Churn Prediction for Telecommunication Industry Using Artificial Neural Networks

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Abstract : Telecommunication service providers demand accurate and precise prediction of customer churn probabilities to increase the effectiveness of their customer relation services. The large amount of customer data owned by the service providers is suitable for analysis by machine learning methods. In this study, expenditure data of customers are analyzed by using an artificial neural network (ANN). The ANN model is applied to the data of customers with different billing duration. The proposed model successfully predicts the churn probabilities at 83% accuracy for only three months expenditure data and the prediction accuracy increases up to 89% when the nine month data is used. The experiments also show that the accuracy of ANN model increases on an extended feature set with information of the changes on the bill amounts.