**INTERNATIONAL JOURNAL OF POLITICAL SCIENCE AND GOVERNANCE**

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# The "black box" of legitimacy: Public perception and political discourse on EVM and VVPAT in India

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**Abstract**
The legitimacy of democratic elections is fundamentally predicated on public trust in electoral institutions and processes. In India, the introduction of Electronic Voting Machines (EVMs) and Voter-Verifiable Paper Audit Trails (VVPATs) was designed to enhance electoral efficiency and integrity by reducing manual fraud. However, this technological shift has generated a profound paradox: intended as instruments of transparency, EVMs have become focal points of intense political controversy and public skepticism, often described as a "black box" whose inner workings remain opaque to the ordinary citizen. This paper argues that the crisis of legitimacy surrounding EVMs is not merely a technical debate but a socio-political phenomenon, constructed through the dynamic interplay of political strategy, polarized media ecosystems, and pre-existing levels of institutional trust. Drawing on theoretical frameworks from Weber, Beetham, Bourdieu, and Habermas, and employing a qualitative-dominant mixed-methods approach, this study analyzes key case studies from recent Indian elections. It reveals a consistent pattern where allegations of tampering are strategically deployed by losing parties, amplified by social media, and inadequately countered by defensive institutional responses. The paper concludes that restoring legitimacy requires a multi-pronged approach that moves beyond technical fortification to prioritize proactive transparency, cross-partisan engagement, and a renewed commitment to evidence-based public discourse.

**Keywords:** EVM, VVPAT, Legitimacy, Electoral Integrity, India, Political Discourse, Public Trust, Democracy

## 1. Introduction

The integrity of the electoral process constitutes the bedrock of any functioning democracy. In India, the world's largest democracy, this foundation is increasingly tested by persistent doubts over the Electronic Voting Machine (EVM) and Voter-Verifiable Paper Audit Trail (VVPAT) system. The Election Commission of India (ECI) and a host of technical experts have consistently vouched for their robustness and security, yet a persistent discourse questioning their credibility has become a staple of post-election politics. This discourse transcends technical specifications to become a potent political and sociological phenomenon.

The "black box" metaphor captures the core of this dilemma. For the average voter, the EVM is a sealed, opaque device whose internal workings are incomprehensible. This technological opacity creates a vacuum filled not by technical understanding, but by narratives, rumors, and political rhetoric. This paper posits that public perception of EVM/VVPAT legitimacy is socially constructed through a dynamic interplay of political narratives, a polarized media environment, the level of institutional trust, and the strategic deployment of anecdotal evidence.

The central research question guiding this inquiry is: How is public perception regarding the legitimacy of EVMs and VVPATs constructed in India, and what are the primary drivers—political, media-based, and institutional—that shape this discourse? The thesis is that the technological opacity of the EVM system creates a "black box" of legitimacy that is strategically weaponized by political actors, amplified by a polarized media, and inadequately addressed by the ECI's defensive posture, thereby threatening the perceived integrity of Indian democracy.

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The paper is structured to first establish a theoretical framework integrating concepts of legitimacy, symbolic power, and the public sphere. It then details the methodological approach before presenting an empirical analysis of the political construction of doubt through key case studies. Subsequently, it examines the institutional and legal responses from the ECI and the judiciary. Finally, it integrates reform recommendations from expert bodies to conclude with a multi-pronged strategy for rebuilding public trust.

## 2. Theoretical Framework: Legitimacy, Symbolic Power, and the Public Sphere
To contextualize the EVM/VVPAT debates, this paper draws on an interdisciplinary scholarship of legitimacy, technology, and media.

### 2.1 Legitimacy as Belief and Consent
Scholars have long distinguished between different bases of political legitimacy. Max Weber identified legal-rational, traditional, and charismatic authority as sources by which rulers claim legitimacy. In modern democracies like India, the dominant form is legal-rational: electoral institutions derive authority from laws and procedures that citizens are expected to accept as binding. However, as David Beetham argues, legitimacy itself has multiple dimensions beyond mere legal validity [1]. According to Beetham, a legitimate power must satisfy three criteria: (1) conformity to established rules (legal validity), (2) justifiability of those rules in terms of shared beliefs and values, and (3) evidence of consent by the governed. In this view, legitimacy is not static but a belief that the system is rightful, and it requires ongoing validation by citizens' actions and attitudes. This suggests evaluating EVMs not only by their compliance with ECI guidelines but also by whether citizens find those rules just and consent to the outcomes they produce.

