

Challenges Faced by School Management Committees in the Implementation of NEP 2020: Exploring AI Solutions for Governance and Monitoring

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Abstract: *The National Education Policy (NEP) 2020 emphasized the decentralization of school governance and promoted the active involvement of School Management Committees (SMCs) in shaping the quality and inclusivity of school education. Despite this emphasis, SMCs in many parts of India, particularly in rural and under-resourced areas, continued to face significant challenges in effectively implementing NEP 2020 directives. These challenges included a lack of awareness about policy reforms, inadequate training, limited digital literacy, irregular participation, and poor access to real-time monitoring tools.*

This study aimed to critically examine the core challenges that hindered SMCs from fulfilling their mandated roles under NEP 2020 and explored how Artificial Intelligence (AI) could serve as a transformative tool to strengthen school governance and monitoring mechanisms. By employing a qualitative research approach, the study relied on secondary data drawn from a wide spectrum of credible sources, including academic books, peer-reviewed journals, research articles, government publications, and verified online resources. The findings highlighted that AI-based solutions such as automated dashboards, voice-assisted communication platforms, predictive analytics, and chatbot support addressed many operational gaps faced by SMCs. Furthermore, the study provided recommendations for integrating AI into SMC training, governance frameworks, and policy implementation to enhance participation, transparency, and efficiency at the grassroots level.

Keywords: *School Management Committees (SMCs), NEP 2020, Artificial Intelligence, School Governance, Educational Policy, Monitoring Tools, Digital Literacy*

Introduction

The landscape of school governance in India has undergone a significant transformation with the introduction of the National Education Policy (NEP) 2020, which envisions a holistic, equitable, and inclusive education system for the 21st century. One of the key stakeholders in achieving the policy's ambitious objectives is the School Management Committee (SMC), a statutory body mandated under the Right to Education (RTE) Act, 2009. The SMC acts as a bridge between the school and the community, aiming to ensure transparency, accountability, and participatory decision-making in school functioning. With NEP 2020 emphasizing decentralization, community involvement, and school-level governance, the role of the SMC has become even more crucial. However, despite the policy's progressive vision, numerous challenges hinder the effective functioning of SMCs, particularly in the context of implementing the reforms envisioned in NEP 2020.

SMCs across India—especially in rural and marginalized regions—face a wide array of issues, ranging from lack of capacity, inadequate training, and limited awareness of policy mandates to poor digital literacy, irregular meetings, low participation of parents, and weak

accountability mechanisms. Many members of SMCs, especially those without a formal education background, struggle to comprehend the complex procedural and policy requirements associated with NEP 2020. Additionally, bureaucratic hurdles, insufficient coordination between teachers and SMC members, and the absence of a robust system for performance monitoring further undermine their effectiveness. These challenges become particularly pronounced in under-resourced schools, where SMCs often operate with minimal support and guidance.

In the era of digital transformation and data-driven decision-making, Artificial Intelligence (AI) has emerged as a potential enabler of more efficient and inclusive governance structures within the education system. AI technologies—such as machine learning algorithms, predictive analytics, chatbots, and natural language processing—have demonstrated their capacity to simplify administrative processes, enhance communication, automate routine tasks, and provide real-time monitoring of key performance indicators. In the context of SMCs, AI could offer transformative solutions by providing easy-to-understand dashboards, personalized digital training modules in local languages, AI-driven alerts and reminders for meetings and compliance, and intelligent data analysis tools to assess school performance and suggest targeted interventions.

Integrating AI into SMC functioning also aligns with NEP 2020's focus on promoting technology-enhanced governance and capacity building at all levels of the education system. By equipping SMCs with AI-based tools, it is possible to bridge the gap between policy intent and grassroots implementation. For instance, AI-driven virtual assistants could guide SMC members through various processes such as drafting school development plans, budgeting, or monitoring student attendance. Furthermore, AI-enabled platforms could assist state and district education authorities in tracking SMC activity, identifying gaps, and allocating resources more effectively.

This research aims to investigate the specific challenges faced by School Management Committees in implementing the NEP 2020, while simultaneously exploring how AI-enabled solutions can support and strengthen governance and monitoring at the school level. It will examine case studies from different regions, analyze existing technological interventions, and provide recommendations for policymakers and educational planners. The study assumes critical importance in the current context, where education systems are being reimagined post-COVID-19 with an increased reliance on technology and innovation.

