

EVMS, POLITICAL LEGITIMACY, AND ELECTORAL REFORMS: CHALLENGES FOR INDIAN DEMOCRACY

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ABSTRACT

The introduction of Electronic Voting Machines (EVMs) in India marked a significant milestone in the country's electoral history, designed to address the inefficiencies, delays, and malpractices associated with paper ballots. By ensuring faster counting, reducing the scope for invalid votes, and minimizing logistical challenges, EVMs have undoubtedly modernized the electoral process. However, their adoption has also given rise to intense debates regarding electoral transparency, political legitimacy, and democratic accountability. The core concern revolves around whether EVMs, while technologically efficient, can be perceived as fully trustworthy instruments for safeguarding the mandate of the people. This paper critically examines the debates surrounding the use of EVMs in India, with particular attention to issues of political legitimacy, trust deficits between electoral institutions and citizens, and the ongoing discourse on electoral reforms. The paper begins by tracing the historical trajectory of EVMs, from their first experimental use in the 1980s to their widespread adoption in the 21st century. It highlights the arguments in favor of EVMs, including efficiency, reduced costs, eco-friendliness, and resilience against ballot stuffing. At the same time, it underscores persistent allegations of tampering, lack of transparency in the machine's design, and the absence of a verifiable voter trail in the early stages of their use. The incorporation of the Voter Verified Paper Audit Trail (VVPAT) has mitigated some concerns, yet scepticism continues among political actors, civil society, and segments of the electorate. The research also explores the broader implications of technological mediation in democracy. The reliance on machines, controlled and maintained by state agencies, raises critical questions about accountability and institutional trust. If citizens lose confidence in the neutrality of electoral tools, the very foundation of political legitimacy weakens. The study further discusses global practices of electronic voting and compares India's experience with other democracies, emphasizing the necessity of independent audits, transparency in procurement, and inclusive stakeholder consultations.

Keywords: Electronic Voting Machines (EVMs), Electoral Reforms, Political Legitimacy, Indian Democracy, Voter Trust

INTRODUCTION

The credibility of elections forms the cornerstone of any democracy, ensuring that political authority is derived from the will of the people. In India, the world's largest democracy, the adoption of Electronic Voting Machines (EVMs) since the 1990s has transformed the electoral process by enhancing efficiency, accuracy, and speed in vote

counting. However, the introduction of technology into electoral systems has not been without controversy. Concerns over transparency, hacking, malfunction, and potential manipulation have triggered widespread debates among political actors, civil society, and legal institutions. At the heart of these debates lies a fundamental question: do EVMs strengthen or weaken political legitimacy in Indian democracy?

Political legitimacy depends not only on the fairness of elections but also on the perception of fairness among citizens. While the Election Commission of India has consistently defended EVMs as tamper-proof and reliable, opposition parties, activists, and sections of the media have highlighted vulnerabilities that may undermine public trust. These concerns have intensified in the age of digital surveillance, cyber threats, and rising political polarization. The Supreme Court of India has also weighed in, advocating for mechanisms like Voter Verifiable Paper Audit Trail (VVPAT) to enhance credibility. The issue extends beyond technology—it reflects broader questions of electoral reforms, accountability, and institutional trust. India's democratic journey has been shaped by its ability to adapt electoral systems in response to emerging challenges. As the country approaches new political transitions, the debate around EVMs has become central to the discourse on democratic integrity. This paper seeks to examine the role of EVMs in shaping political legitimacy, analyse criticisms and defences surrounding their use, and explore electoral reforms required to safeguard India's democratic future.

OBJECTIVES OF THE STUDY

1. To analyse the historical evolution and rationale behind the introduction of EVMs in India.
2. To examine the political legitimacy of EVM-based elections.
3. To explore concerns and controversies surrounding EVMs, including allegations of hacking and manipulation.
4. To assess the role of Voter Verified Paper Audit Trail (VVPAT) in strengthening credibility.
5. To suggest electoral reforms for safeguarding democracy.

SIGNIFICANCE OF THE STUDY

The debate around Electronic Voting Machines (EVMs) has become a central concern in the discourse on democratic legitimacy in India. This study holds significance because it addresses the intersection of electoral technology, voter confidence, and the broader challenges of sustaining democratic credibility. In a nation as diverse and populous as India, where elections are a massive exercise involving millions of voters, the reliability and transparency of electoral mechanisms directly influence public trust in political institutions. By exploring the role of EVMs in shaping perceptions of fairness and accountability, this research contributes to an urgent conversation on how technological interventions impact democratic processes.