### 2.2 Symbolic Power and Misrecognition
Pierre Bourdieu's notion of symbolic power deepens this analysis by highlighting how legitimacy often depends on "misrecognition"—the acceptance of socially contingent relations as natural [2]. Political institutions, including electoral authorities, derive symbolic capital when their authority is taken for granted. EVMs, as technical artifacts, embody symbolic power: they are meant to be seen as neutral technologies that faithfully record the will of the people. But when doubts arise about their infallibility, that symbolic authority is undermined. Bourdieu's analysis implies that challenges to EVM legitimacy are as much about contesting the symbolic authority of the Election Commission and ruling parties as they are about the machines' hardware. The field of Indian politics is rife with power struggles over symbolic capital; controlling the narrative around EVMs is itself a form of political competition.

### 2.3 The Public Sphere and Communicative Legitimacy
Jürgen Habermas's theory of democratic legitimation emphasizes the role of an informed public sphere and communicative action. For Habermas, legitimacy is achieved through transparent, reasoned discourse among free citizens. If EVM debates are fraught with misinformation or one-sided claims, they violate the ideal of communicative legitimacy. In the post-truth media ecosystem, where unverified rumors spread easily online, upholding Habermasian discourse norms is challenging. As scholars like Farkas and Schou note, contemporary "post-truth" politics often substitutes technocratic appeals for pluralistic debate. In India, claims about EVM hacking can flourish in a highly polarized media environment, feeding systemic distrust.

### 2.4 Complexity, Trust, and the "Black Box"
Niklas Luhmann theorized that in complex societies, individuals rely on trust to navigate opaque systems. Elections exemplify this: most voters cannot verify every ballot or EVM; they trust either the process or the verdict. EVMs, as complex technology, require a high baseline of trust. This trust functions as a mechanism to reduce complexity. If that trust is eroded—whether by campaign slogans or conspiracy theories—the system's credibility falters. The Supreme Court of India itself has remarked that "democracy is all about maintaining harmony and trust among all the pillars" and cautioned against "blindly doubting a system." The "black box" nature of EVMs makes them uniquely susceptible to this dynamic, as the deficit of public understanding is filled by suspicion when institutional trust is low.

## 3. Methodology
This study employs a qualitative-dominant mixed-methods approach to analyze the discourse surrounding EVMs and VVPATs.

The core of the research is a systematic Qualitative Document Analysis (QDA) of key primary sources, including transcripts of parliamentary debates, a structured sample of articles from major newspapers (e.g., The Hindu, Indian Express), landmark Supreme Court judgments, and official ECI communications and press notes. This analysis is guided by the theoretical frameworks outlined above, tracing how narratives of fraud and legitimacy are constructed and contested.

This qualitative analysis is supplemented by a Quantitative Trend Analysis. This involves tracking the incidence of major EVM allegations following national and state elections from 2014 to 2023, correlating these events with election outcomes. Furthermore, Google Trends data for search terms like "EVM hack" and "EVM tampering" is analyzed to map public interest and correlate it with political events, demonstrating the event-driven and politically motivated nature of the controversy [3].

The paper also utilizes focused case studies—including the 2019 General Elections, the 2020 Delhi Assembly Election, the 2021 West Bengal Assembly Election, and the 2022 Uttar Pradesh Assembly Elections—to provide a granular, in-depth examination of how the discourse unfolds in practice across different political contexts.

## 4. The Political Construction of Doubt: A Strategic Playbook
Empirical analysis reveals a clear and consistent pattern: allegations of EVM tampering are overwhelmingly a post-election phenomenon, led by political parties that have suffered unexpected or significant defeats. This suggests the discourse is less a consistent principled stand on technology and more a strategic tool for non-recognition of defeat, mobilization of the core base, and keeping the political narrative alive.

