

MISQ Archivist

Modeling Multichannel Advertising Attribution Across Competitors

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Abstract

The bursts and multiplicity of Internet advertising have made multichannel attribution an immediate challenge for marketing practitioners. Existing attribution models predominantly focus on analyzing consumers' conversion paths with respect to one focal firm while largely overlooking the impact of their interactions with competing firms, leading to biased estimation of advertising effectiveness. We address this problem by developing an integrated individual-level choice model that considers consumers' online visits and purchase decisions across all competitors within one industry. We specifically analyze the effects of multichannel advertising on (1) consumer choice of entry site, (2) consumer search decisions concerning the remaining competing websites, and (3) subsequent purchase at one of the searched websites. We quantify the impact of different digital advertising channels on consumers' decisions at different purchase funnel stages based on individual-level click stream data for the online air ticket booking industry. We find that information stock of all online channels considered—search, display/referral, email, direct—contributes significantly to consumers' visit and purchase decisions, among which search is the most effective advertising channel in driving all three decisions. We map the estimates to the conversion attribution of different channels. The result reveals that the relative contribution of display/referral channel was underestimated by the popular single-firm attribution models by a factor of two on average. In terms of predictive performance, our model consistently outperforms the single-firm model in predicting the occurrences of future purchases.

Keywords: Multichannel attribution, competition, purchase funnel