AI Summaries and Publisher Traffic: A Field Experiment on Google Search[1]

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Preliminary - Feedback Welcome

Search engines serve as the primary gateway to information on the internet and a critical traffic source for publishers such as news outlets, informational websites, and review platforms. At the same time, search platforms increasingly integrate generative artificial intelligence into their interfaces. A prominent example is Google's AI Overviews (AIOs), which present AI-generated summaries directly on the search engine results page (SERP). By synthesizing information from multiple sources and presenting answers directly within the search interface, AI Overviews may reduce the need for users to visit external websites. This possibility has raised concerns among publishers and policymakers that AI-generated summaries could divert traffic away from the very sources used to produce these summaries. These concerns have already entered policy debates in several jurisdictions, including discussions about competition policy, platform power, and whether publishers should have the option to opt out of AI-generated summaries.

Despite the importance of these issues, there is limited causal evidence on how AI-generated search summaries affect user behavior. Most existing evidence relies on observational data or aggregate traffic patterns. In this paper, we provide causal evidence on how AI Overviews affect engagement with external websites using a field experiment that manipulates users' exposure to these summaries in real-world search environments.

To implement the experiment, we developed a custom Chrome browser extension that modifies the Google Search experience in real time. We recruited approximately 1,000 participants from the US who installed the extension and consented to passive measurement of their browsing behavior over a two-week period. The extension allows us to observe detailed behavioral data, including search queries, clicks on organic links, clicks on sponsored advertisements, and whether a search session resulted in a "zero-click" outcome in which users obtained information without visiting any external website.

Participants were randomly assigned to one of three conditions. In the control group, users experienced Google Search as usual and saw AI Overviews whenever they appeared. In the primary treatment group, the extension removed AI Overviews from the search results page whenever they would otherwise appear. When the overview was removed, the remaining search results shifted upward so that no blank space remained on the page. This "Hide AIO" treatment isolates the causal impact of AI Overview exposure while leaving the rest of the search interface unchanged. A third condition redirected users to Google's conversational AI search interface ("AI Mode"). Because this interface represents a substantial departure from traditional search and we anticipated substantial (selective) attrition in this arm, we treat results from this condition as exploratory.

We begin by documenting the prevalence of AI Overviews in our experimental data. During the study period, approximately 41% of observed queries triggered an AI Overview (figure 1).

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Importantly, the incidence of AIO-triggering queries is balanced across the treatment and control groups, confirming successful randomization and ensuring that differences in behavior across groups reflect the causal impact of AI Overview exposure.

Our main results show that AI Overviews meaningfully affect engagement with external websites. When AI Overviews are removed, users become significantly more likely to click on organic links that lead to external websites (figure 2). Correspondingly, removing AI Overviews leads to a substantial decline in the probability of "zero-click searches" (figure 3). These two results together indicate that AI-generated summaries partially substitute for visiting external content sources. When the summary is present, users are more likely to obtain information directly on the search results page rather than clicking through to underlying websites.

In contrast, we find no meaningful effect on engagement with sponsored links. Clicks on paid advertisements remain statistically similar across the treatment and control groups. This suggests that the primary behavioral substitution occurs between AI summaries and organic website visits rather than between organic and sponsored content.

We also examine whether AI Overviews affect overall search activity. Here, we find no significant difference in the number of searches conducted between users who see AI Overviews and those for whom the summaries are removed. This indicates that AI Overviews primarily affect how users interact with search results rather than how frequently they search.

To complement the behavioral analysis, we administered an endline survey to measure users' perceptions of their search experience. Across several measures—including overall satisfaction with Google Search, perceived quality of information, and ease of finding information—we find no statistically significant differences between the treatment and control groups. These results suggest that removing AI Overviews does not meaningfully change users' perceived search experience over the duration of the experiment. Taken together, these results suggest that AI Overviews may reduce traffic to external websites without generating detectable improvements in users' perceived search experience.

This is still a work in progress. Over the next few months, we will analyze data from the AI mode condition, and heterogeneity in effects by position of the overview, position of the search results, query type and user demographics. We will also look at other outcome variables to understand the impact of the intervention on the 'quality' of the clicks.

