

**ABSTRACT**

**TELKOMSEL CUSTOMER SEGMENTATION USING  
CLUSTERING METHOD WITH *RFM MODEL* AND K-MEANS  
ALGORITHM**

By

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Every year, cellular operator users in Indonesia are increasing. In 2018, the number of mobile operator users in Indonesia has reached 254 million subscribers. Of all cellular operator companies in Indonesia, PT Telekomunikasi Selular (Telkomsel) has the highest number of subscribers, namely 163 million. However, in that year, the number of Telkomsel subscribers decreased by 17%. This can be solved by understanding the characteristics of its customers, so that it can be used as a step for the right marketing strategy. One way is customer segmentation. Customer segmentation can be done through a data mining approach with clustering techniques. The goal is customer segmentation and to find out the characteristics of customers from each segment. The K-Means algorithm is used for cluster formation and cluster formation based on the RFM (Recency, Frequency, and Monetary) Model. The Elbow and Davies Bouldin Index (DBI) method was used to find the optimal number of clusters (k). And silhouettes are used for cluster quality testing. The result is that there are 4 segments, segment 1, totaling 412773 with new customer profiles, segment 2 with 357175 potential customer profiles, segment 3 totaling 125909 with loyal customer profiles, and segment 4 with 16494 customer profiles that need attention.

Keywords: *Customer segmentation, data mining, clustering, RFM models, K-Means algorithms.*