Using machine learning to predict customer churn in online food delivery application

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Abstract

The study aims to identify customers who are about to churn and find the characteristic of them in online food delivery application. Drawing upon RFM theory, Recency, Frequency and Monetary were selected as variables for analysis. K-Nearest Neighbor, Decision Tree, Logistic Regression, Random Forest, Support Vector Machine and XGBoost models were used to build churn prediction models. The results revealed the following: (1) Recency, Frequency and Monetary can accurately predict customer churn; (2) machine learning models combined with the RFM theory have high accuracy rate in general, and the XGBoost model performs the best overall with an accuracy of 93.36%; (3) churned customers have higher Recency value, lower Frequency value and lower Monetary value. This study contributes by developing a prediction model with high accuracy on customer churn and also provides empirical evidence that Recency, Frequency, and Monetary are important variables for predicting customer churn.

Subject Areas: *Customer Relationship Management and Customer Satisfaction, Electronic Commerce and Internet Marketing, Market Analysis and Response*

Track: Relationship Marketing