Mobile Telecommunication Customers Churn Prediction Model

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The present Sri Lankan mobile industry is extremely dynamic, with new services, technologies, and carriers constantly altering the landscape. Then customers have more choices. So, Predict customer churn is one of the most challengeable target in the telecommunication industry today. The major aim of the study is develop a customer churn prediction model by considering some soft factors like monthly bill, billing complaints, promotions, hotline call time, arcade visit time, negative ratings sent, positive ratings sent, complaint resolve duration, total complaints, and coverage related complaints. This study introduces a Mobile Telecommunication customer churn prediction model using data mining techniques. In this study, three machine learning algorithms namely logistic regression, naive bayes and decision tree are used. Indeed, twenty attributes are mainly carried out to train these three algorithms. Furthermore, the back propagation neural network was trained to predict customer churn. Data set used in this study contains 3,334 subscribers, including 1,289 churners and 2,045 non-churners. According to the results, the trained neural network has two hidden layers with 25 total neurons. The proposed Artificial Neural Network result gives 96% accuracy for mobile telecommunication customer churn prediction. The estimated results suggested that the proposed algorithm gives high performances than traditional machine learning algorithm.

Keywords: Data mining; machine learning; Neural Network; Algorithm

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