

## Abstract

*The competition between mobile telecommunication companies at this time is to certain customers. Customer becomes one of the main factors in the success achieved in mobile telecommunication company. Customers can choose according to their wants and need, this is the main factor triggering the churn. Churn prediction is the method used to predict the likely customer churn and the customer that persist in a particular company. Churn prediction should be done to find out the possibility of customers switching service. In most cases the churn customer data has a lower number than the non-churn data, this fact raises the problem at the time of classification that is imbalanced data. In dealing with churn problems and imbalanced data used several methods of data mining. Problems with imbalanced data problems, the authors apply the SMOTE technique for data handling. Then to classify churn and non-churn classes using logistic regression method. The logistic regression method is a prediction model used to derive possibilities between two churn values. The data used is customer data from the WITEL PT. Telecommunications Regional 7. The research using logistic regression method and data imbalance handling with SMOTE has a high performance result with an accuracy of 92,4% and f1-measure of 31,27%.*

**Keyword:** *SMOTE, churn, churn prediction, imbalanced data, logistic regression, classification.*