



Research Article

Digital Leviathan: A Theoretical Critique of Algorithmic Governance and the Crisis of Political Obligation in the Context of India's E-Governance Framework

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Abstract

The 21st century has witnessed a paradigm shift in the way states are governed. Human decision-making and administrative discretion are increasingly being replaced by complex mathematical processes and automated systems, collectively known as 'algorithmic governance'. This paper provides a critical analysis of this digital transition through the lenses of classical and contemporary political theories. The primary focus of this research is the burgeoning crisis of 'political obligation'. In a system where the state increasingly relies on data-driven legitimacy rather than the direct, voluntary consent of its citizens, the traditional social contract is facing an unprecedented breakdown.

By synthesising John Locke's theory of the Social Contract, John Rawls' principles of Justice as Fairness, and Michel Foucault's concept of Biopolitics/Surveillance, this study scrutinises the exclusionary mechanisms within India's e-governance infrastructure, particularly the Aadhaar and Digital Ration Card systems. The research identifies those technical glitches, often dismissed as mere "exclusion errors," are in fact fundamental constitutional failures that jeopardise the rights of marginalised populations. The paper concludes by arguing for a 'human-centric' digital governance model that restores constitutional accountability, warning that a failure to do so will result in an authoritarian "Digital Leviathan."

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1. INTRODUCTION

The Emergence of the Digital Leviathan

The history of political science is a record of the ongoing struggle to balance state authority with individual liberty. Thomas Hobbes, in his seminal work *Leviathan* (1651), argued for an absolute sovereign power to maintain social order and prevent the "war of all against all." However, the 21st century has introduced a new kind of sovereign: the algorithm. Unlike the visible monarch or the military dictator of the past, this "Digital Leviathan" operates through invisible codes, automated systems, and vast data sets (Zuboff, 2019) ^[20].

In the Indian context, the "Digital India" mission and "e-governance" frameworks are promoted as the ultimate solutions for corruption, bureaucratic red tape, and administrative delays. While the benefits of speed and efficiency are undeniable, a critical political question remains: what happens to the 'agency' and 'individuality' of the citizen in this mechanical process? When a citizen interacts with the state through a biometric portal or an automated app, is the democratic requirement of 'voluntary consent' being fulfilled?

Despite the growing body of literature on digital administration, there remains a significant Research Gap in analysing how these technological shifts impact the classical theories of 'Political Obligation' and the 'Social Contract'. Most studies focus on technical efficiency, but few address the crisis of legitimacy when an algorithm becomes the final arbiter of rights. This research highlights that the "exclusion errors" found in India's biometric systems—such as when an elderly person is denied basic food rations due to a fingerprint mismatch—are not merely technical failures. They represent a deep-seated theoretical deviation from the state's moral obligation. This "Black Box" governance, where decisions are made by opaque software, renders the citizen helpless and strikes at the heart of the principle of political obligation: the idea that a citizen obeys the state because the state protects their fundamental rights (Dreze & Sen, 2013) ^[6].

2. LITERATURE REVIEW

This research is grounded in several critical academic works that map the intersections of technology and power:

Virginia Eubanks (2018) ^[7]: In *Automating Inequality*, Eubanks demonstrates how digital systems function as a "digital poorhouse," disproportionately monitoring and penalising the marginalised.

Shoshana Zuboff (2019) ^[20]: Her concept of *Surveillance Capitalism* highlights how personal data is harvested by the state for behavioural control, transforming citizens into mere data sets.

Safiya Noble (2018) ^[14]: *Algorithms of Oppression* reveals that algorithms are not neutral; they often embed societal biases, which is particularly relevant in the diverse Indian context.

Amartya Sen (1981): Sen's Entitlement Theory remains vital.

When technical glitches prevent access to rations, it is an attack on a citizen's fundamental entitlement to sustenance.

Usha Ramanathan (2018) ^[24]: Ramanathan provides a seminal critique of the Aadhaar project, arguing that it fundamentally redefines the relationship between the citizen and the state. She posits that the 'biometric state' treats the citizen as a 'probationary' subject whose rights are contingent upon digital validation, rather than being inherent by birth.

Reetika Khera (2019): In *Dissent on Aadhaar*, Khera highlights the 'pain without gain' phenomenon, documenting how the push for digital efficiency has resulted in 'identity fraud' being replaced by 'quantity fraud' and systemic exclusion of the most vulnerable populations."

