

Knowledge Discovery on RFM model Using Bernoulli Sequence

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Abstract

The objective of this paper is to introduce a comprehensive methodology to discover the knowledge for selecting targets for direct marketing from a database. This study expanded RFM model by including two parameters, time since first purchase and churn probability. Using Bernoulli sequence in probability theory, we derive out the formula that can estimate the probability that one customer will buy at the next time, and the expected value of the total number of times that the customer will buy in the future. This study also proposed the methodology to estimate the unknown parameters in the formula. This methodology leads to more efficient and accurate selection procedures than the existing ones. In the empirical part we examine a case study, blood transfusion service, to show that our methodology has greater predictive accuracy than traditional RFM approaches.

Keyword: Knowledge discovery, RFM model, marketing, Bernoulli sequence.