TRANSFER LEARNING FOR TARGETED PROMOTIONS

ABSTRACT: Targeting policies are typically trained using data from field experiments. Large experiments yield more training data and better targeting policies, but large experiments are costly to implement. We show how firms can train targeting policies using smaller experiments by incorporating information from past marketing campaigns. Even though the past campaigns may involve different marketing actions and different types of customers, the transferred information can enable firms to train policies that are as profitable as policies designed using much larger experiments. In practice, firms can maintain a corpus of past targeting policies, and leverage these policies in each new campaign. We document the benefits using field experiment data from three different firms: a luxury fashion retailer, a membership wholesale club, and a financial services firm.