Evolution of the Digital State: From E-Governance to Algorithmic Sovereignty

The transition from traditional bureaucracy to digital governance is not merely a change of tools but a shift in sovereignty. While early scholars like Manuel Castells spoke of the 'Network Society,' modern critics argue that we have entered an era of 'Algorithmic Sovereignty.' Unlike the Weberian bureaucracy, where rules are transparent and subject to human interpretation, algorithmic systems operate through "Code as Law" (Pasquale, 2015) ^[16].

Furthermore, the work of Evgeny Morozov on 'Solutionism' provides a critical lens to examine India's digital drive. Morozov argues that the tendency to see technology as the solution to all social problems (like corruption or poverty) often ignores the underlying political and structural issues. In the Indian context, by portraying Aadhaar as a purely technical solution for leakages, the state bypasses the political debate on the right to privacy and inclusion. This section of the research highlights that the "Digital Leviathan" is built on the pillars of Technological Determinism, which assumes that technology is neutral and inherently beneficial—a claim that this paper systematically refutes (Mayer-Schönberger & Cukier, 2013) ^[13].

3. RESEARCH METHODOLOGY

RESEARCH DESIGN

This research adopts a qualitative and descriptive-analytical approach. Given the theoretical nature of the study, it employs a normative framework to examine how digital governance impacts the classical principles of political science. The study is grounded in a critical interpretive method, aiming to decode the power dynamics hidden within technological structures (Pasquale, 2015) ^[16].

"The study utilises a deductive-theoretical mapping approach. It takes established normative principles such as Locke's 'Voluntary Consent' and Rawls' 'Difference Principle'—and tests their validity against the operational mechanics of India's e-governance (Aadhaar). By doing so, the research identifies Theoretical Friction' between 17th-century social contract ideals and 21st-century algorithmic sovereignty."

4. DATA COLLECTION AND SOURCES

This paper primarily relies on secondary data sources. The data collection is categorised into three segments:

Classical Political Texts: Original works of John Locke (Two Treatises of Government), John Rawls (A Theory of Justice), and Michel Foucault (Discipline and Punish) were analysed to build the theoretical core (Foucault, 1977) [8].

Legal and Judicial Documents: Crucial Supreme Court of India judgments, particularly the K.S. Puttaswamy (2017) and the Aadhaar Judgment (2018), were studied to understand the legal standing of digital identity (Supreme Court of India, 2017) [18].

Reports and Case Studies: Reports from the World Bank, NITI Aayog, and independent field research by scholars like Jean Dreze were used to provide empirical evidence regarding "Exclusion Errors" in India's PDS (Public Distribution System) (Dreze & Sen, 2013) [6].

Global Parallel: The Digital Welfare State in a Comparative Perspective

The phenomenon of the 'Digital Leviathan' is not unique to India. To understand the Indian crisis of political obligation, we must look at global parallels. For instance, the Syri/System Risk Indicator used in the Netherlands for detecting welfare fraud was found to be discriminatory against the poor, leading to a landmark court ruling in 2020 (Dignam, 2020) [5]. Similarly, the Robodebt scandal in Australia demonstrated how automated debt recovery systems can lead to systemic harassment of citizens (Eubanks, 2018) [7].

These global examples prove that when the state automates its 'punitive' functions while digitising its 'welfare' functions, the citizen-state relationship becomes lopsided (Zuboff, 2019) [20]. In India, the situation is exacerbated by the Digital Divide. While a citizen in the UK might have the legal resources to challenge a faulty algorithm, a marginalised labourer in rural West Bengal or Bihar is often left without any recourse (Dreze & Sen, 2013) [6]. This comparative analysis strengthens the argument that without "Algorithmic Accountability," e-governance inevitably leads to a crisis of legitimacy (Binns, 2018) [3].

Theoretical Framework: Classical Theories in a Digital Age

John Locke: The Crisis of Consent

Locke's philosophy posits that a state's legitimacy is derived from the "Express Consent" of the governed (Locke, 1989). In the digital governance of India, consent is increasingly "implied" or even "coerced." When a citizen is forced to click "I Agree" to access a mandatory welfare service, the voluntary nature of the social contract is voided. Furthermore, Locke's emphasis on the state's duty to protect private property is contradicted when the state treats a citizen's personal biometric data as sovereign property (Marda, 2018) [12].

