

## DIGITAL POLITICAL TECHNOLOGIES IN THE SYSTEM OF PUBLIC OPINION: FORMATION AND REGULATION

### ЦИФРОВІ ПОЛІТИЧНІ ТЕХНОЛОГІЇ В СИСТЕМІ ГРОМАДСЬКОЇ ДУМКИ: ФОРМУВАННЯ ТА РЕГУЛЮВАННЯ

Fayrushina Leyla Tahir,

*orcid.org/0009-0009-8503-7462*

*Lecturer at the Department of Ethics of Artificial Intelligence  
Baku State University*

In recent years, political communication has undergone a deep structural transformation driven by the rise of digital platforms, data-intensive technologies, and artificial intelligence. Political influence today operates less through speeches, mass media, or formal public debate and more through algorithmically organized environments that structure what citizens see, read, and emotionally react to in everyday life. These environments rely on systems that rank, filter, and personalize political information at scale, shaping how public opinion takes form.

This study examines how digital infrastructures have become central to contemporary political influence. In platform-based media systems, algorithms organize visibility, direct attention, and anticipate user responses, turning public opinion into an outcome of computationally managed information flows rather than of open public discussion. Algorithms, data-driven targeting, and automated content production now play a decisive role in determining which political narratives circulate, which voices are amplified, and how citizens encounter political reality. Instead of approaching public opinion as the outcome of collective discussion, the article treats it as a process that unfolds inside technological systems. Through continuous data extraction and algorithmic sorting, platforms generate individualized information spaces that guide political attention and emotional reactions. Within these spaces, political actors are able to deploy microtargeted messages, automated engagement strategies, and AI-generated content in order to shape attitudes in subtle and often invisible ways. The analysis shows that digital political technologies do not simply improve communication efficiency; they change the basic conditions under which political meaning is produced. As public opinion becomes increasingly dependent on opaque computational systems, new challenges arise for transparency, trust, and democratic accountability. Understanding these technologies as political infrastructures is therefore essential for evaluating the future of political communication in digital societies.

**Key words:** digital political technologies; public opinion; platformization; datafication; algorithmic governance; microtargeting; computational propaganda; synthetic media.

За останні роки політична комунікація зазнала глибокої структурної трансформації, зумовленої розвитком цифрових платформ, технологій обробки даних та штучного інтелекту. Політичний вплив сьогодні здійснюється не стільки через виступи, засоби масової інформації чи офіційні публічні дебати, скільки через алгоритмічно організовані середовища, які структурують те, що громадяни бачать, читають та на що емоційно реагують у повсякденному житті. Ці середовища спираються на системи, які ранжують, фільтрують та персоналізують політичну інформацію у великих масштабах, формуючи те, як формується громадська думка.

Це дослідження розглядає, як цифрові інфраструктури стали центральними для сучасного політичного впливу. У медіасистемах на основі платформ алгоритми організують видимість, спрямовують увагу та передбачають реакцію користувачів, перетворюючи громадську думку на результат обчислювально керованих інформаційних потоків, а не відкритого публічного обговорення. Алгоритми, таргетування на основі даних та автоматизоване виробництво контенту тепер відіграють вирішальну роль у визначенні того, які політичні наративи поширюються, які голоси посилюються та як громадяни сприймають політичну реальність. Замість того, щоб розглядати громадську думку як результат колективного обговорення, стаття розглядає її як процес, що розгортається всередині технологічних систем. Завдяки безперервному вилученню даних та алгоритмічному сортуванню, платформи генерують індивідуалізовані інформаційні простори, які спрямовують політичну увагу та емоційні реакції. У цих просторах політичні актори можуть розгортати мікротаргетовані повідомлення, автоматизовані стратегії взаємодії та контент, згенерований штучним інтелектом, щоб формувати ставлення тонкими та часто непомітними способами. Аналіз показує, що цифрові політичні технології не просто покращують ефективність комунікації; вони змінюють основні умови, за яких виробляється політичний сенс. Оскільки громадська думка стає дедалі залежнішою від непрозорих обчислювальних систем, виникають нові виклики для прозорості, довіри та демократичної підзвітності. Тому розуміння цих технологій як політичної інфраструктури є важливим для оцінки майбутнього політичної комунікації в цифрових суспільствах.

