

ABSTRACT

CUSTOMER SEGMENTATION PT. TELEKOMUNIKASI SELULER INDONESIA USES *CLUSTERING K-PROTOTYPES* ALGORITHM AND ELBOW METHOD

By

AHMAD SHOHIBUS SULTHONI

NIM : 1202171049

PT. Telekomunikasi Selular Indonesia (Telkomsel) is one of the big players in the cellular service provider industry. The number of Telkomsel subscribers in 2020 reached 163 million active customers. However, this figure does not reflect the marketing performance of Telkomsel. At the end of 2019, Telkomsel's position was threatened by competitors such as XL Axiata. XL Axiata has recorded a higher penetration of new subscribers than Telkomsel.

One way to maintain market share amidst intense competition is customer segmentation. This method produces strategic recommendations that can be applied by Telkomsel's marketing parties. Customer segmentation at Telkomsel is done by clustering with the k-prototypes algorithm. Through the elbow method, this study obtained the best number of clusters, namely 4.

Each cluster represents one segment of Telkomsel's subscribers. In each segment, Telkomsel can apply different strategies. For the first segment, the resulting strategic recommendation is to collaborate with the OPPO brand. Meanwhile, for the second segment, the strategy implemented is special services for APPLE users such as iTunes. For the third segment, the strategy that can be implemented is the development of BYU and M2M digital products. The fourth segment of the strategy that can be implemented is the bundling collaboration with the XIAOMI brand.

Keywords: segmentation, clustering, k-prototypes, elbow method