

## ABSTRACT

The most valuable asset owned by a telecommunications company is a customer. Therefore a Telecommunication company will always strive to maintain their assets to provide satisfactory services. Intense competition between Telecom companies will give pelanggan plenty of choice and will indirectly potentially churn (stop-service). Churn greatly impacted the revenue of a telecommunications company, in addition to the cost of attracting new customers is greater than retain an existing customer. For this reason churn cases of serious attention to prevent telecommunications companies. Will be required models to predict churn of customers.

In making churn prediction, a problem often found is the data that is not balanced. Differences in the number of major and minor class grade was very high churn is a minor class. The method used to handle imbalanced data on this paper uses oversampling technique. Data generated oversampling is the data that is already handled. Algorithm used in this paper for classification is Back Propagation Neural Network because it is easy to understand and provide value for high accuracy. The results of this trials using above algorithm can produce up to 96.83% accuracy and F1-Measure up to 0.4930.

**Keywords** : *churn, ADASYN, imbalanced data, artificial neural network*