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Invisible by Design: Algorithmic Silence, Denied Citizenship, and Civic Mobilisation in the Public Sector AI Ecology

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Abstract

The rapid digitization of the state has shifted public administration from human-mediated bureaucracy to automated socio-technical systems. While critical data studies examine algorithmic bias, the communicative dimensions of automated exclusion remain under-theorized. This article introduces the concept of algorithmic silence—the systemic breakdown of bidirectional institutional dialogue when automated interfaces withhold the operational logic, weights, and rationales behind life-altering decisions. Situated within the empirical context of the Nordic digital welfare state, this study examines how marginalized populations experience, interpret, and actively resist automated exclusion. Drawing on a multi-method qualitative research design comprising digital ethnography, policy discourse analysis, and in-depth narrative field interviews with precarious public service users, we demonstrate how algorithmic silence operates as an active mechanism of administrative disenfranchisement that systematically produces denied citizenship. Crucially, rather than presenting marginalized users as passive recipients of algorithmic opacity, our findings reveal how excluded populations engineer sophisticated horizontal mutual-aid networks, collective information workarounds, and counter-public message boards to bypass top-down algorithmic gatekeepers. This study contributes to digital sociology and platform governance by shifting the analytical lens from engineering optimization to the communicative struggles defining the human cost of the automated state.

1. Introduction

The contemporary expansion of the "digital welfare state" is globally celebrated as a triumph of administrative efficiency, procedural optimization, and public sector modernization (Dencik et al., 2019). Across advanced digitized democracies, state institutions have systematically migrated public service delivery, welfare allocation, and civic triage onto automated decision-making platforms and machine learning frameworks (Eubanks, 2018). These algorithmic infrastructures are discursively framed by state actors as neutral, seamless, and hyper-efficient interfaces designed to eliminate human bias and streamline resource distribution. However, underneath this polished aesthetic of technical seamlessness lies a profound socio-technical paradox: the emergence of what this study terms algorithmic silence.

We define algorithmic silence as the systematic, structural withholding of meaningful, human-interpretable institutional feedback when an automated decision-making platform processes, stalls, or denies a citizen’s claim to public resources. Unlike visible state interventions such as predictive surveillance, algorithmic power in the automated welfare state frequently manifests as a communicative vacuum (Pasquale, 2015). When a precarious individual is denied basic welfare assistance, has their documentation flagged for fraud by a risk-scoring system, or finds their migration status frozen within a digital queue without an explicit, human-readable justification, the bidirectional feedback loop essential for democratic accountability is severed (Couldry & Mejias, 2019; Pasquale, 2015). For marginalized populations—including first-generation migrants, low-income families, and refugees—this silence is not a temporary system latency; it represents an active form of systemic exclusion that systematically produces denied citizenship (Hintz et al., 2018).

This article addresses a significant empirical and theoretical gap within critical data studies. While existing scholarship has comprehensively exposed the mathematical biases embedded in training datasets, few studies explore the lived, communicative experiences of the human beings moving through these automated ecologies (Lutz, 2019; Noble, 2018). By focusing on the citizen's perspective, this study addresses three fundamental objectives: first, to map how algorithmic silence is structurally produced by technical interfaces; second, to document how marginalized communities affectively and practically experience this communicative denial; and third, to analyze how these populations collectively mobilize to build horizontal mutual-aid structures to navigate or subvert opaque public algorithms.

2. Literature Review and Theoretical Framework

This research builds upon three intersecting domains of contemporary scholarship: the political economy of datafication, digital sociology, and critical media studies on communication inequalities (Lutz, 2019). Over the past decade, scholars examining the automated state have established that modern public sector datafication frequently operates as an instrument of asymmetric visibility (Dencik et al., 2019; Eubanks, 2018). Under this regime, state infrastructures aggressively aggregate, parse, and capitalize on the digital footprints of citizens—rendering them hyper-visible to the state—while the actual logical weights, scoring indicators, and administrative rules driving automated decisions remain completely hidden behind closed proprietary or institutional designs—rendering the state absolutely opaque (Zuboff, 2019). This asymmetric visibility cripples individual civic agency, converting democratic rights into cold data points subjected to unaccountable classification systems (Couldry & Mejias, 2019).

We argue that this asymmetry directly results in denied citizenship (Hintz et al., 2018). Historically, citizenship has been theorized through the allocation of legal, civil, and social rights mediated by institutional representatives. However, as public bodies systematically replace human caseworkers with algorithmic interfaces, the capacity to exercise these rights becomes directly dependent on interface accessibility, data literacy, and automated classification compatibility (Lutz, 2019). When an automated system lacks the structural flexibility to account for complex, non-standard life events—such as sudden income precarity, informal employment, or non-traditional familial structures—it effectively ejects the individual from the communicative space of the state (Eubanks, 2018). The individual is left in a state of suspended animation, unable to appeal automated decisions, correct erroneous data entries, or locate the human gatekeepers responsible for their systemic vulnerability.

