

Addressing Discrimination in Social Media Ad Delivery

Minimum Standards and an Evaluation of Meta's Variance Reduction System

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This explainer is derived from [a lengthier analysis](#), written by Princeton and USC researchers, of Meta's recent efforts to mitigate discrimination in its delivery of certain economic opportunity ads on its social media platforms. That analysis was presented at the 2025 ACM Conference on Fairness, Accountability, and Transparency (FAccT 2025).

Our goal is to illuminate key choice points in one effort to intervene in a discriminatory algorithmic system, so that legal advocates and enforcement agencies are better equipped to challenge and rectify such discrimination.

June 2025

Today, online advertising is one way individuals can identify important economic opportunities (such as housing, employment, and credit). Social media platforms use algorithmic and AI tools to disseminate advertisements online. These tools have been found, repeatedly, to perpetuate unlawful discrimination on the basis of race, gender, age, and other legally protected characteristics, irrespective of the advertisers' intent or efforts to advertise fairly.

When a social media platform distributes an economic opportunity advertisement towards (or away from) a population based on a protected status (or a proxy for that protected status), the result may violate anti-discrimination laws, including the prohibitions on disparate impact and intentional discrimination.

Achieving Less Discriminatory Social Media Ad Delivery Systems

Given how important online advertising is as a vehicle for people to identify key economic opportunities, it is imperative that social media platforms construct nondiscriminatory, transparent, and explainable ad delivery systems.

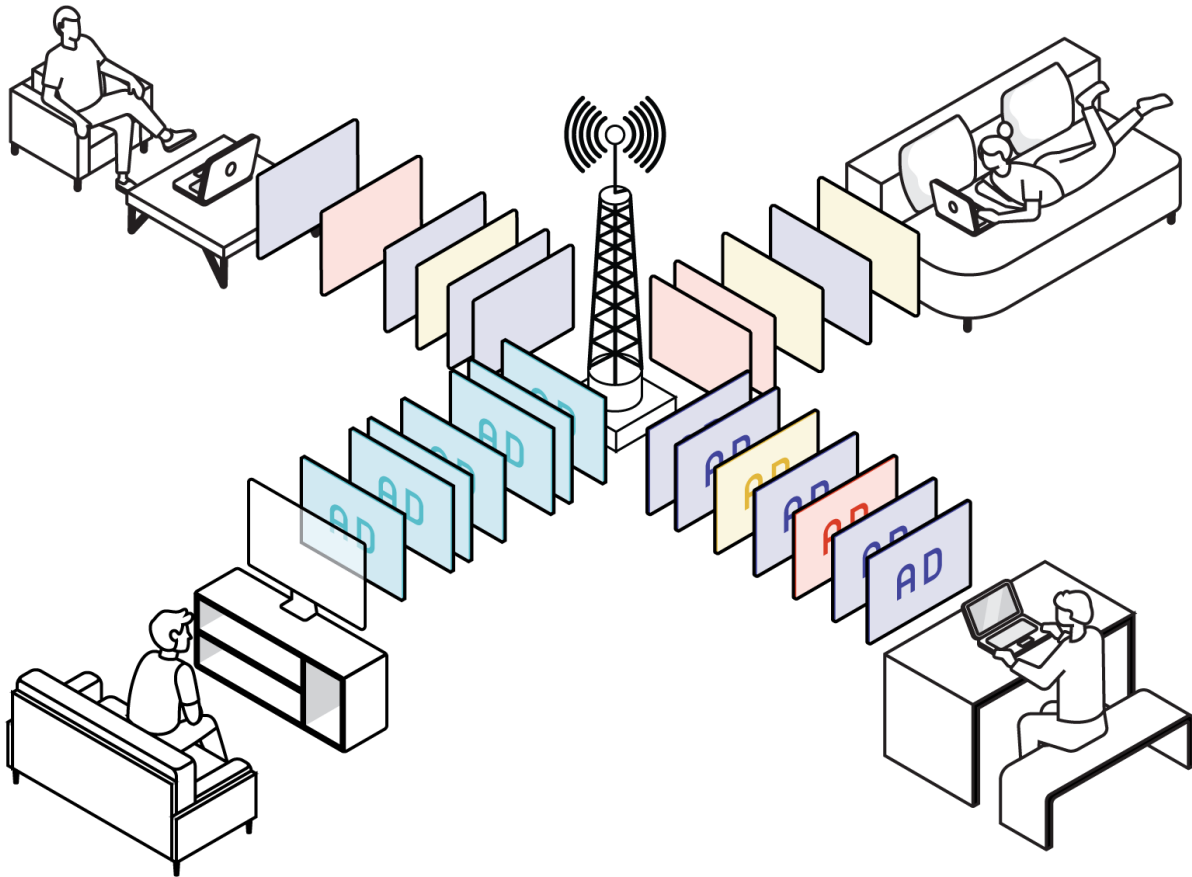
What would a nondiscriminatory ad delivery system on social media platforms look like?

