ABSTRACT

In order to increase revenue and customer loyalty, in 2012 PT. Telkom *issued a Customer Priority Program* (CPP) *that are specific to the customer segment which has a total service bill of Plain Old Telephone Service* (POTS), Speedy *and* Groovia *more than 1.000.000 IDR. But in the first year of implementation, revenue generated by* CPP *customer segment tends to decrease, so* PT. Telkom *needs to improve the customer segmentation process to determine* CPP *customers.*

K-means Algorithm clustering techniques in data mining approach is one tool that can be used to improve the CPP *customer segmentation process. Modeling segmentation process methodology based on the Cross-Industry Standard Process for Data Mining* (CRISP-DM) *were performed in* IBM SPSS Modeler 14.1 *software. In the K-means Algorithm technique, the number of clusters was determined by the method of trial and error for the number of clusters of two to five. At the stage of data preparation, normalization with the z-score method to improve the quality of the modeling results.*

There are two types of customers that will be segmented, ie POTS *customers who only use the* POTS *service and the Speedy customers who use the* POTS *and Speedy service.* POTS *customer segmentation is done based on two attributes, namely customer billing and subscription age. As for the Speedy customers based on three attributes, namely customer billing, subscribe age and usage frequency. The number of clusters generated from modeling* POTS *customers are three clusters, cluster-2 as a cluster with the best profile and become a candidate for* CPP *customers. Meanwhile, for the modeling of Speedy customers generated two clusters, cluster-2 is also a cluster with the best profile and become a candidate for* CPP *customers.*

Keywords: K-means Algorithm, Data Mining, CRISP-DM, *Customer Loyalty*, POTS, Speedy