

ABSTRACT

IMPLEMENTATION OF DATA MINING TO PREDICT CUSTOMER CHURNS USING NAIVE BAYES ALGORITHM

By

RISKY NOVENDRI

1202170215

Telkomsel is a telecommunication company that is most in demand by Indonesians. In 2018, the Telkomsel company had a total of 163 million active subscribers. However, many Telkomsel loyal customers have switched to other operators. It is reported that in the first semester of 2019, Telkomsel subscribers decreased by 5.7% from 177.9 million to 167.8 million subscribers. This is due the lack of a data mining utilization to predict customer churn. By utilizing data mining implementation using naive bayes algorithm to predict customer churn. So, in this study will use naive bayes algorithm and data on total customer quota consumption every day for one month to predict customer churn and non-churn. From this study, researchers got the highest accuracy result of 83.02%. From the prediction results of non-churn customers, the precision results are 84.90% and the recall is 80.31%, resulting in an F1-measure of 82.54%. Then from the prediction results of customer churn t, a precision of 81.43% and a recall of 85.56 is obtained, resulting in an f1-measure of 83.44%. In addition to f1-measure, this study applies k-fold cross validation and produces a score of 82.94%. From the results of this study, it is hoped that it can provide useful information for stakeholders, especially the company in making decisions to prevent customer churn.