Predicting Customer Value Using Clumpiness: From RFM to RFMC

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Abstract: In recent years, customer lifetime value (CLV) has gained increasing importance in both academia and practice. While many advanced techniques have been proposed, the recency/frequency/monetary value (RFM) segmentation framework, and its related probability models, remain a CLV mainstay. In this article, we demonstrate the deficiency in RFM as a basis for summarizing customer history (data compression), and extend the framework to include clumpiness (C) by a metric-based approach. Our main empirical finding is that C adds to the predictive power, above and beyond RFM and firm marketing action, of both the churn, incidence and monetary value parts of CLV. Hence, we recommend a significant implementation change: from RFM to RFMC.

This work is also motivated by noting that while statistical models based on RFM summaries can fit well in aggregate, their use can lead to significant micro-level (e.g. ranking of customers) prediction errors unless C is captured. A set of detailed empirical studies using data from a large North American retailer, in addition to six companies that vary in their business model: two traditional (e.g. CDNOW.com) and four internet (e.g. Hulu.com), demonstrate that the "clumpiness phenomena" is widely prevalent, and that companies with "bingeable content" have both high potential and high risk segments, previously unseen, but now uncovered due to the new framework: RFM to RFMC.