Taken together, our findings highlight an important trade-off in the design of AI-enhanced search interfaces. AI Overviews reduce engagement with external content providers by increasing zero-click searches and reducing organic website visits. At the same time, we find no evidence that removing AI Overviews reduces overall search activity or users' perceived satisfaction with their search experience. This suggests that while AI-generated summaries may divert traffic away from publishers, they do not appear to generate measurable improvements in users' perceived ability to find information over the duration of our study. These results have implications for ongoing policy discussions about the role of AI in search markets and the relationship between digital platforms and content providers. As generative AI becomes more deeply integrated into search engines, understanding how these technologies reshape traffic flows across the web will be increasingly important for platform design, publisher sustainability, and competition policy.

Figures

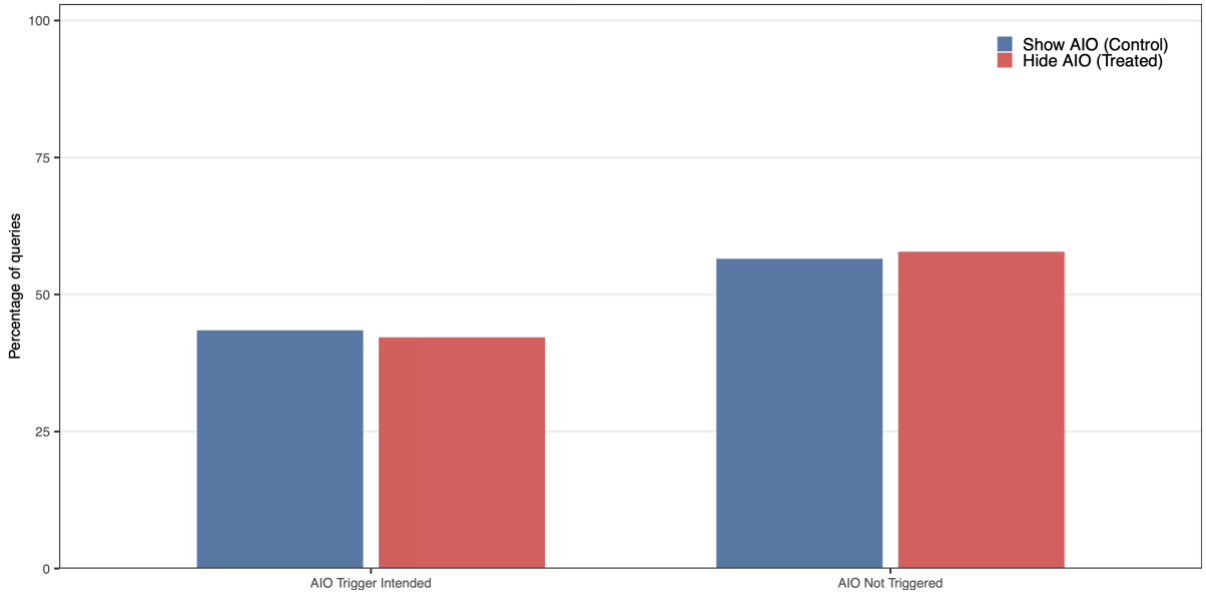


Figure 1 This figure shows the proportion of all queries in the treated (red) and control group (blue) where an AI Overview was triggered (intended to be triggered for the treated group).

