

MARKETING COLLOQUIA

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TARGETING AND PRIVACY IN MOBILE ADVERTISING

ABSTRACT: Mobile in-app advertising is growing in popularity. While these ads have excellent user-tracking properties through mobile device IDs, they have raised concerns among privacy advocates. This has resulted in an ongoing debate on the value of different types of targeting information, the incentives of ad-networks to engage in behavioral targeting, and the role of regulation. To answer these questions, we propose a unified modeling framework that consists of two components – a machine learning framework for targeting and an analytical auction model for examining market outcomes under counterfactual targeting regimes. We apply our framework to large-scale data from the leading in-app ad-network of an Asian country. We find that an efficient targeting policy based on our machine learning framework improves the average click-through rate by 66.80% over the current system. These gains mainly stem from behavioral information compared to contextual information. Theoretical and empirical counterfactuals show that while total surplus grows with more granular targeting, ad-network's revenues are non-monotonic, i.e., the most efficient targeting does not maximize ad-network revenues. Rather, it is maximized when the ad-network does not allow advertisers to engage in behavioral targeting. Our results suggest that ad-networks may have incentives to preserve users' privacy without external regulation.