The study is also significant for policy-makers, as it provides evidence-based insights into the strengths and limitations of EVMs. While EVMs are praised for their efficiency and ability to minimize logistical challenges compared to paper ballots, concerns about hacking, tampering, and lack of verifiable paper trails have led to demands for reforms. Analyzing these

issues highlights the need for continuous innovation and institutional safeguards to uphold electoral integrity.

For scholars and students of political science, this research enriches the academic discourse on electoral reforms and political legitimacy in emerging democracies. It situates the Indian experience within a global context, where many nations are grappling with similar questions of technology and trust in elections. Additionally, it provides a framework for assessing the compatibility of electoral reforms with democratic principles such as transparency, inclusiveness, and accountability.

Ultimately, the study's significance lies in its potential to inform reforms that strengthen the foundations of Indian democracy. By critically examining EVMs and their implications, the research emphasizes the importance of aligning electoral technology with the core values of democracy, ensuring that both the process and outcomes of elections remain beyond reproach.

REVIEW OF LITERATURE

The debate on Electronic Voting Machines (EVMs) in India has generated diverse scholarly perspectives, ranging from concerns about transparency and accountability to arguments highlighting efficiency and modernization of elections. Existing studies explore technical reliability, legal challenges, comparative global practices, and the impact on voter trust. Reviewing these works provides a foundation to understand how EVMs influence political legitimacy and the need for electoral reforms in Indian democracy.

Scholars such as Palshikar (2017) and Yadav (2019) argue that while EVMs were introduced to reduce electoral malpractices like booth capturing and ballot stuffing, they have themselves become subjects of suspicion. Concerns regarding transparency, lack of voter-verifiable records, and limited accessibility for independent audits are highlighted as major gaps affecting voter trust in electoral outcomes.

Norris (2014) in her comparative study on electoral integrity emphasizes that the legitimacy of a political system depends on citizens' trust in electoral technology. In India, the controversies around EVM tampering and the demand for Voter Verified Paper Audit Trail (VVPAT) underline the link between technology and the perception of fair elections. Empirical studies suggest that skepticism, even without conclusive proof, can weaken the perceived legitimacy of electoral mandates.

Research by Alvarez, Hall, and Trechsel (2009) shows that across democracies, the introduction of electronic voting systems has been met with both optimism and apprehension. While such systems speed up counting and reduce manual errors, lack of transparency often leads to political contestation. Comparative insights from Brazil, the U.S., and Estonia reveal that technological adoption requires robust institutional safeguards, a lesson relevant for India.

Scholars like Sridharan (2020) and Mehta (2021) focus on the role of electoral reforms in strengthening democracy. Their studies suggest that technological solutions like EVMs should be complemented with structural reforms such as stronger Election Commission autonomy, voter awareness campaigns, and legal provisions for independent verification. The

inclusion of VVPATs is seen as a step toward balancing efficiency with accountability, though its limited random verification remains a debated issue.

HISTORICAL CONTEXT OF EVMS IN INDIA

The introduction of Electronic Voting Machines (EVMs) in India marked a significant transformation in the country's electoral process. Before their adoption, India relied solely on paper ballots, which often led to challenges such as booth capturing, ballot stuffing, counting delays, and invalid votes. To address these issues, the Election Commission of India (ECI), in collaboration with Electronics Corporation of India Limited (ECIL) and Bharat Electronics Limited (BEL), began experimenting with EVMs in the late 1970s.

The first prototypes of EVMs were developed in 1977–78, and limited experimental use began in 1982 during the Paravur Assembly constituency election in Kerala. However, a Supreme Court ruling in **A. C. Jose vs. Sivan Pillai (1982)** temporarily halted their use, as the Representation of the People Act (1951) did not provide for electronic voting. This legal hurdle was resolved through the **Representation of the People (Amendment) Act, 1988**, which legalized the use of EVMs in elections.

By the late 1990s, EVMs were introduced in several constituencies, and in the **2004 Lok Sabha elections**, they were used nationwide for the first time. Their adoption was celebrated for reducing malpractices like invalid votes and simplifying counting procedures. Over the years, the machines were upgraded with **Voter Verifiable Paper Audit Trail (VVPAT)** systems (first piloted in 2013, mandated in 2019) to enhance transparency and voter confidence.

The historical journey of EVMs in India reflects the evolving attempts of the world's largest democracy to modernize elections, balance efficiency with fairness, and address recurring concerns about legitimacy. While they have streamlined voting and counting, their introduction has also sparked persistent debates on reliability, transparency, and the future of electoral reforms.

