Title:
Work Before Play: A Structural Model of Time Allocation with Conditional Product Usage

Abstract:

In several product categories, consumers often need encouragement to use products or make certain consumption decisions. To motivate usage, it is common for firms to offer added product features and/or rewards that are only accessible conditional on consumption. This leads to the managerial question of how to balance core product activities and rewards, so that the firm encourages both product usage and purchase. In this paper, we study this problem in the context of an online educational platform for children that offers access to virtual games as a reward for time spent studying. To explain usage decisions, we adapt the multiple discrete-continuous time allocation model to allow for conditional activities, i.e., when positive time allocation on one activity - gaming - depends on previous completion of another activity - studying. Children's utility then influence the parent's decision to subscribe to the product. We estimate our model with data from an online math education software firm that include daily usage decisions by children and subscription sign-ups by their parents. Our preliminary results suggest significant heterogeneity in usage incentives, calling for a customized platform design in terms of time allocation between the educational and game components.