Article Title

Multi-Click Attribution in Sponsored Search Advertising: An Empirical Study in Hospitality Industry.

Citation

Abstract

Sponsored search advertising has become a dominant form of advertising for many firms in the hospitality vertical, with Priceline and Expedia each spending in excess of US$2 billion in online advertising in 2015. Given the competition in online advertising, it has become essential for advertisers to know how effectively to allocate financial resources to keywords. Central to budget allocation for keywords is an attribution of revenue (from converted ads) to the keywords generating consumer interest. Conventional wisdom suggests several ways to attribute revenues in the sponsored search advertising domain (e.g., last-click, first & last-click, or evenly distributed approach). We develop a multi-click attribution methodology using a unique multi-advertiser data set, which includes full advertiser and consumer-level click and purchase information. We add to the literature by developing a two-stage multi-click attribution methodology with a specific focus on sponsored search advertising in the hospitality industry with which we develop a parametric approach to calculate the value function from each stage of the estimation process. Given our multi-advertiser data set, we are able to illustrate the inefficiency of single-click attribution approaches, which undervalue assist clicks while overvaluing converted clicks.

Summary

Empirical findings suggest that there might be great opportunities for search engines to collaborate with advertisers by providing more detailed disaggregate-level ads and customer search information. This study finds that the impact of Rank is significantly reduced on conversion estimation in a full-information model (vs. partial-information models). As a result, advertisers deploying single-click attribution approaches might overestimate the impact of ad rank on customer conversion rate when the available information used to calculate customer conversion is limited. In this situation, advertisers may unnecessarily elevate their

bids in an effort to push their ads closer to the top of the search results. Aside from providing aggregate-level paid ads performance reports, search engines could provide advertisers with more disaggregate-level information to aid advertisers throughout the keyword selection and bid process and help switch advertiser's focus from rankings to keyword allocations. Although potentially resulting in decreased bids for converted keywords, more informed attribution would result in increased budget allocations across assist clicks.