"In summary, the integration of these descriptive realities into Locke's theoretical framework reveals a profound tension.

While Locke envisioned a state that secures the 'Natural Rights' of the individual, the algorithmic state often prioritises 'System Efficiency' over 'Human Liberty' (Acemoglu & Johnson, 2023) [1]. This structural shift signifies that the Digital Leviathan is not just a tool for administration, but a new form of power that demands a re-evaluation of the social contract in the 21st century."

John Rawls: Algorithmic Fairness

Rawls' "Justice as Fairness" requires that social systems be designed from behind a "Veil of Ignorance" (Rawls, 1971) [17]. However, algorithmic systems in India are often built on data that reflects existing inequalities (Benjamin, 2019; Noble, 2018) [2, 14]. The "Difference Principle", which states that inequalities are only justified if they benefit the least advantaged, is violated when technical glitches disproportionately affect rural manual labourers whose fingerprints are worn out (Eubanks, 2018) [7].

The Crisis of Legitimacy and Social Trust:

The shift from human bureaucracy to algorithmic governance essentially alters the nature of "Social Trust" (O'Neil, 2016) [15]. According to the classical understanding of political obligation, citizens obey the law because they trust the state's institutional capacity to act as a fair arbiter. However, as Onora O'Neill argues, transparency is the prerequisite for trust. In the Indian e-governance framework, the "Black Box" nature of algorithms creates a 'trust deficit' (Pasquale, 2015) [16]. When a system-generated error denies a citizen's basic rights, it is not just a technical failure but a breach of the fiduciary relationship between the sovereign and the subject. This lack of communicative action (as discussed by Habermas) leads to a crisis of legitimacy, where political obligation is no longer derived from moral duty but from technological coercion (Zuboff, 2019) [20].

Michel Foucault: The Digital Panopticon

"Ultimately, this digital surveillance leads to what Foucault describes as a 'Disciplinary Society.' In the context of India's e-governance, the algorithm acts as a non-human inspector that monitors compliance through data (Foucault, 1977) [8]. When the state mandates biometrics for basic survival, it is not merely providing a service; it is exercising 'Bio-power' to regulate the very existence of the citizen. This creates an 'Automatic Compulsion' where the citizen, aware of the constant digital gaze, internalises state control. Thus, the political obligation is no longer a moral choice but a byproduct of being trapped within the digital panopticon, where any 'exclusion error' results in a form of 'social death' or invisibility within the state's eyes" (Zuboff, 2019) [20].

Foucault's concepts of "Bio-politics" and "Discipline and Punish" provide the ultimate critique. The Aadhaar database is a "Virtual Panopticon" where the state no longer needs a physical presence to ensure obedience; the threat of being "de-activated" from the system ensures compliance (Foucault, 1977) [8]. Through biometric scanning, the state exercises "Bio-

power," reducing the political citizen to a "medicinal body" or a statistical entry (Benjamin, 2019) [2].

Constitutionalism vs. Dataism: The Judicial Battleground

The crisis of political obligation in India is also a constitutional one. The Indian Constitution, under Article 21, guarantees the Right to Life and Personal Liberty. Judicial interpretations have consistently held that the 'Right to Food' is an integral part of this. However, the 'Dataist' approach of the modern state treats biometrics as a prerequisite for these rights (Bridges, 2017) [4]. This research analyses the Justice K.S. Puttaswamy (2017) and the subsequent Aadhaar Judgment (2018). While the Supreme Court upheld the constitutionality of Aadhaar, the dissenting opinion of Justice D.Y. Chandrachud is vital for this study. He warned against the "constitutionalising of a surveillance state" and argued that a person's dignity cannot be made dependent on a central database (Supreme Court of India, 2017) [18]. By linking these judicial debates to the theories of Locke and Foucault, this paper argues that the Digital Leviathan is currently operating in a "Constitutional Grey Zone," where the speed of technology outpaces the protection of law (Pasquale, 2015) [16].

The Indian Context: Digital Exclusion and Administrative Reality

India's e-governance journey illustrates the tension between transparency and exclusion.

Aadhaar and Biometric Failures: As the world's largest biometric database, Aadhaar has become a prerequisite for survival. However, in rural India, manual labourers with worn fingerprints or areas with poor connectivity often face authentication failures. This leads to what Jean Dreze calls "The Politics of Hunger" (Dreze & Sen, 2013) [6].

