

Arslan Aziz

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EDUCATION

Heinz College, Carnegie Mellon University PhD Student in Information Systems	2013 – 2018 (expected)
Indian Institute of Management, Kozhikode Master of Business Administration	2010
Indian Institute of Technology, Madras Bachelor of Technology, Electrical Engineering	2008

SELECTED HONORS & AWARDS

- Suresh Konda Memorial Ph.D. First Research Paper Award for the paper titled ‘What is a Cookie Worth – Ad Effectiveness versus Consumer Privacy’, joint work with Rahul Telang
- National Talent Search Exam Scholarship awarded by Govt. of India for scholastic achievement

RESEARCH

Peer-reviewed Conference Presentations

Arslan Aziz, Rahul Telang (2015) What is a Cookie Worth? *NBER Summer Institute 2015, Economics of Digitization*

Arslan Aziz, Rahul Telang (2015) What is a Cookie Worth? – Ad Effectiveness versus Consumer Privacy, *Conference on Information Systems and Technology (CIST)*, Philadelphia

Arslan Aziz, Rahul Telang (2015) What is a Cookie Worth? – Ad Effectiveness versus Consumer Privacy, *The Economics of Information and Communication Technologies*, Paris

Arslan Aziz, Rahul Telang (2015) What is a Cookie Worth? – Ad Effectiveness versus Consumer Privacy, *Workshop on Information Systems and Economics (WISE)*, Fort Worth, Texas

Arslan Aziz, Rahul Telang (2015) What is a Cookie Worth?, *Sixth Annual Conference on Internet Search and Innovation*, Searle Center, Northwestern University

Working Paper

Arslan Aziz, Rahul Telang (2015) What is a Cookie Worth? – Ad Effectiveness versus Consumer Privacy

Abstract

Tracking a user's online browsing behavior to target her with relevant ads has become pervasive. There is an ongoing debate about the value of such tracking and the associated loss of privacy experienced by users. We inform this debate by quantifying the value of using different kinds of potentially privacy-intrusive information in targeted advertising. We collect a large proprietary dataset with over 1.3 million individual impression-bid-level observations. The data has detailed cookie information, as well as the bids placed by the firm for placing ads. We also know whether a user saw the ad and whether a purchase occurred. First we find that using more information from cookies increases the accuracy of prediction of purchases, but at a decreasing rate. We also find that firm's bidding decision (how much to bid for an ad) can be accurately predicted by cookie information. We then estimate the effect of an ad on users' purchase probability. In particular, we examine whether users who are targeted more aggressively by the firm are more likely to respond to ads. We find that on average, ads do not have a statistically significant effect on purchase probabilities. However, users who are classified as more likely buyers, do respond significantly more to the ads. To overcome potential endogeneity in ad placement, we use instrumental variables and find that these results are robust. Finally, we simulate different privacy policy regimes by restricting different kinds of user information from being used for targeted advertising and quantify the impact such restrictions have on sales. We find that using more privacy intrusive variables for targeting can increase ad effectiveness by about 85%.

GRADUATE COURSEWORK

- PhD Microeconomics
- Statistical Theory for Social Sciences
- Math for Economists
- Analytical and Structural Models
- Bayesian Statistics
- Econometric Theory – I & II
- Game Theory & Applications
- Analytical Models in Marketing
- Advanced Data Analysis
- Estimating Structural Models
- Machine Learning
- Seminars in Information Systems – I, II & III

RESEARCH INTERESTS

Economics of Information Systems, Digital Advertising, Online Privacy, Empirical Industrial Organization, Mobile Internet, Sharing Economy, Crowdsourcing and Crowdfunding