## 4.1 A Pattern of Partisan Instrumentalization

A compelling aspect of this phenomenon is the partisan inconsistency that has characterized the debate. The Bharatiya Janata Party (BJP), which was a vocal critic of EVMs while in opposition pre-2014, has fiercely defended them after forming the government. Conversely, the Congress and other opposition parties have shifted from a position of relative acceptance to one of deep skepticism, often raising concerns predominantly after an unfavorable outcome. This partisan flip-flop highlights that the issue is not a principled stand on technology but a strategic tool of political convenience. This opportunism feeds public cynicism, making it harder to discern genuine concerns from baseless allegations.

## 4.2 The Anatomy of a Narrative: Pre-, During, and Post-Election Phases

Political actors engage in a predictable pattern of raising doubts: Before elections, opposition parties may allege that ruling parties plan to hack EVMs, serving to preempt potential losses by casting suspicion on any future defeat. During elections, allegations take concrete forms: claims of malfunctioning EVMs, unauthorized movement, or changed counting rules. These narratives leverage the visceral impact of videos and social media posts to create an immediate sense of crisis [4]. After elections, the losing side often demands investigations or recounts. Petitions to the courts seeking 100% VVPAT verification have become almost ritualistic, despite consistent judicial refusal citing a lack of evidence.

This discourse treats EVMs as a "master symbol"—a technology that promises integrity but becomes the locus of any mistrust in the system. As the Supreme Court noted, "unfounded challenges… may actually reveal perceptions and predispositions" even more than concrete fraud.

## 5. Case Study Analysis: The Evolution of EVM Controversies

### 5.1 The 2019 General Elections: A Democratic Watershed

The 2019 Lok Sabha elections were a watershed moment. Following a significant defeat for the opposition, leaders from the Congress-led UPA alliance publicly accused the ECI of complicity in "vote chori" (vote theft). Demands for increased VVPAT verification (to 50%) were made. The Supreme Court, in a pre-election ruling, increased the VVPAT audit from one to five polling stations per assembly constituency to foster "greater satisfaction" but stopped short of mandating larger counts. Public opinion reflected deep skepticism; a CSDS-Lokniti survey showed 45% of respondents believed EVMs could be manipulated by the ruling party. Despite technical analyses and judicial reassurances finding no evidence of systematic manipulation, the narrative of a "rigged" election dominated opposition media and social channels, epitomizing the post-truth struggle between political rhetoric and evidence-based institutional defence.

### 5.2 The 2020 Delhi Assembly Election: Urban Anxiety

The 2020 Delhi state polls provide a striking contrast to the party's 2015 victory, which was met without EVM allegations. In 2020, after exit polls predicted an AAP repeat win, the party cited videos on Twitter showing EVMs being moved "illegally" after voting, implying potential tampering en route to storage. The ECI and police promptly responded that all machines were accounted for and sealed under protocol. The divergent reactions exposed the pattern: winners trust the system, losers suspect it. While the episode ended without a court petition, it signified that EVM anxiety had firmly entered the urban political consciousness.

### 5.3 The 2021 West Bengal Assembly Election: Polarized Frenzy

West Bengal's 2021 election was arguably the most contentious. Both the ruling TMC and the challenger BJP accused each other of rigging. TMC leaders rapidly alleged irregularities, including that VVPAT machines showed the wrong symbol. Social media amplified these claims with high-emotion posts. The BJP narrative painted the TMC as the instigator of distrust. This tit-for-tat underscored a bitter paradox where the party often accused of rigging claimed it was the victim. The high-octane campaign, fueled by social media rumors and street-level violence, demonstrated how the EVM debate becomes another front in a polarized contest. Post-election, the Supreme Court again refused demands for 100% counts, but the narrative had taken hold, contributing to a documented dip in public trust in the system.

### 5.4 The 2022 Uttar Pradesh Assembly Election: Procedural Challenges

After the BJP secured a historic third consecutive victory in UP, Samajwadi Party leader Akhilesh Yadav alleged "EVM theft," producing a video of a returning officer admitting to a "lapse" in the protocol for moving machines. Officials clarified the machines were for training, not votes. This episode illustrates how even perceived procedural irregularities are seized upon to frame legitimacy claims and rally supporters following a defeat. It also reveals the limits of judicial remedy, as results are often declared before petitions can be fully adjudicated.