**Ключові слова:** цифрові політичні технології; громадська думка; платформізація; датафікація; алгоритмічне управління; мікротаргетування; обчислювальна пропаганда; синтетичні медіа.



**Introduction.** In contemporary politics, digital environments have become the main arena in which political influence takes shape, replacing speeches, official statements, and traditional mass media. Social media feeds, recommendation systems, and search algorithms now structure what people see, how often they see it, and which interpretations become familiar [3; 7]. These systems operate quietly in the background, yet they play a powerful role in shaping political perception and public attention. What makes this transformation especially significant is that political communication no longer unfolds in a single shared informational space. Instead, it takes place across millions of personalized content streams that are continuously adjusted by data-driven systems [11]. In these environments, political actors do not simply try to persuade a broad audience. They seek to identify, predict, and influence specific groups and individuals by tailoring messages to behavioral data, emotional profiles, and patterns of online activity [8; 9]. This article examines these developments through the concept of digital political technologies: interconnected data infrastructures, algorithms, automated communication tools, and AI-based media systems that organize contemporary political influence. These technologies make it possible to steer visibility, shape emotional reactions, and stabilize or destabilize political narratives without relying on open debate or visible persuasion [12; 13]. The article shows that in digital societies the organization of informational environments, rather than collective discussion, drives public opinion. Political meaning is produced inside platforms that sort, rank, and personalize content, creating conditions in which some narratives become dominant while others remain marginal or invisible [6; 10]. To understand how political power operates today, it is therefore necessary to study not only messages and actors, but also the digital infrastructures that make certain forms of communication possible and others unlikely.

**Theoretical Framework and Contemporary Research on Digital Public Opinion.** In digital societies, digital platforms now shape public opinion more than any shared public sphere does. Digital platforms organize political communication through data-driven systems that determine which messages become visible, how they are ranked, and how they circulate among users [11]. These infrastructures shape not only what citizens see, but how political relevance itself is constructed. Algorithms play a central role in this process. They act as systems of computational selection, continuously evaluating content and users in terms of predicted engagement and relevance [3]. Political visibility therefore becomes a technical outcome rather than a purely communicative achievement. This transforms public opinion from a collective discursive process into a set of individualized information flows governed by algorithmic systems.

At the same time, digital platforms operate through large-scale datafication. Everyday interactions—clicks, likes, viewing time, sharing behavior—are translated into data that can be modeled and used for prediction [8].

This enables what Couldry and Mejias [2019] describe as the extraction of social life into infrastructures of economic and political power. In political communication, datafication allows political actors to model, anticipate, and direct opinion in advance of its public expression. This predictive capacity leads to a shift from mass persuasion toward behavioral modulation. Political actors no longer address broad publics with uniform messages; they intervene in the informational environments of segmented audiences through personalized content streams and targeted communication strategies [9]. As a result, public opinion becomes less observable and less collectively negotiable.

**Methodology.** This study is based on a qualitative, theoretical–analytical research design. Rather than collecting primary empirical data, the article aims to develop a conceptual and analytical framework for understanding digital political technologies as infrastructures of public opinion formation. The methodology combines critical analysis of contemporary scholarly literature with conceptual synthesis across political communication, platform studies, and algorithmic governance research. The first stage of the analysis consists of a systematic review of recent academic work on platformization, datafication, algorithmic power, computational propaganda, and synthetic media. These bodies of literature are used to identify key mechanisms through which political communication is reorganized in digital environments, including algorithmic visibility, personalization, predictive targeting, and automated amplification. The second stage involves analytical reconstruction, in which these mechanisms are integrated into a coherent model of digital political technologies as a system of public opinion regulation.