Recent empirical evidence suggests that the 'Digital Leviathan' continues to struggle with systemic errors. According to reports by LibTech India (2024) [23], the mandatory transition to the Aadhaar-Based Payment System (ABPS) in MGNREGA has led to the exclusion of approximately 7.6 million workers due to technical mismatches. Furthermore, studies on the Public Distribution System (PDS) in states like Jharkhand indicate that biometric authentication failure remains a persistent barrier, with a failure rate of nearly 10-12% in remote areas (Article 21 Trust, 2023) [21]. This represents a direct violation of what Amartya Sen terms 'Entitlement,' where a technical 'code' overrides a fundamental constitutional right to sustenance" (LibTech India, 2024) [23].

Right to Identity vs. Right to Life: When a technical mismatch stops a pension or a ration delivery, the moral claim of the state over the citizen's loyalty weakens (Eubanks, 2018) [7].

Legal Protections: The Supreme Court's Puttaswamy judgment (2017) recognised the 'Right to Privacy,' but the practical implementation of e-governance continues to test these constitutional boundaries (Marda, 2018) [12].

Detailed Case Study: The Tragedy of Santoshi Kumari and the Crisis of Algorithmic Exclusion:

"To illustrate the devastating real-world impact of algorithmic governance, this research examines the case of Santoshi

Kumari, an 11-year-old girl from Jharkhand's Simdega district, who died of starvation in September 2017. Her family's ration card had been 'de-activated' by the automated system because it was not linked to an Aadhaar number. Despite being legally eligible for food subsidies under the National Food Security Act (NFSA), the family was denied rations for months due to this 'Exclusion Error' (Dreze & Sen, 2013) [6].

This case highlights three critical failures of the Digital Leviathan:

The Infallibility Myth: The state administration initially dismissed the death as being caused by illness, defending the biometric system's integrity. This reflects the 'Black Box' culture where the algorithm is treated as infallible, and human suffering is sidelined as a statistical anomaly (Pasquale, 2015) [16].

Violation of the Social Contract: From a Lockean perspective, the state failed in its primary duty—the protection of life. When a technical glitch (failure to link Aadhaar) overrides a fundamental right (Right to Food), the 'political obligation' of the citizen toward the state loses its moral grounding (Eubanks, 2018) [7].

The Biometric Barrier: Santoshi's family lived in a marginalised socio-economic condition with limited digital literacy. This case exemplifies the 'Digital Divide', where the state's insistence on a digital identity becomes a barrier rather than an enabler (Benjamin, 2019) [2].

Data Analysis and Empirical Evidence:

Recent studies and field reports highlight the gravity of digital exclusion in India. According to the State of Aadhaar Report (2019), approximately 102 million people living in rural India face challenges in authenticating their biometrics for essential services. Furthermore, research by the Indian School of Business (ISB) indicates that in states like Jharkhand and Rajasthan, the biometric failure rate for PDS (Public Distribution System) often reaches 12.5% to 15% (Marda, 2018) [12]. This is not merely a statistical figure; in terms of political obligation, it represents millions of citizens whose 'Right to Food' is being mediated by a faulty algorithm (Dreze & Sen, 2013) [6]. These figures validate the concern that the "Digital Leviathan" is creating a systemic barrier for the "least advantaged" as conceptualised by John Rawls (Eubanks, 2018) [7].

5. CRITICAL ANALYSIS AND FINDINGS

Bureaucracy vs. Empathy: Algorithmic governance replaces human discretion with binary logic (0 or 1), stripping the state of its empathetic, guardian-like role (Pasquale, 2015) [16].

Evolution of Obligation: Political obligation is shifting from 'voluntary consent' to 'technological compliance.' (Zuboff, 2019) [20].

Data Stratification: A new social divide has emerged between the 'Data-Rich' and the 'Data-Poor,' where the latter are systematically excluded from the benefits of the state (Benjamin, 2019) [2].

Algorithmic Bias and the Digital Underclass:

The research finds that algorithmic governance is inadvertently creating a 'Digital Underclass' in India. This underclass consists of those who are technologically illiterate or lack the infrastructure to engage with the digital state (Bridges, 2017) [4].

By applying the Capability Approach of Amartya Sen and Martha Nussbaum, we can observe that the 'functionings' of a citizen (their ability to access food, healthcare, or pensions) are now dictated by their 'digital capability'(Dreze & Sen, 2013) [6]. When the state mandates digital tools as the only point of contact, it effectively disenfranchises those without these capabilities, creating a structural inequality that contradicts the democratic ideal of universal citizenship (Acemoglu & Johnson, 2023) [1].