**Table 1:** Incidence of Major EVM Allegations Following National and State Elections (2014-2023)

| Election Year | Election Type | Winning Parties | Alleging Party | Nature of Allegation |
|---|---|---|---|---|
| 2014 | General Elections | NDA | INC, AAP | Isolated complaints, demands for VVPAT verification |
| 2017 | UP Assembly Elections | BJP | BSP (Mayawati) | Votes stolen, claims that votes went to the rival party's symbol despite voter intent |
| 2019 | General Elections | BJP-led NDA | Congress-led UPA | Widespread allegations of "vote chori," demands for 50% VVPAT counting |
| 2020 | Delhi Assembly | AAP | BJP | No Specific Complaint |
| 2022 | UP Assembly Elections | BJP | SP, BSP, INC | Allegations of "EVM theft" and illegal transportation of machines |

**Source:** Compiled by author from party statements and media reports.

## 6. Institutional Responses and the Legal Tug-of-War

The institutional response to persistent allegations has been a critical component of the debate, characterized by a technical defense from the ECI and a mediating, evolving role for the judiciary.

### 6.1 The ECI's Administrative Defenses and Communication Gap

The ECI's response has been rooted in a technical and administrative defense. It has organized public challenges (e.g., the 2017 "EVM Hackathon"), detailed complex chains of custody, and implemented security protocols like GPS tracking [5]. However, its communication strategy has often been criticized as overly defensive and legalistic, providing detailed press notes rather than engaging in a proactive, participatory public conversation. This defensive posture, while factually robust, can be perceived as insular and inadvertently reinforces the "black box" perception it seeks to dispel.

### 6.2 The Evolving Role of the Judiciary

The Supreme Court of India has played a crucial role as an arbiter. Its involvement has evolved significantly:

a. In Subramanian Swamy v. ECI (2013), the Court mandated the introduction of VVPATs, recognizing the voter's "right to know" and "right to verify."

b. In 2019 N. Chandrababu Naidu v. UoI, the Court pragmatically increased the VVPAT audit from one to five polling stations per constituency to provide "greater satisfaction."

c. The most definitive ruling came in April 2024, Association for Democratic Reforms v. ECI, where the Court explicitly dismissed demands for a return to paper ballots and 100% VVPAT counting. The bench noted the documented limitations of paper ballots and stated that challenges based on "suspicion and doubt, without any cogent material and data, are execrable and undesirable." This ruling demonstrated a clear shift toward judicial restraint, refusing to entertain political challenges lacking concrete evidence and framing the issue as one of nurturing a public "culture of trust."

**Table 2:** Key Supreme Court Rulings on EVM-VVPAT Legitimacy (2013-2024)

| Case | Year | Petitioners' Main Demands | Court's Ruling | Rationale |
|---|---|---|---|---|
| Subramanian Swamy vs. ECI | 2013 | Introduction of VVPAT system | Mandated the introduction of VVPATs | Recognized the voter's fundamental "right to know" and "right to verify" |
| N. Chandrababu Naidu vs. UoI | 2019 | Increase VVPAT count to 50% | Increased VVPAT verification to 5 EVM Stations only~ 0.44-2% | A "precautionary measure" to increase "greater satisfaction" without impacting logistics |
| Association for Democratic Reforms vs. ECI | 2024 | Return to paper ballots; 100% VVPAT counting | Dismissed all pleas, upholding the EVM system | Cited limitations of paper ballots; stated challenges based on "suspicion and doubt" are undesirable |

## 7. Recommendations for Rebuilding Legitimacy: Beyond Technical Fixes

The evolution of the debate has shifted focus from the technology's security to the broader electoral process's transparency and verifiability. Recommendations from domestic and international experts converge on the need for holistic reform.