By integrating qualitative insights from SMC members, school heads, and education officers, and reviewing successful pilot initiatives, this study seeks to bridge the existing gap between traditional school governance structures and emerging AI-based innovations. Ultimately, the research envisions a more empowered, informed, and technologically equipped SMC that can truly act as a catalyst in realizing the vision of NEP 2020 at the grassroots level.

Objective of the Study

1. To examine the challenges faced by School Management Committees in implementing NEP 2020 and explore AI-based solutions for effective governance and monitoring.

Literature Review

School Management Committees (SMCs) play a critical role in promoting decentralization and ensuring active community participation in school governance, as mandated by the Right to Education (RTE) Act, 2009 (Singh, 2020). They serve as vital grassroots-level institutions responsible for monitoring school activities, enhancing accountability, and contributing to the preparation and execution of School Development Plans. However, despite their statutory importance, SMCs in many parts of India remain underutilized due to several structural and functional challenges such as lack of proper training, unclear role definitions, low participation

of stakeholders, and limited engagement from the community (Patel, 2021). The National Education Policy (NEP) 2020 has expanded the scope of SMCs by assigning them critical responsibilities related to improving learning outcomes, promoting inclusive education, ensuring equitable access, and supporting school-level planning and reforms (Rao, 2021). However, the implementation of these new roles has encountered significant hurdles, especially in rural and remote areas where SMC members often lack sufficient awareness and understanding of NEP 2020 provisions, thereby impeding the overall effectiveness of the policy (Kumar, 2022). The success of school-level governance under NEP 2020 significantly depends on the strength of collaboration between SMCs and school leaders, but such collaboration is frequently undermined by communication barriers, hierarchical school structures, and unequal power dynamics between members and educational authorities (Mehta, 2019).

In this context, Artificial Intelligence (AI) has emerged as a promising technological enabler that can transform school governance by offering innovative tools for real-time data analysis, performance tracking, and administrative automation (Sharma, 2022). AI-based systems can bridge the digital literacy gap among SMC members by offering intuitive user interfaces, voice-enabled assistance, and content in local languages, thereby making complex data and processes more accessible (Verma, 2021). These technologies can help streamline and automate routine tasks such as tracking student attendance, monitoring infrastructure development, analyzing teacher performance, and generating automated reports for regular review by SMCs (Das, 2020). The integration of AI into school governance has already shown positive results in several pilot programs across Indian states, with improved transparency, efficient decision-making, and enhanced responsiveness to local issues (Nair, 2023). However, a significant obstacle remains in the form of poor digital infrastructure and inadequate access to reliable internet services in rural areas, which severely limits the deployment and scalability of AI tools in these settings (Thomas, 2021). To make AI adoption viable and impactful, there is a need for structured training and capacity-building programs tailored for SMC members, focusing on digital literacy, understanding of AI applications, and ethical considerations (Joshi, 2022).

Furthermore, the success of AI integration depends on building community trust in these technologies, which requires ensuring transparency, maintaining data privacy, and developing user-friendly tools that are culturally and contextually relevant (Chakraborty, 2020). AI-enabled platforms like automated SMS alerts, multilingual voice assistants, and virtual chatbots have already demonstrated potential in enhancing community engagement and participation in school activities (Gupta, 2021). Studies also suggest that AI-supported monitoring tools can significantly reduce the administrative burden on school principals and SMC members, allowing them to shift their focus from paperwork to strategic planning and school improvement efforts (Ranganathan, 2023). However, for the implementation of NEP 2020 to be truly effective, it is essential that AI tools and strategies are designed in alignment with the socio-cultural and educational contexts of the communities they serve, taking into account the diverse needs, technological readiness, and educational aspirations of stakeholders at the grassroots level (Bhatia, 2022). Thus, the integration of AI into SMC operations not only addresses operational challenges but also offers a transformative pathway to empower communities, strengthen local governance, and realize the objectives of the NEP 2020 in a more inclusive and efficient manner.

Methodology

The study employed a qualitative research approach, utilizing secondary data obtained from a diverse range of reliable sources. These sources encompassed scholarly books, peer-reviewed journal articles, research papers, reputable websites, newspaper reports, and official publications issued by government agencies.

Challenges Faced by SMCs in Implementing NEP 2020

Lack of Awareness about NEP 2020:

Most SMC members are not adequately informed about the objectives, reforms, and their specific roles under NEP 2020.

Inadequate Training and Capacity Building:

There is a significant gap in training programs, leaving SMC members unprepared to manage school development plans and governance duties.