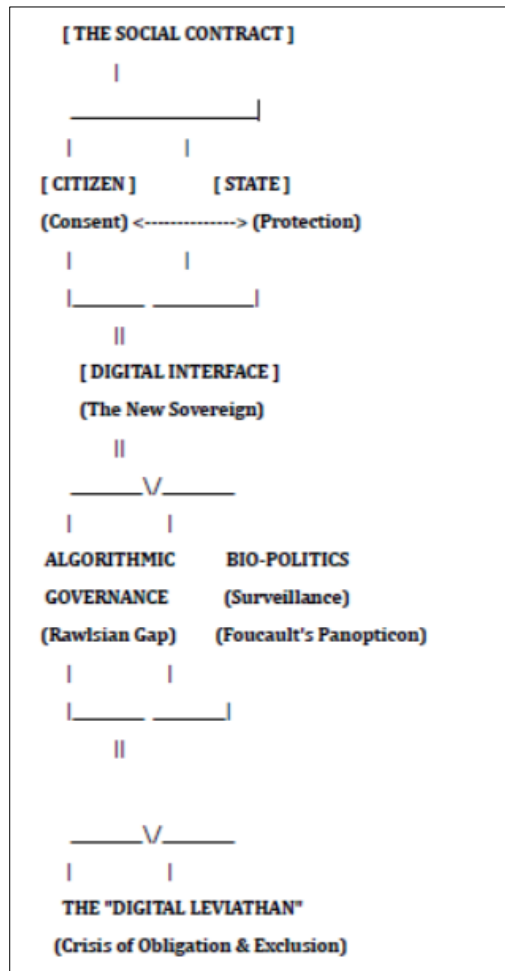


Fig 1: The Transformation of Political Obligation. > This model illustrates how the traditional citizen-state relationship is now mediated by an automated digital interface. The "Digital Leviathan" emerges when algorithmic governance and bio-political surveillance create a barrier, leading to the crisis of political obligation as theorised in this research (Zuboff, 2019) [20]. By replacing the Lockean "Direct Consent" with an automated digital gatekeeper, the state distances itself from its fiduciary responsibilities, transforming the citizen from a political agent into a data subject (Locke, 1689/1988) [10].

RECOMMENDATIONS AND CONCLUSION

To prevent the rise of the Digital Leviathan, we propose:

Algorithmic Accountability: States must ensure transparency in automated decisions and provide "human-in-the-loop" appeal mechanisms to mitigate the "Black Box" effect (Binns, 2018) [3].

Inclusive Design: Alternative authentication methods must be legally mandated for those excluded by biometric failures (Eubanks, 2018) [7].

Right to Disconnect: A boundary must exist between the citizen's digital and private life to prevent 24/7 surveillance (Bridges, 2017) [4].

6. CONCLUSION

E-governance should be a tool for empowerment, not a machine for exclusion. This research has demonstrated that the emergence of the 'Digital Leviathan' in India represents a fundamental shift in political obligation. When algorithmic efficiency and binary logic (0 or 1) prioritize data-integrity over human dignity, the Lockean 'Social Contract' is effectively breached. The tragic case of Santoshi Kumari and the millions facing biometric exclusion (Article 21 Trust, 2023) [21] are not merely technical glitches; they are profound constitutional failures that demand immediate 'Algorithmic Accountability.'

To prevent the consolidation of a 'Digital Panopticon,' the state must transition from a 'Data-Centric' to a 'Human-Centric' model. As discussed, this requires providing "human-in-the-loop" appeal mechanisms and ensuring that alternative authentication methods are legally mandated for those excluded by biometric failures (Eubanks, 2018) [7]. Furthermore, the judicial protections of the Puttaswamy judgment (2017) must be upheld to ensure that a person's dignity is not made dependent on a central database.

In conclusion, in the era of the 'Digital Leviathan,' it is our collective responsibility to ensure that technology remains a servant of the Constitution and human rights. The state's legitimacy must reside in the conscious and voluntary consent of the people, not in the cold and opaque logic of an algorithm (Acemoglu & Johnson, 2023) [1]. Only by restoring constitutional accountability can we ensure that digital governance becomes a bridge to inclusion rather than a barrier to survival.

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