This approach makes it possible to move beyond fragmented case-based studies and to conceptualize how different technological tools—such as micro-targeting, recommendation algorithms, automated accounts, and AI-generated content—operate together as part of a single infrastructural logic. Finally, the study employs a critical interpretive perspective to assess the political implications of these technologies for transparency, trust, and democratic accountability. This allows the article to evaluate not only how digital political technologies function, but also how they reshape the conditions under which public opinion is formed in contemporary digital societies.

### 1. Public Opinion in the Digital Age

In contemporary digital societies, public opinion is increasingly formed within environments that are not simply informational but infrastructural. Platforms

structure political communication through two intertwined processes: platformization [the embedding of public communication into platform architectures] and datafication [the translation of communication into measurable; modelable behavioral signals]. Public opinion, in this context, is not merely an outcome of information exposure; it is also a product of computational mediation, where what individuals see and interpret is shaped by ranking, recommendation, and optimization systems. A platformed environment fragments collective opinion formation by distributing political content through personalized feeds and recommendation pathways. Rather than encountering a shared political agenda, users receive differentiated flows optimized for predicted engagement. Algorithmic personalization makes public opinion less “public” in the classical sense and more segmented, with micro-publics receiving distinct interpretive frames and emotional cues. This segmentation also produces new asymmetries: political actors and platforms can observe and model public behavior at scale, while ordinary citizens have limited visibility into how informational environments are shaped.

In this setting, opinion formation becomes intertwined with attention economies. The political salience of messages is strongly linked to platform-defined indicators such as engagement, watch time, re-shares, and predicted retention. Research on algorithmic power highlights that these indicators serve as proxies for relevance and that algorithmic systems continuously learn which messages produce stronger reactions [3]. Consequently, public opinion can be shaped not only by persuasion but by the selection environment: what is amplified, what is downranked, and what is repeatedly encountered. Datafication intensifies these dynamics by enabling predictive intervention. Political actors can segment publics based on behavioral traces and deliver messages that are tailored not only to demographics but to inferred psychological dispositions and situational triggers. This shift transforms opinion formation from a largely observable process [public campaigns; public messaging] into an increasingly opaque process [personalized persuasion; A/B-tested messaging; adaptive influence].

Under data colonialism conditions, political communication can become a form of infrastructural power exercised through informational environments rather than through explicit public argument [6]. As a result, public opinion is increasingly produced through the interplay of three forces: platform infrastructures that organize visibility and relevance; data extraction and predictive analytics that enable segmentation and targeting; automation and optimization that continuously adjust messaging and amplification patterns. This conceptualization reorients analysis from “what people think” to “how opinion is made possible” under computational mediation. It also sets

the foundation for examining digital political technologies as tools of regulation: they do not simply communicate political ideas; they shape the conditions under which ideas become visible, credible, and emotionally compelling.

## **2. Algorithmization of Political Communication and the Transformation of Mass Media**

The transition from traditional mass media to platform-based communication represents not merely a technological shift but a transformation of the political information order. In legacy media systems, political communication was mediated through institutional gatekeeping: journalists, editors, and regulatory frameworks shaped what could enter public discourse. In platformed environments, this function is increasingly performed by algorithmic systems that rank, recommend, and filter content based on engagement metrics and predictive models. Algorithmic systems are designed to optimize attention. They learn which types of content generate longer viewing times, more interaction, and stronger emotional reactions. As a result, political visibility becomes structurally biased toward content that performs well within engagement-based metrics rather than toward content that contributes to informed public deliberation. This produces a political information ecology in which conflict, outrage, sensationalism, and moralized narratives are systematically advantaged.

Research on algorithmic gatekeeping shows that ranking and recommendation systems act as hidden regulators of public discourse. They shape agenda-setting not by selecting what is published but by determining what becomes visible and circulates widely. Political actors who understand platform logics can design content that fits algorithmic preferences—short, emotionally charged, personalized, and optimized for interaction—thus gaining disproportionate visibility. This dynamic transforms political competition. Instead of competing primarily for ideological legitimacy or journalistic coverage, political actors compete for algorithmic amplification. Political success becomes increasingly dependent on technical compatibility with platform systems. This creates a feedback loop in which platform metrics shape political messaging, and political messaging adapts to platform incentives.