Low Digital Literacy:

SMC members, especially in rural areas, often lack basic digital skills, hindering their ability to engage with tech-based governance tools.

Irregular Meetings and Low Participation:

Due to poor scheduling, lack of motivation, and socio-cultural factors, SMC meetings are often irregular and poorly attended.

Language and Communication Barriers:

Information related to policies and school functioning is frequently shared in official languages, which some members may not understand well.

Dominance of School Authorities:

Headteachers or school staff may dominate discussions, limiting the democratic functioning and voice of community members in decision-making.

Lack of Real-Time Monitoring Tools:

Without access to timely data on school performance, infrastructure, or student progress, SMCs struggle to track NEP implementation effectively.

Financial and Resource Constraints:

Many SMCs operate without sufficient funding, logistical support, or basic infrastructure to carry out their responsibilities effectively.

Poor Inclusion of Marginalized Communities:

Women, tribal populations, and economically weaker sections are often underrepresented or passive in SMC functioning due to systemic barriers.

Limited Coordination with Educational Authorities:

Weak linkages between SMCs and district/state education departments lead to delays in implementation, feedback, and grievance redressal.

AI as a Tool for Empowering School Management Committees (SMCs)

1. Enhancing Data-Driven Decision-Making through AI Dashboards

Artificial Intelligence can transform the way SMCs operate by offering real-time data dashboards that present key school metrics—such as student attendance, academic performance, teacher presence, and infrastructure status—in a visual and easily understandable format. These dashboards can compile and interpret large datasets and present simplified insights in regional languages, even using icons or voice-based summaries for low-literacy users. This empowers SMC members, especially those without formal education or technical knowledge, to engage actively in discussions and take informed decisions. For example, when data shows a consistent drop in attendance in a specific class, the SMC can initiate a home visit campaign or coordinate with teachers for remedial support.

2. Personalized Training for Capacity Building Using AI Platforms

AI-enabled learning platforms can assess the prior knowledge, skills, and learning pace of each SMC member and offer customized training programs accordingly. These virtual modules can include interactive content, simulations, real-life case scenarios, videos, quizzes, and even voice-guided instructions in local languages. Training can be provided on topics like NEP 2020 reforms, school development planning, budgeting, inclusive education, and child rights. This

on-demand, flexible learning format helps overcome the constraints of in-person workshops and enables continuous capacity building, especially for members in remote or underserved areas.

3. AI Chatbots for On-Demand Governance Support

SMCs often face operational questions related to school functioning, financial procedures, or compliance with policy mandates. AI-powered chatbots can act as 24/7 virtual assistants, offering instant answers to frequently asked questions in multiple languages. Accessible through basic smartphones or messaging apps like WhatsApp, these chatbots can guide users through processes like filling meeting minutes, submitting development plans, or tracking government schemes. This reduces the dependency on school staff or government officials and promotes autonomy and confidence among SMC members.

4. Voice-Assisted Interfaces for Inclusivity and Accessibility

In many communities, SMC members may be illiterate or semi-literate, making it difficult to engage with written reports or digital platforms. AI voice interfaces using natural language processing (NLP) allow users to interact with governance systems through simple voice commands. These tools can read out reports, translate policy documents into the local dialect, and allow voice-based data entry. Such inclusive tools ensure that all committee members—regardless of education level or gender—can access critical information and contribute meaningfully to school governance.

5. Predictive Analytics for Proactive Planning and Intervention

AI can analyze historical data to predict future risks and trends, helping SMCs act proactively. For instance, predictive models can identify patterns such as seasonal dropout rates, decline in performance in particular subjects, or infrastructure usage trends. These forecasts can alert the committee well in advance, allowing it to address root causes—whether through community sensitization, remedial classes, or seeking infrastructure grants. Predictive insights convert SMCs from reactive bodies to strategic planning units that operate based on evidence and foresight.

6. Automating Routine Tasks and Administrative Processes

SMC members often spend considerable time on manual documentation, such as recording meeting minutes, tracking funds, or preparing monthly reports. AI can automate these tasks by generating templates, pre-filling data, summarizing inputs, and even transcribing voice notes. This reduces the administrative burden on members, allowing them to focus on planning, community mobilization, and school improvement efforts. It also improves the accuracy and consistency of records, which is crucial for accountability and audit purposes.