To capture how agency is reasserted within these digitized vacuums, this study integrates horizontal communication theory and the sociology of subaltern counter-publics (Castells, 2015). Rather than viewing marginalized service users as entirely powerless victims of top-down algorithmic structures, we analyze how communities turn to horizontal networks to reconstruct broken communication loops. By building organic mutual-aid networks, informal messaging hubs, and peer-to-peer data translation tactics, these counter-public networks attempt to actively fill the systemic gaps left by automated public administrations (Pentzold, 2020).

3. Methodology

To capture the hidden, everyday struggles of citizens navigating public sector automated exclusion, this project deployed a multi-method qualitative research design divided into successive empirical phases conducted over a 24-month period (Pentzold, 2020). Rather than relying on restrictive quantitative metrics or superficial polling datasets, the methodology anchors itself in prolonged field engagement and interpretive socio-technical analysis to preserve narrative authenticity and secure holistic institutional mappings.

Phase 1: Policy Archive and User Forum Engagement

The initial phase mapped the structural and discursive production of algorithmic silence. We conducted a critical discourse analysis of public sector platform guidelines, user manual documentations, and technical architecture sheets. Simultaneously, we gathered and qualitatively evaluated text corpora from active online community help forums where individuals log systemic technical grievances regarding public service interfaces. This structural mapping isolated the exact points where operational policies transition into communicative blockades.

Phase 2: In-Depth Narrative Field Interviews

To understand the direct, lived experience of automated exclusion, we conducted semi-structured, in-depth narrative interviews with marginalized public service users in Norway. Participants were selected via purposive and snowball sampling strategies, targeting individuals who had faced prolonged communicative silence following an automated decision. The cohort focused specifically on high-vulnerability groups including first-generation immigrants, non-native speakers, and low-income individuals. Interviews focused on mapping specific user trajectories, emotional precarity, and direct socio-economic outcomes, allowing participants to articulate system interfaces in their own words.

Phase 3: Participatory User Journey Mapping

The final phase mapped collective civic tactics. We conducted participatory workshops with community leaders and affected citizens to visually reconstruct their multi-stage interactions with public sector AI platforms. Participants collaboratively traced the horizontal communication workarounds and messaging hubs they engineered to circumvent system stalls. All transcripts and archives were systematically analyzed via inductive thematic and critical discourse analysis using NVivo. Data protocols strictly adhered to the General Data Protection Regulation (GDPR) and the Norwegian Agency for Shared Services in Education and Research (Sikt) specifications to guarantee absolute anonymity and secure data encryption.

4. Findings and Discussion

The Structural Production of Algorithmic Silence

Our empirical findings reveal that algorithmic silence is not an accidental technical failure, but a deliberate design output engineered to insulate public institutions from administrative appeals. Policy archive mapping showed that user interfaces are systematically built around "closed loop" notification modules. When a system flags an applicant profile for a mismatched entry, the interface ceases updates, presenting the user with static text such as "Application under processing" or "Pending system verification." This design choice intentionally eliminates human caseworker contact data, replacing dialogue with a permanent digital stall.

Lived Precarity and Denied Citizenship

Narrative interviews highlighted the severe socio-economic toll of this design logic. Participants frequently described the psychological distress of interacting with an unresponsive interface. One participant, a first-generation migrant, stated: "The website did not say I was rejected. It just stopped asking for papers and showed a blank status box. I called the help line, and the agent told me they could not see the backend because the system had not finalized the track. For three months, I had no money and no person to speak to. I was completely invisible."

This narrative illustrates how substantive digital citizenship is systematically denied. The absolute lack of transparency prevents users from correcting simple data entries, causing minor system mismatches to escalate into long-term financial precarity (Eubanks, 2018).

Civic Mobilisation and Horizontal Counter-Publics

Crucially, our data demonstrates that automated exclusion directly sparks horizontal civic mobilization (Castells, 2015). Workshop mapping revealed that when the state goes silent, citizens construct highly complex, parallel knowledge-sharing networks. We documented the organic growth of localized community messaging groups operating as informal "algorithmic translation centers." Within these spaces, high-literacy community members actively cleanse, translate, and unpack the hidden codes of state interfaces for lower-literacy peers. Excluded citizens share successful interface workarounds—such as intentionally triggering specific error inputs to force the system to route their file to a human caseworker. These horizontal tactics show that subaltern counter-publics actively generate collective data literacy to resist top-down administrative opacity (Castells, 2015; Pentzold, 2020).

5. Conclusion

This study has demonstrated that algorithmic silence operates as an active, structural mechanism of administrative exclusion within the digital welfare state, directly resulting in denied citizenship for structurally vulnerable populations. By shifting the analytical focus to the citizen’s perspective, we have shown that automated public platforms do not merely optimize bureaucracy; they frequently create severe communicative blockades that isolate citizens from the state. However, our findings highlight that algorithmic power is never absolute. Through the creation of horizontal mutual-aid networks, informal translation hubs, and interface workarounds, marginalized communities actively resist top-down opacity,

generating new forms of collective agency and digital data resilience. For platform governance models to remain democratic, future policy must reject closed-box automation and mandate human-in-the-loop communicative transparency as a fundamental civic right.

Declarations

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