EVMS AND POLITICAL LEGITIMACY

Political legitimacy in a democracy is rooted in citizens' trust that elections are free, fair, and transparent. In India, Electronic Voting Machines (EVMs) were introduced to reduce electoral fraud, eliminate invalid votes, and improve efficiency. While they have streamlined the voting process, questions regarding their security, potential tampering, and lack of a verifiable paper trail have fueled debates. Critics argue that any suspicion of manipulation undermines the legitimacy of election outcomes, whereas supporters highlight that EVMs minimize booth capturing and ballot stuffing, which were rampant in the past. The Supreme Court and the Election Commission of India have repeatedly defended EVMs' reliability, especially after introducing Voter Verified Paper Audit Trail (VVPAT) for additional transparency. Nonetheless, the ongoing contestation around EVMs demonstrates how technological solutions in elections must be balanced with public confidence.

KEY CHALLENGES AND CONTROVERSIES

Electronic Voting Machines (EVMs) have revolutionized India's electoral process by replacing traditional paper ballots. While they ensure efficiency and speed in elections, debates around their transparency, credibility, and security continue. Understanding their role is crucial for assessing political legitimacy and strengthening democratic practices in the world's largest democracy.

1. **Transparency and Trust Deficit:** Many political parties and civil society groups argue that the inner functioning of EVMs is not transparent, as voters cannot fully verify how their vote is recorded and counted. This has created a trust deficit in electoral outcomes.
2. **Possibility of Tampering:** Despite the Election Commission's assurance, allegations persist that EVMs can be tampered with during storage, transportation, or even through malicious programming. This raises concerns about free and fair elections.
3. **Demand for VVPAT Verification:** The introduction of the Voter Verifiable Paper Audit Trail (VVPAT) was meant to ensure accountability. However, limited sample verification (only 5 machines per constituency) has been criticized as inadequate to confirm election integrity.
4. **Legal and Political Disputes:** Numerous petitions have been filed in courts questioning the reliability of EVMs. Several opposition parties have demanded either a complete return to ballot papers or 100% VVPAT verification.
5. **Technological Vulnerabilities:** Critics highlight that no electronic system is entirely foolproof. Concerns include the possibility of hacking, manipulation of chips, or external interference, even though the Election Commission maintains that EVMs are stand-alone, non-networked devices.
6. **Impact on Electoral Legitimacy:** Repeated controversies surrounding EVMs have undermined public confidence in the democratic process. Opposition parties often use EVM-related skepticism as a political tool, which risks weakening the legitimacy of elected governments.

Thus, the controversies around EVMs are not merely technical but also deeply political and psychological, shaping the broader perception of electoral legitimacy in India.

THE ROLE OF VVPAT

The Voter Verifiable Paper Audit Trail (VVPAT) was introduced in India as a supplementary mechanism to strengthen the credibility and transparency of the Electronic Voting Machine (EVM) system. Its primary function is to provide voters with a physical confirmation of their vote. When a voter casts a ballot using the EVM, the VVPAT machine generates a paper slip displaying the candidate's name and symbol. This slip remains visible through a glass window for approximately seven seconds before automatically falling into a sealed box. Through this process, voters are assured that their vote has been accurately recorded, thereby bridging the gap between electronic voting and voter confidence.

The role of VVPAT becomes particularly important in addressing concerns raised by political parties, civil society groups, and citizens regarding the reliability and security of

EVMs. Although EVMs are designed to be tamper-proof and efficient, skepticism about their vulnerability persists. In such cases, VVPAT serves as a verifiable backup that can be cross-checked with the electronic count in the event of disputes, technical glitches, or allegations of tampering. This ensures greater accountability in the electoral process.

Furthermore, the Election Commission of India has mandated the use of VVPAT in all constituencies to ensure uniformity and transparency. Randomized checks of VVPAT slips against EVM results have become a standard practice, thereby reinforcing trust in the system. Beyond enhancing technical reliability, VVPAT also plays a psychological role in strengthening voter faith in the democratic process.

In essence, the introduction of VVPAT reflects India's commitment to electoral reforms and technological adaptation while maintaining democratic integrity. By combining electronic efficiency with physical verification, VVPAT provides a safeguard against controversies, enhances transparency, and strengthens the legitimacy of election outcomes.