7. Community Engagement through AI-Powered Communication Tools

AI can enhance communication between schools, SMCs, and the wider community by sending automated messages, alerts, and updates through SMS, voice calls, or app notifications. These messages can remind parents about upcoming meetings, inform them about student attendance or health issues, and share progress reports. AI systems can also analyze response rates and engagement patterns to tailor communication strategies that resonate with local audiences, thereby increasing attendance in SMC meetings and boosting parental involvement.

8. Financial Transparency and Monitoring through AI Tools

Managing school budgets and tracking expenditures is a major responsibility of SMCs. AI-based financial tools can generate real-time spending reports, flag anomalies, and provide simplified budget summaries in easy-to-understand formats. These tools can also assist in planning resource allocations based on student needs and infrastructure deficits. Transparent financial monitoring builds trust within the community and minimizes the risk of

mismanagement or misuse of funds. AI can further support SMCs in adhering to audit requirements and government reporting standards.

9. Integration of Feedback and Grievance Redressal Systems

AI can help SMCs integrate community feedback and address concerns through structured systems. Voice surveys, sentiment analysis of parent feedback, and pattern recognition in grievances can highlight recurring issues such as teacher absenteeism, student bullying, or unsafe infrastructure. AI tools can categorize and prioritize complaints, generate response timelines, and track resolution status. This structured grievance redressal mechanism strengthens the accountability of schools to the community and empowers SMCs to act as watchdogs for local educational needs.

10. AI-Enabled Policy Compliance and Documentation Support

NEP 2020 and RTE regulations require SMCs to comply with several procedural and documentation tasks, such as preparing School Development Plans (SDPs), conducting annual assessments, and submitting performance reports. AI tools can guide users step-by-step through these processes, pre-load policy checklists, auto-suggest goals, and validate entries to ensure alignment with government standards. They can even generate submission-ready documents, reducing reliance on external technical experts and boosting the autonomy of SMCs in fulfilling policy mandates.

Recommendations for Empowering SMCs through AI

1. Integrate AI and Digital Literacy into SMC Training Programs

To ensure the effective use of AI in school governance, it is essential that digital literacy and basic AI education be incorporated into the training curricula for School Management Committee members. Government agencies, education departments, and NGOs should jointly develop structured, accessible, and multilingual training modules that familiarize SMCs with the use of digital tools, online dashboards, voice-based systems, and AI-powered applications. These programs should be delivered periodically through both in-person workshops and mobile-based platforms, ensuring inclusivity for members from rural and remote areas. This foundational step will build confidence among members and promote their active use of AI in daily governance activities.

2. Develop Localized and Inclusive AI Platforms

For AI solutions to be effective and equitable, they must be tailored to the cultural, linguistic, and educational contexts of the communities they serve. Developers and policymakers must work together to create AI platforms that support regional languages and dialects, are voice-enabled, and can function even on basic smartphones with limited internet access. Special focus should be placed on designing interfaces that are intuitive and accessible to users with low digital literacy. Customizing AI tools to reflect local needs, festivals, school calendars, and learning priorities will improve adoption and ensure that SMC members find the technology relevant and usable.

3. Promote Public-Private Partnerships for AI Tool Development

The development and deployment of AI tools for education governance can be significantly accelerated through strategic public-private collaborations. Government education departments can partner with ed-tech companies, AI research institutions, and civil society organizations to co-create and implement innovative AI applications specifically designed for SMCs. These partnerships can also facilitate resource sharing, capacity building, field testing, and ongoing technical support. By combining the reach and authority of government institutions with the innovation and agility of the private sector, such collaborations can lead to scalable, impactful solutions rooted in community needs.

4. Ensure Continuous Monitoring, Feedback, and Evaluation

Before AI tools are rolled out at scale, pilot programs should be implemented in diverse school contexts—urban, rural, tribal, and remote—followed by rigorous impact evaluations. These evaluations should assess not just technological performance, but also user satisfaction, inclusivity, accessibility, and outcomes in terms of improved decision-making and community participation. Regular feedback from SMC members should be collected through surveys, focus group discussions, and usage data analytics. This evidence should inform iterative improvements in AI design and guide broader policy decisions on scaling and funding.

5. Embed AI in National Education Policy Frameworks and Budgets

For long-term sustainability, the use of AI in school governance must be formally integrated into national and state education policies. NEP 2020 should explicitly recognize AI as a governance enabler for SMCs and allocate dedicated funding for infrastructure development, tool deployment, and capacity building. Policy guidelines should include standard operating procedures (SOPs) for using AI in tasks like school development planning, monitoring learning outcomes, managing financial records, and community engagement. Embedding AI within official frameworks ensures alignment with national priorities and facilitates institutional support.

