

MARKETING COLLOQUIA

Fall 2023 - Abstract

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BALANCING USER PRIVACY AND PERSONALIZATION

ABSTRACT:

Privacy restrictions imposed by browsers such as Safari and Chrome limit the quality of individual-level data used in personalization algorithms. This paper investigates the consequences of these privacy restrictions on consumer, seller and platform outcomes using data from Wayfair, a large US-based online retailer. Large-scale randomized experiments indicate that personalization increases seller and platform revenue and leads to better consumer-product matches with 10% lower post-purchase product returns and 2.3% higher repeat purchase probability. Privacy restrictions can distort these benefits because they limit platforms' ability to personalize. To evaluate privacy restrictions of interest, we (i) re-train the platform's personalization algorithm with lower-quality data and generate counterfactual recommendations, and (ii) next, we simulate consumers' search and purchase behavior under counterfactual recommendations using structural modeling. We find that two main policies imposed by Safari and Chrome disproportionately hurt price responsive consumers and small/niche product sellers. To address this, we propose and evaluate a probabilistic recognition algorithm that associates devices with user accounts without using exact user identity. Our findings demonstrate that this approach mitigates welfare and revenue losses significantly, striking a balance between privacy and personalization.