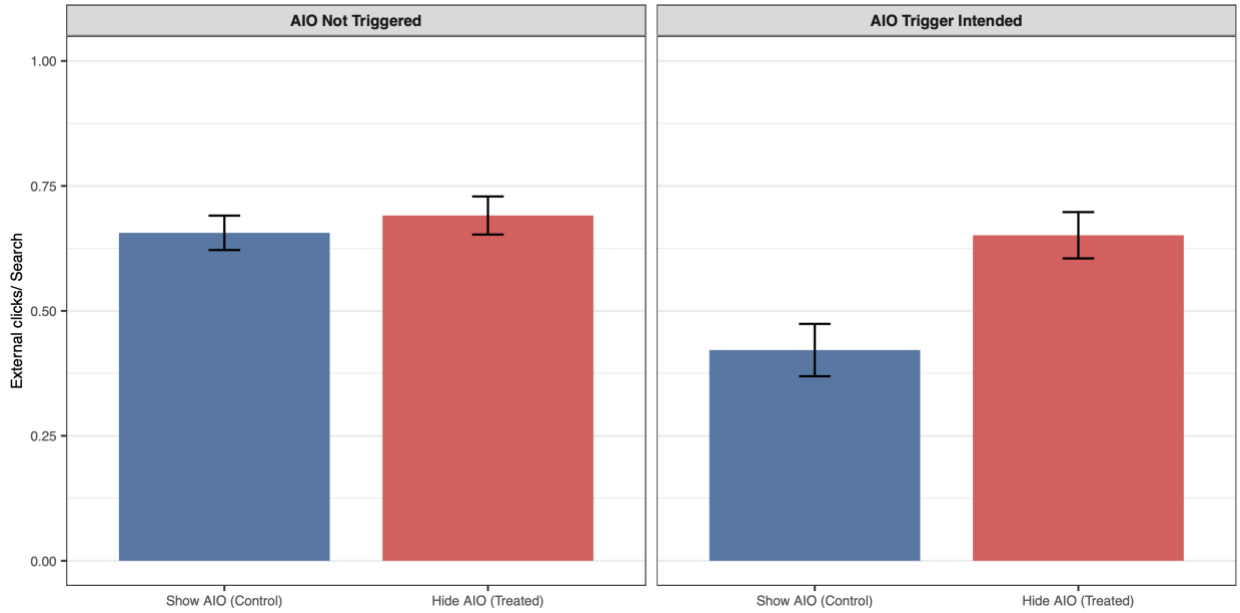


Figure 2 These figure shows the average number of external clicks per search for the treated (red) and control (blue) groups. Queries were Google did not intend to show AI Overviews are represented on the left panel. Queries where AI Overviews were intended to be shown are shown on the right. In the control group, the AI overviews are shown as intended, while they are hidden in the treated group.

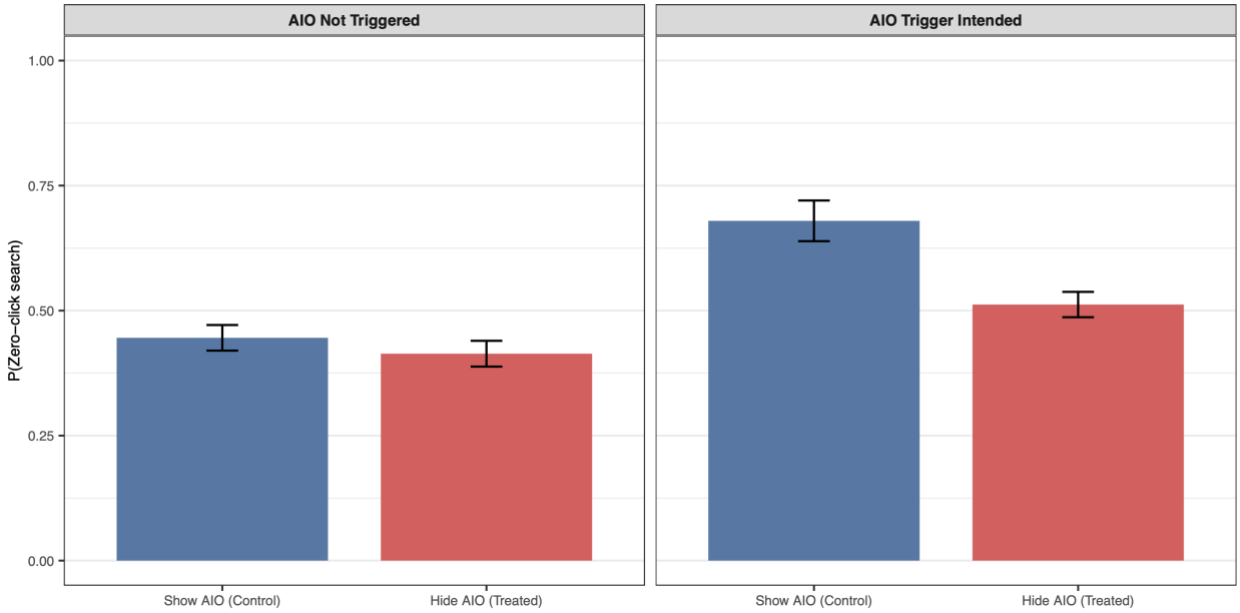


Figure 3 These figure shows the likelihood of a search to be a 'zero-click search' for the treated (red) and control (blue) groups. Queries were Google did not intend to show AI Overviews are represented on the left panel. Queries where AI Overviews were intended to be shown are shown on the right. In the control group, the AI overviews are shown as intended, while they are hidden in the treated group.