Optimal CLV based decisions for existing customer management in situations of sequential social influence

ABSTRACT

Academics and practitioners are in broad agreement that in many situations, customer interactions can influence adoption, retention and usage of products and services. The role of opinion leaders who exert disproportionate influence on the behaviour of other customers has also been the subject of many a study. However, decision-making models in the context of existing customer management do not take into account this social influence. The objective of most customer management decision models is to maximize the customer lifetime value (CLV) of the customer base. CLV measurement has traditionally incorporated only direct transactions between the firm and the customer. Given that the CLV computation does not include the influence operating among customers, the decisions advocated by these models also do not account for influence and hence may end up being sub-optimal decisions.In this dissertation, we propose a decision making model that explicitly considers social influence among its customers while arriving at optimal decisions. The modeling builds on the Markov Decision Process (MDP) framework that has been used by many researchers to represent customer management. The focus is on the optimal selection of actions with respect to the influencer and the influenced segments to achieve the desired objective of maximizing the CLV of the customer base. We illustrate how the proposed model can be applied to different customer management scenarios. We also present computational results to demonstrate that the proposed model outperforms the traditional model that does not take into account the effect of influence. The results show that the customer management decisions have to account for extent and span of influence, the state of the different customer segments, the relative value of customers segments and states, the cost and the payback of potential actions and the timing. The proposed model gives a rational recommendation of a policy that accounts for all these and optimizes aggregate customer lifetime value. This dissertation adds to the literature on customer relationship marketing and specifically to the stream of modelling customer lifetime value and customer equity byproviding a method to incorporate the impact of customer influence in the computation of customer equity (CLV at an aggregate level). It shows that taking cognizance of influence in the decision making process can lead to a more efficient and effective policy. For practice, this dissertation provides a method to use insights about influence as inputs to a quantitative decision making model that can help in making smarter choices of actions to manage the behaviour of the customers. The model helps firms understand the true impact of influence on the migration patterns of customers over time and in turn enables managers to formulate a better customer relationship strategy.