

Berlin Applied Micro Seminar

How Effective Is Black-box Digital Consumer Profiling and Audience Delivery?: Evidence from Field Studies

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Abstract:

Data brokers often use online browsing records to create digital consumer profiles they sell to marketers as pre-defined audiences. However, this process is a 'black box': Little is known about the reliability of the digital profiles that are created, or of the audience identification provided by buying platforms. In this paper, we investigate the performance of this audience delivery process with a focus on two widely-used demographic attributes, age and gender.

We demonstrate in three field tests that digital profiles for these two attributes are often inaccurate across leading data brokers. For example, we show that digital profiling is often only able to accurately identify a male consumer around 50 percent of the time. We further find that accuracy of both digital profiling and audience delivery vary by provider and user characteristic - for example, the demographic characteristics of younger people or those who live in smaller households are easier to predict.

Our findings suggest that third-party digital profiles currently result in a poor cost-benefit ratio for advertisers. We estimate that this leads to nearly \$7bn of global ad spend wastage. Our results suggest that more verification, standards and transparency are required to avoid misclassifications and its potential negative consequences.