Moreover, algorithmic systems operate continuously and adaptively. They update their models based on user behavior, meaning that political communication is constantly recalibrated. This produces an environment of permanent experimentation, where political messages are tested, modified, and redeployed in response to observed reactions. Political discourse becomes less stable and more reactive, driven by micro-variations in attention and engagement. Under these conditions, mass media no longer function as a central arena of political meaning. Instead, they are embedded within platform infrastructures that

redistribute authority to algorithms. Public discourse becomes fragmented, personalized, and governed by invisible computational processes.

### **3. Digital Political Technologies as Instruments of Public Opinion**

Regulation In platform-based media environments, political communication is no longer structured primarily by editorial gatekeeping or institutional media hierarchies. Instead, it is organized through algorithmic systems that rank, recommend, and filter political content based on engagement metrics and predictive models [7; 3]. These systems determine which messages are repeated, which disappear from view, and which narratives become socially visible. Political relevance in digital environments is therefore increasingly defined by algorithmic visibility. Content that generates emotional reactions, interaction, and prolonged attention is more likely to be promoted, while information that does not fit platform logics remains marginal [5; 10]. This creates a political communication ecology in which visibility is not evenly distributed but produced through computational selection. As a result, political actors are compelled to adapt their communication strategies to the logic of platforms. Instead of focusing on ideological coherence or deliberative argumentation, they design messages for algorithmic circulation—short, emotionally charged, and optimized for engagement [3; 7].

Political discourse becomes shaped by the technical architecture of platforms rather than by institutional norms of journalism or public debate. This transformation also alters the temporal structure of political communication. Algorithms operate continuously and update their models based on user behavior, producing a state of permanent experimentation in which political messages are constantly tested, modified, and redeployed [9]. Political meaning becomes fluid and reactive, driven by feedback loops between user activity and algorithmic ranking. In such an environment, political power is exercised less through control of media organizations and more through the ability to operate within attention economies. The capacity to attract, hold, and redirect attention becomes a central political resource, shaping how publics perceive issues, actors, and conflicts [6].

#### **3.1 Microtargeting and Behavioral Segmentation**

Microtargeting is a foundational element of digital political technologies. By collecting data from social media activity, browsing histories, location data, and online interactions, political organizations can construct detailed behavioral profiles of citizens. These profiles are used to segment the electorate into micro-groups defined not only by demographics but by psychological traits, emotional tendencies, and political sensitivities. Unlike traditional political advertising, which delivers the same message to broad audiences, microtargeting enables campaigns to distribute different versions of

political reality to different groups. One segment may receive messages emphasizing economic insecurity, another may be exposed to cultural threats, and a third to narratives of national decline or opportunity. These segmented realities do not need to be consistent; they are optimized for resonance with each group.

This practice changes the nature of public opinion. Instead of forming within a shared discursive space, opinions are shaped within parallel informational environments that are invisible to one another. This fragmentation undermines collective accountability and makes political communication increasingly opaque.

#### **3.2 Automated Communication and Coordinated Influence**

Automated political communication includes the use of bots, coordinated accounts, managed engagement systems, and algorithmically scheduled posting. These tools allow political actors to simulate social consensus, amplify selected narratives, and distort perceptions of popularity or legitimacy. By generating large volumes of interaction—likes, shares, comments, and reposts—automated systems can trigger platform algorithms to further promote certain content. This creates artificial momentum that can make marginal narratives appear mainstream and controversial positions appear widely supported. Automated communication is particularly effective in early stages of information diffusion, when algorithms are still learning which content to promote. By flooding the system with engagement, political actors can hijack platform recommendation dynamics, steering public attention toward specific issues or frames. This form of influence is difficult to detect and regulate because it operates through the same mechanisms that platforms use to measure genuine popularity.

#### **3.3 Algorithmic Distribution and Visibility Control**

Perhaps the most powerful component of digital political technologies is algorithmic distribution. Most citizens encounter political content through feeds and recommendations curated by proprietary systems. These systems determine what appears first, what is repeated, and what disappears. Political actors who understand these mechanisms can design content to fit algorithmic preferences—using emotionally charged language, visual formats, and interaction prompts. Over time, this leads to the optimization of political discourse for algorithmic success, not for factual accuracy or deliberative quality. Algorithmic visibility thus becomes a form of political capital. Actors who can align their communication strategies with platform logics gain structural advantages in shaping public opinion.