Such a system should apply to all advertising related to economic opportunities (housing, employment, credit, and other key economic opportunities like access to insurance, education, and health care), and prevent discrimination on the basis of any protected characteristics or their proxies.

At a minimum, the implementation of a nondiscriminatory ad delivery system should:

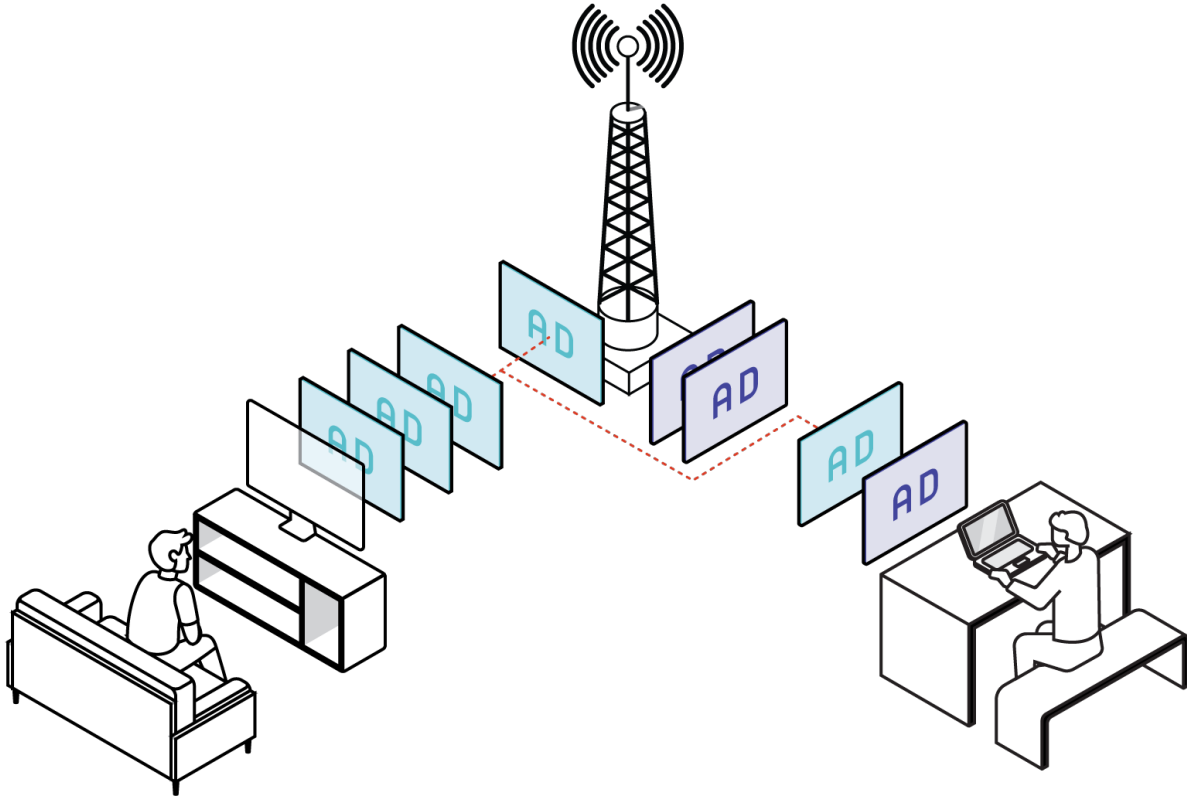
1. Focus on the **actual reach** of an advertisement, not just **impressions**.
“Reach” refers to the number of unique social media user accounts to which an ad is shown. “Impressions,” by contrast, refer to the number of times a given ad is shown overall. To ensure nondiscriminatory ad delivery on social media platforms, equitably distributed **reach** is far more important than **impressions**.

EXAMPLE: An ad that was shown 1,000 times has 1,000 impressions. But that ad could have a reach of just one person (who sees all 1,000 showings).