### 7.1 International Best Practices and the Call for Verifiability

International standards for electronic voting systems, as outlined by organisations like the Council of Europe and the National Democratic Institute, centre on core principles of transparency, auditability, and public confidence [6]. These principles state that a new e-voting system should only be introduced if public trust is high and that all aspects of the election process should be as transparent as possible, including documentation, reports, and testing procedures. They also highlight the need for a voter-verifiable paper record (VVPAT) and for results to be immediately and publicly available for independent verification. The Indian system aligns with some of these principles, particularly with the introduction of VVPATs, but falls short on others, such as providing public access to the voting source code for scrutiny [7].

### 7.2 The Case for Risk-Limiting Audits

The Citizens' Commission on Elections (CCE), a domestic expert body, has made a key contribution to the electoral debate by arguing for a shift away from a system based merely on institutional trust towards one of "end-to-end

verifiability." [8] This concept ensures that a vote is demonstrably Cast-as-intended- The voting machine recorded the vote correctly, Recorded-as-cast- The cast vote is correctly included in the final tally, and Counted-as-recorded- The final tally is computed correctly. The CCE directly critiques the Supreme Court's current 5-booth VVPAT audit as being statistically insufficient to detect widespread, low-level micro fraud, thus failing to adequately build public confidence. Instead, they strongly advocate for implementing a statistically sound "risk-limiting audit" (RLA), which would require a significantly larger and dynamic sample size to catch any discrepancy with a high degree of confidence. This recommendation fundamentally reframes the problem from the question of whether voting machines are hackable to one of whether the electoral system is sufficiently auditable to prove the integrity and correctness of the outcome to all stakeholders, thereby directly addressing the core trust deficit.

## 8. Conclusion, Implications, and Policy Recommendations

This study concludes that the persistent discourse questioning the legitimacy of EVMs and VVPATs in India is a complex socio-political phenomenon, not a purely technical debate [9]. The "black box" nature of the technology creates an information vacuum that is strategically filled by political actors seeking to explain electoral losses, mobilise supporters, and challenge opponents. The media, particularly social media, acts as a powerful force in amplifying these narratives, often at the expense of factual accuracy. While the ECI and the judiciary have taken steps to enhance technical safeguards

and transparency (like VVPATs), a defensive institutional posture and the overtly political nature of the allegations have made it difficult to build a broad, cross-partisan consensus on the technology's legitimacy [10].

The implications for Indian democracy are profound. The repeated questioning of EVMs without conclusive proof risks eroding public trust in the electoral process itself, which is the very foundation of democratic legitimacy [11]. It normalises the non-acceptance of electoral results, potentially leading to increased political instability and the delegitimisation of duly elected governments. Finally, it places an enormous burden on the ECI to constantly prove the integrity of its processes, diverting resources from other critical electoral functions.

To break this cycle of suspicion, a multi-pronged approach is needed, moving beyond mere technical defence to a holistic strategy for rebuilding trust.

a. **For the ECI: Enhance Transparency and Education:** The ECI must move beyond defensive demonstrations to a proactive, educational, and participatory model. This should involve simplifying explanations of the technology's workings, organising transparent factory visits for journalists and civil society, and implementing open data initiatives on machine allocation and storage. Furthermore, the ECI should seriously consider adopting statistically robust, risk-limiting audits of VVPATs, as recommended by the CCE, to demonstrably prove the accuracy of the electronic count [12].

b. **For Political Parties: Foster Cross-Partisan Engagement:** Political parties must be urged to recommit to the fundamental principles of democratic contestation, including the peaceful acceptance of electoral outcomes. Institutionalising a formal, cross-partisan committee with technical advisors to continuously engage with the ECI on EVM-related issues could depoliticise the discourse and provide a more constructive channel for raising concerns.

c. **For Civil Society and Media: Promote Media Literacy and Evidence-Based Discourse:** Efforts are needed to promote media literacy among the public to help them discern between evidence-based journalism and politically motivated disinformation [13]. Civil society organisations like the Association for Democratic Reforms (ADR) should continue to play a vital role in advocating for and monitoring electoral reforms.

Ultimately, the future of EVM legitimacy in India depends less on further technical fortification and more on winning the battle of perception. This requires greater transparency, inclusive dialogue, and a renewed commitment from all political actors to uphold the integrity of the democratic process they seek to lead.

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