segmentation. Decision tree theory can produce meaningful rules governing the underlying relationships of a dataset and can be used for classification and prediction. The method of customer segmentation focuses on k-means clustering and decision trees. We review the research evidence on k-means clustering and decision tree.

Methodological problems that face an analyst using k-means clustering include (1) determining the number of clusters, and (2) the choice and standardization of basis variables in classification. Several research frameworks for improving the accuracy of classification are examined, and different strategies are developed for different customer segmentation. Future research directions are discussed as well.

**Keywords:** *Customer Value, Customer Segmentation, Classification, Decision Tree, Customer Relationship Management, Data Mining, Decision Tree, K-Means Clustering*