2. Apply not only to ads with smaller budgets and/or audiences (impacting fewer users), but also to ads with larger budgets and/or audiences (impacting many or most users).

- 3.** Avoid “leveling down,” which refers to reducing the delivery of economic opportunity ads for higher-performing groups down to the level of such ad delivery for lower-performing groups. When “leveling down” occurs as part of an intervention meant to reduce discrimination, no demographic group actually benefits from that intervention.



- 4.** Ensure the costs of compliance are transparent to advertisers and increase costs to advertisers by the minimum possible amount, if at all.
- 5.** Specify the nondiscrimination goals in terms that are independent of prior ad delivery outcomes and are transparent and measurable by both independent auditors and advertisers themselves.
- 6.** Guarantee that any algorithmic intervention designed to remediate discrimination can be independently audited, including by providing necessary data for external evaluation.
- 7.** Solicit and act on user preferences regarding online ads related to economic opportunities, rather than rely on the social media platform’s “relevance” determinations.

Evaluating Meta's Variance Reduction System

In 2022, the U.S. Department of Justice and Meta reached a [settlement agreement](#) to resolve allegations of discriminatory housing advertising on Facebook. Meta agreed to make certain changes to its ad delivery system for housing ads, and volunteered to extend those changes to employment and credit ads, with the goal of reducing discrimination based on race and gender. To effectuate these promises, Meta announced the new [Variance Reduction System](#) (VRS), which is now applied to any ad an advertiser self-identifies as pertaining to [housing](#), [employment](#), or [credit](#).

Upon close examination, however, VRS does not satisfy the minimum requirements for a nondiscriminatory ad delivery system, as set forth above.

As an initial matter, VRS does not apply to all economic opportunity advertising, and does not protect against discrimination on any basis other than race or gender (e.g., on the basis of disability or national origin) or intersectional discrimination (i.e., discrimination as a result of a combination of one's various identities).

Moreover, the external evaluation of the VRS, on which this explainer is based, identifies the following structural deficiencies in Meta's discrimination mitigation efforts:

1.

VRS focuses on impressions — not actual reach. Under this system, if an ad delivery algorithm shows an ad once to 100 unique men, and shows that same ad 100 times to just one woman, there is “zero variance,” and thus “perfect equity,” even though 100 times more men were exposed to the opportunity ad.

2.

VRS has limited coverage requirements, which allows for selective application.

In the Meta-DOJ settlement agreement, coverage is defined as the fraction of housing ads for which VRS reduces variance below a certain threshold. An ad with 1,000 impressions counts the same toward the VRS coverage requirement as an ad with 1,000,000 impressions. Critically, Meta has full leeway to choose which subset of ads satisfy this variance threshold, and can choose to apply the VRS system only to the delivery of ads with small budgets or small audiences, while using its old delivery system for ads with large budgets or large audiences. Because most ads on Meta spend a relatively small amount and receive relatively few impressions, selective application of VRS to small ads would exclude a much larger share of impressions than what the coverage metrics suggest.

3.

VRS compliance metrics can be satisfied by “leveling down.” In practice, this means that Meta could reduce variance and meet its compliance metrics by decreasing ad exposure for the higher-performing group without increasing ad exposure for the lower-performing group. This is because VRS does not mandate that the total number of ad impressions does not decrease.

4.

VRS unnecessarily increases cost to advertisers, and implementation of the VRS system does not necessarily lead to greater exposure to ads for economic opportunities for social media users.

5 & 6.

VRS opaquely changes the demographic distribution of ad delivery and cannot be fully independently audited, because Meta is not providing sufficient data regarding the system and its outcomes.

7.

VRS is not based on actual user preferences.

Where Do We Go From Here?

Ensuring that ad delivery systems on social media platforms do not perpetuate discrimination is not an easy undertaking. Yet it is undeniably essential if everyone is to have access to equal economic opportunities in our modern world.

This explainer has endeavored to identify certain minimum attributes for a successful algorithmic intervention in a particular discriminatory system: online ad delivery. Based on the analysis in the FAccT 2025 paper, we conclude that Meta's VRS falls short. A fuller analysis, with far greater technical detail, is available in the [2025 FAccT paper](#).

If you are interested in evaluating algorithmic interventions to reduce online discrimination generally, or assessing fairness in online ad delivery systems specifically, please feel free to contact us at equitable-ad-delivery@upturn.org.