### **4. Artificial Intelligence and the Automation of Political Influence**

Digital political technologies rely not only on algorithmic visibility but also on automated systems

of communication and amplification. These include bots, coordinated account networks, and algorithmically scheduled messaging that enable political actors to influence information flows at scale [12]. Through these systems, selected narratives can be artificially amplified, making them appear widely supported or socially dominant. Automated influence exploits the logic of platforms. By generating high volumes of interaction, such systems trigger recommendation algorithms to further promote specific content, creating feedback loops between automation and algorithmic ranking [7; 5]. In this way, computational systems do not merely support political communication; they actively reshape the distribution of attention and legitimacy. Political communication under these conditions becomes a technical process of optimizing visibility rather than a public process of persuasion. Campaigns and political organizations engage in continuous testing, deploying multiple versions of messages and measuring their performance in real time [9]. Political influence becomes adaptive, data-driven, and largely invisible to ordinary users.

### 5. Digital Political Technologies and Political Stability

Artificial intelligence has introduced a new stage in the evolution of digital political technologies by enabling predictive and adaptive forms of political influence. Rather than addressing citizens as members of broad social groups, AI systems analyze behavioral traces in order to model individual preferences, emotional tendencies, and political sensitivities [8; 13]. On this basis, political messages can be automatically adjusted in real time to maximize their persuasive potential. This transformation changes the logic of political communication. Instead of developing stable narratives and ideological programs, political actors increasingly rely on continuous experimentation, where different versions of messages are tested across micro-audiences and evaluated according to their performance within platform metrics such as engagement, viewing time, and sharing [9].

Political influence thus becomes a technical process of optimization rather than a discursive process of argumentation. Algorithms play a crucial role in this shift by determining which content is shown, repeated, and emotionally reinforced. Through ranking and recommendation systems, AI governs not only access to political information but also the conditions under which certain interpretations become dominant [3; 7]. In this sense, political power is increasingly exercised through algorithmic visibility rather than

through public persuasion. Synthetic media technologies further expand these capacities. AI-generated texts, images, audio, and video make it possible to produce political content at scale, including fabricated speeches, simulated interviews, and artificial news events [4]. These technologies undermine traditional markers of authenticity and allow political actors to flood the information environment with plausible but misleading material. The deeper impact of synthetic media lies in its ability to destabilize the epistemic foundations of public opinion.

As citizens become aware that any political message might be artificial, trust in media and institutional communication erodes. This creates conditions of epistemic fragility, in which uncertainty itself becomes a tool of influence [6]. Under such conditions, political actors can shape public opinion not only by promoting specific narratives, but also by weakening the possibility of shared understanding. In combination, predictive AI systems and synthetic media technologies transform public opinion into a technologically mediated and continuously adjustable outcome. Political meaning is no longer produced primarily through debate or persuasion, but through the management of informational environments, emotional responses, and patterns of visibility across digital platforms.

**Conclusion.** This article has argued that digital political technologies constitute a systemic mechanism of public opinion formation and regulation in contemporary platformed societies. Under conditions of datafication, algorithmic ranking, and artificial intelligence, public opinion is no longer primarily produced through open debate or shared media agendas. Instead, it emerges from computationally mediated environments that organize visibility, attention, and emotional resonance. Microtargeting, automated communication, algorithmic distribution, and synthetic media form an integrated infrastructure of political influence. These technologies allow political actors to segment publics, personalize political realities, and optimize persuasion in real time. As a result, public opinion becomes less a collective outcome of deliberation and more a managed product of informational architectures. While digital political technologies can increase responsiveness and communication efficiency, they also generate new risks for transparency, epistemic trust, and democratic stability. Understanding these technologies as political infrastructures rather than neutral tools is therefore essential for contemporary political science and for the governance of digital societies.

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