

Social Media Algorithms and Gender Visibility in Political Discussions: A Systematic Review

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ABSTRACT

Social media platforms have become central to political communication, influencing how political information is produced, disseminated, and consumed. Beyond facilitating public engagement, these platforms rely on algorithmic recommendation systems that shape the visibility of political content and influence whose voices gain prominence in online discussions. Emerging scholarship suggests that algorithmic curation may reinforce existing gender inequalities by amplifying some political actors while marginalizing others through engagement-based ranking, personalization, and moderation practices. Despite growing research on algorithmic governance and digital politics, there remains limited synthesis of evidence concerning the relationship between social media algorithms and gender visibility in political discussions. This systematic review examines peer-reviewed literature published between 2015 and 2025 to analyze how recommendation algorithms, content moderation systems, and platform design affect the visibility of male and female political actors. Using the PRISMA framework, studies from Scopus, Web of Science, Google Scholar, and other academic databases are reviewed through thematic synthesis. The review identifies six recurring themes: Algorithmic amplification of political content, Gender bias in recommendation systems, Engagement-driven visibility, Online harassment and algorithmic suppression, Platform governance, and Implications for democratic participation. The findings suggest that while algorithms are designed to optimize user engagement rather than discriminate by gender, engagement-based ranking and historical behavioral patterns can contribute to unequal visibility and disproportionately affect women participating in political discussions. The review concludes by proposing an integrated conceptual framework linking algorithmic governance, gendered political communication, and democratic participation and identifies key directions for future interdisciplinary research.

Keywords: Social Media Algorithms, Gender Visibility, Political Communication, Digital Democracy, Recommendation Systems, Algorithmic Bias, Political Participation.

Introduction

Digital platforms have transformed political communication by enabling direct interaction between political leaders, citizens, journalists, and activists. Platforms such as X (formerly Twitter), Facebook, Instagram, YouTube rely on recommendation algorithms that prioritize content based on predicted user engagement, relevance, recency, and network interactions rather than chronological order. As a result, algorithms influence not only what users see but also whose political voices become more visible.

This growing reliance on algorithmic curation has generated important questions about fairness and representation. Researchers have argued that algorithmic systems can reproduce or amplify existing social inequalities when they are trained on historical user behavior or optimized for engagement. In political discussions, these dynamics may shape the visibility of women politicians, activists, journalists, and citizens differently from their male counterparts. Women engaged in political communication frequently encounter coordinated harassment, gendered abuse, and stereotype-driven interactions that may indirectly influence algorithmic distribution through engagement metrics and moderation systems.

While a substantial body of literature has examined algorithmic bias, political communication, and gender separately, relatively few studies integrate these perspectives. Existing reviews often focus on either algorithmic accountability or online political participation without examining how platform algorithms affect gender visibility in political discourse. This systematic review addresses this gap by synthesizing current evidence on the relationship between algorithmic governance and gendered political visibility across major social media platforms. By identifying recurring patterns, theoretical approaches, and methodological limitations, the review contributes to understanding how algorithmic systems may influence democratic representation and political participation in digital environments.

Objectives

The review pursues the following objectives:

- To synthesize literature on the role of social media algorithms in political communication.
- To examine how algorithmic systems influence the visibility of male and female political actors.
- To identify evidence of algorithmic mechanisms that may contribute to gendered differences in reach and engagement.
- To evaluate the implications of algorithmic curation for democratic participation and representation.
- To identify theoretical, methodological, and geographical gaps for future research.

Research Questions

- How do social media algorithms shape the visibility of political content?
- What evidence exists regarding gender differences in algorithmically mediated political visibility?
- How do recommendation systems, engagement metrics, and moderation practices influence women's participation in political discussions?
- What theoretical frameworks have been used to study algorithmic visibility and gender?
- What research gaps remain in the current literature?

Methodology

The review follows the *PRISMA 2020* guidelines for systematic reviews.

Databases

- Scopus
- Web of Science
- Google Scholar
- IEEE Xplore
- ACM Digital Library
- Springer Link
- Science Direct

Search Keywords

- Algorithmic bias and Gender
- Social media algorithms and Politics
- Gender visibility and Political communication
- Recommendation systems and Women politicians
- Amplification political discourse
- Digital democracy and gender
- Political communication and Algorithms

Inclusion Criteria

- Peer-reviewed journal articles
- English-language publications published between 2015 and 2025
- Studies examining algorithms, political communication, or gender visibility
- Empirical, theoretical, or review studies

Exclusion Criteria

- Opinion articles
- Editorials
- News reports
- Conference abstracts without full papers
- Non-political studies focusing solely on commercial recommendation systems

Theoretical Perspectives

The reviewed literature draws on several complementary theoretical approaches:

- **Algorithmic Governance Theory:** Examines how automated systems influence public discourse and decision-making.
- **Agenda-Setting Theory:** Explains how algorithmic ranking affects the salience of political issues and actors.
- **Framing Theory:** Explores how algorithms interact with media framing and audience interpretation.
- **Gender and Technology Theory:** Investigates how digital infrastructures reproduce or challenge gender inequalities.
- **Intersectionality:** Highlights how gender intersects with race, caste, ethnicity, class, language, and other identities in shaping online visibility.