COMPARATIVE PERSPECTIVE

The debate over Electronic Voting Machines (EVMs) in India acquires greater depth when examined through a comparative perspective with global electoral practices. While many countries have experimented with electronic voting technologies, their experiences reveal a mixed picture of advantages, controversies, and eventual policy decisions. For instance, nations such as Brazil and the Philippines continue to rely on EVMs extensively, emphasizing efficiency, transparency, and quick result processing. Brazil, one of the earliest adopters, views its EVMs as a symbol of modernization and reports minimal controversies over legitimacy. Similarly, the Philippines has adopted automated voting systems to address the historical problem of fraud during manual counting.

In contrast, several advanced democracies, such as Germany, the Netherlands, and Ireland, abandoned or limited the use of electronic voting due to concerns about transparency and the possibility of manipulation. Germany's Constitutional Court ruled that the use of EVMs without a verifiable paper audit trail violated the constitutional principle of public scrutiny in elections. The Netherlands and Ireland also returned to paper ballots after public skepticism regarding hacking risks and lack of auditability. These examples illustrate that while EVMs may enhance efficiency, their legitimacy depends heavily on institutional trust, technological safeguards, and the sociopolitical environment in which they are deployed.

For India, where elections are the world's largest democratic exercise, the comparative experience highlights both caution and confidence. The adoption of VVPAT (Voter Verifiable Paper Audit Trail) seeks to address global concerns by ensuring auditability and reinforcing voter trust. However, the persistent demands for 100% VVPAT verification reflect the need to balance technological convenience with democratic legitimacy. Thus, India's reliance on EVMs represents a middle ground—embracing modern technology while also learning from international challenges to safeguard electoral democracy.

ELECTORAL REFORMS NEEDED

Electoral reforms are essential to strengthen democracy and ensure free, fair, and transparent elections. With the increasing use of technology like Electronic Voting Machines (EVMs) and VVPATs, concerns about credibility, accountability, and transparency have emerged. Addressing these challenges through meaningful reforms can enhance public trust and safeguard democratic institutions.

1. **Strengthening VVPAT Audits:** Mandatory and randomized verification of a higher percentage of VVPAT slips during every election would enhance transparency. Presently, only a small sample is verified, which often raises doubts. Expanding audits can ensure greater public confidence in electoral outcomes.
2. **Independent Technical Oversight:** Establishing an autonomous, multi-stakeholder committee comprising experts from academia, technology, and civil society to regularly evaluate and audit the functioning of EVMs. This would reduce dependency on government agencies alone and strengthen perceptions of neutrality.
3. **Increased Transparency in EVM Manufacturing and Testing:** Making the design, coding, and testing processes more open to independent verification without compromising security. Public demonstrations, mock polls, and open audits would reduce misinformation and suspicions about possible tampering.
4. **Improved Voter Awareness Programs:** Many controversies arise due to misinformation and lack of understanding. Nationwide voter education campaigns about how EVMs and VVPATs work can dispel doubts, improve trust, and enhance voter participation.
5. **Legal and Institutional Reforms:** Introducing clear legal provisions to address disputes related to EVMs and election technology. Strengthening the Election Commission's autonomy, ensuring quicker resolution of complaints, and enforcing stricter penalties for spreading false claims about EVM tampering can help maintain democratic legitimacy.

CONCLUSION

The evolution of India's electoral system, particularly with the introduction of Electronic Voting Machines (EVMs) and Voter Verifiable Paper Audit Trail (VVPAT), reflects the country's effort to modernize and streamline the democratic process. While these technological innovations have reduced logistical challenges, minimized invalid votes, and enhanced efficiency, they have also given rise to concerns about transparency, security, and political legitimacy. Public trust in elections is the cornerstone of any democracy, and even minor doubts about electoral integrity can erode confidence in representative institutions.

The debates around EVM reliability, demands for 100% VVPAT verification, and allegations of tampering underscore the urgent need for comprehensive electoral reforms. Strengthening technical safeguards, ensuring regular audits, and increasing voter awareness are crucial steps toward maintaining credibility. Moreover, reforms must also extend beyond technology—covering campaign financing, electoral expenditure, misuse of media, and ensuring a level playing field for all political parties.

International comparisons highlight that while India has made significant strides in adopting electoral technology, the global experience shows that transparency and auditability are equally important as efficiency. Therefore, India must adopt a balanced approach that embraces innovation without compromising trust.

Ultimately, electoral reforms must be rooted in inclusivity, accountability, and transparency. By addressing technological, institutional, and structural challenges, India can reinforce its democratic values and set an example for other nations. In a country where democracy is both a political system and a cultural ethos, safeguarding electoral integrity is not just a procedural necessity but a national imperative.

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