

# The Value of External Data for Digital Platforms: Evidence from a Field Experiment on Search Suggestions\*

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## Abstract

Firms increasingly leverage external data with an aim to unlock improvements in products and services, but it is challenging to measure the value of external data. Collaborating with a large Chinese technology company, we analyze a randomized field experiment where we manipulated access to the market leader’s application programming interface (API) to measure the causal impact of depersonalized external data on click-through rate (CTR) for the focal company’s nascent search product. We report three main findings: First, compared to the baseline with access to the market leader’s API, API removal leads to a 4.6% decrease in CTR on average for search suggestions. Second, the negative effect due to API removal is more prevalent among heavy users, and it is driven by both mainstream and niche content. Third, the magnitude of this negative effect in the longer term is half as much as what we would have obtained with a short-term experiment. We provide suggestive mechanism evidence of the longer-term effect: the focal company’s reliance on the market leader’s data limits the development of algorithmic system based on its internal data in the longer term. This research informs managers of whether and how the market leader’s data affects a smaller player’s product performance. It further sheds light on policies such as the Digital Markets Act that proposes privacy-preserving data sharing by large digital platforms as well as a recent debate on whether big data undermines market competition.

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