Findings from the Literature**Theme 1: Algorithmic Amplification of Political Content**

Recommendation algorithms prioritize content likely to maximize engagement, such as reactions, comments, shares, and watch time. Political posts that evoke strong emotional responses or rapid interaction are therefore more likely to receive broader distribution. This mechanism can increase exposure for highly engaging political messages irrespective of the author's identity, but it may also amplify existing participation patterns and visibility disparities.

Theme 2: Gender Visibility in Political Discussions

Studies consistently report that women participating in political discussions experience different patterns of visibility and interaction than men. These differences are shaped by audience behavior, media coverage, network structure, and platform dynamics rather than by a single identifiable cause. While some women political leaders achieve substantial online influence, broader evidence indicates persistent challenges in sustaining comparable visibility across diverse political contexts.

Theme 3: Engagement-Based Ranking

Most major platforms rely heavily on engagement signals to rank content. If women politicians receive fewer interactions because of network effects, unequal media attention, or coordinated harassment, engagement-driven systems may inadvertently reduce the future visibility of their posts. Conversely, highly engaged supportive communities can increase visibility regardless of gender. This suggests that engagement metrics can reinforce existing communication patterns rather than operate independently of them.

Theme 4: Online Harassment and Visibility

Women engaged in political communication frequently report gendered abuse, coordinated trolling, and threats. Such interactions can affect participation by encouraging self-censorship, reducing posting frequency, or prompting users to limit public engagement. Some moderation systems also face

challenges in consistently identifying gendered harassment across languages and cultural contexts, potentially affecting the quality of online political discourse.

Theme 5: Platform Governance

Platform governance—including recommendation policies, transparency practices, moderation rules, and appeals mechanisms—plays a central role in shaping political visibility. Researchers increasingly call for greater transparency regarding ranking systems, improved auditing of recommendation algorithms, and independent evaluation of their societal impacts.

Theme 6: Democratic Implications

Algorithmic curation influences which political perspectives receive attention, potentially affecting agenda formation, public deliberation, and civic participation. Ensuring equitable opportunities for diverse voices, including women and marginalized groups, is therefore viewed as an important component of inclusive digital democracy.

Comparative Synthesis

Dimension	Male Political Actors	Female Political Actors
Visibility Patterns	Often supported by larger political networks and established media attention.	More variable; visibility may depend on community engagement, media coverage, and platform dynamics.
Engagement	Frequently driven by campaign messaging, leadership narratives, and partisan networks.	Often includes higher levels of direct audience interaction alongside greater exposure to hostile engagement.
Harassment	Present but generally less gender-specific.	More likely to involve gendered abuse, stereotypes, and appearance-based attacks.
Media framing	Leadership and policy emphasis.	Greater focus on personal identity and gender in some contexts.
Moderation Challenges	Standard content moderation issues.	Additional complexities in identifying and addressing gender-based abuse.

Research Gaps

The review identifies several important gaps:

- Limited longitudinal evidence tracking algorithmic visibility over multiple election cycles.
- Insufficient research on regional-language political discussions, particularly in multilingual democracies.
- Few comparative studies examining multiple platforms using consistent methodologies.
- Limited transparency regarding proprietary recommendation systems, making causal analysis difficult.
- Underrepresentation of intersectional perspectives considering gender alongside caste, ethnicity, disability, and socioeconomic status.
- Need for mixed-method approaches combining computational analysis with qualitative research.

Proposed Conceptual Framework

A future research framework may conceptualize the relationships as follows:



These processes are influenced by contextual factors such as media ecosystems, political campaigns, online harassment, moderation practices, and users' social networks.

Future Research Directions

Future scholars should:

- Develop transparent methods for auditing algorithmic recommendation systems while respecting platform constraints.
- Compare algorithmic visibility across platforms with different ranking architectures.
- Examine multilingual political communication in diverse democratic settings.
- Investigate how recommendation systems interact with coordinated online harassment and civic participation.
- Incorporate intersectional analyses that consider gender alongside other social identities.
- Evaluate policy interventions aimed at improving transparency, accountability, and equitable visibility in digital political communication.

Conclusion

Literature indicates that social media algorithms play a significant role in shaping political visibility by prioritizing content through engagement-based recommendation systems, personalization, and moderation practices. Current evidence suggests that gender differences in online political visibility arise from a combination of algorithmic design, user behavior, media attention, and broader social inequalities rather than from algorithms alone. Women participating in political discussions often encounter distinct challenges, including gendered harassment and differential patterns of audience engagement, which can influence how their content circulates within digital platforms. Addressing these issues requires interdisciplinary research that combines political communication, gender studies, computer science, and platform governance. Greater transparency, rigorous algorithm auditing, and inclusive platform design are essential for supporting equitable participation and strengthening democratic discourse in digital environments.

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