6. Build Digital Infrastructure in Underserved Areas

The success of AI adoption depends heavily on reliable digital infrastructure, including access to electricity, internet connectivity, and smart devices. Special government initiatives must focus on improving connectivity in underserved rural and tribal areas where SMCs often function with minimal resources. Solar-powered digital kits, offline-capable apps, and low-bandwidth AI tools can be deployed in areas lacking conventional infrastructure. Ensuring equitable access to technology is a critical prerequisite for empowering all SMCs, regardless of geographic or socio-economic barriers.

7. Ensure Ethical Use of AI with Strong Data Privacy Measures

AI tools dealing with school data must adhere to strict data privacy, consent, and security protocols. Training programs should include sessions on responsible data use, and AI developers must ensure that tools collect only necessary information and protect it through encryption and access controls. Community members should be made aware of how their data is used and reassured about its safety. Transparent governance and grievance redressal mechanisms should be established to prevent misuse and build trust in AI systems.

8. Facilitate AI-Based Community Engagement and Parent Involvement

AI can serve as a bridge between the school and the wider community. Educational authorities should deploy AI-powered communication tools—such as automated SMS alerts, voice call reminders, and mobile apps in local languages—to inform parents about meetings, school updates, and student performance. These tools can also collect community feedback and analyze sentiment to help SMCs make responsive decisions. By actively engaging the larger parent body and community members through AI, SMCs can foster a more participatory school environment.

9. Design AI Tools for Inclusive Participation and Gender Equity

AI solutions must be designed with a focus on inclusivity, ensuring that women, persons with disabilities, and members of marginalized communities can participate fully in school governance. For instance, tools should feature voice commands and visual aids for visually impaired users, and interfaces should be simple enough for those with limited literacy. Special training and outreach programs should encourage women SMC members to use AI tools confidently. Inclusivity in design not only increases participation but also promotes equity in educational decision-making.

10. Create a National Repository of AI Tools and Best Practices

To avoid duplication and encourage knowledge sharing, the Ministry of Education or NCERT should establish a centralized, open-access repository of AI-based tools, training modules, case studies, and best practices related to SMC governance. This repository can serve as a one-stop resource for state education departments, NGOs, and school administrators. By showcasing success stories and real-world examples of AI empowering SMCs, the repository can inspire replication and adaptation across different regions of the country.

Conclusion

The effective implementation of the National Education Policy (NEP) 2020 relies heavily on the active participation and empowerment of School Management Committees (SMCs), which serve as crucial agents of decentralized governance and community involvement in the education system. However, numerous challenges—ranging from limited awareness, inadequate training, and digital illiteracy to weak monitoring mechanisms—continue to hinder the meaningful engagement of SMCs, especially in rural and marginalized regions of India.

In this context, Artificial Intelligence (AI) emerges as a transformative tool that can address many of these limitations by enhancing transparency, streamlining administrative functions, enabling real-time data access, and fostering inclusive participation. AI-powered dashboards, voice-assisted platforms, chatbots, predictive analytics, and localized training modules can significantly improve the efficiency, accessibility, and responsiveness of school governance. When designed with inclusivity, cultural sensitivity, and ethical considerations, AI can empower even the most disadvantaged communities to play an active role in shaping their children's educational experiences.

To realize this potential, it is imperative to invest in infrastructure, integrate AI literacy in training programs, encourage public-private partnerships, and embed AI strategies within the national education policy framework. With the right support systems in place, AI can not only bridge the governance gap at the grassroots level but also strengthen India's commitment to equitable and quality education for all.

AI should not be viewed merely as a technological advancement, but as a strategic enabler that can revitalize community-driven school governance, empower SMCs, and help achieve the broader goals of NEP 2020—especially in fostering inclusion, accountability, and academic excellence across the nation.

References

- 1) Bhatia, R. (2022). *Technology for inclusive education: AI applications in rural India*. Journal of Educational Innovation, 14(2), 55–68.
- 2) Chakraborty, A. (2020). *Building trust in AI for public education governance*. International Journal of Technology and Society, 9(4), 102–116.
- 3) Das, S. (2020). *Artificial intelligence in school monitoring: Opportunities and challenges*. Education Technology Review, 18(3), 89–103.
- 4) Gupta, V. (2021). *Enhancing parental participation in school management through AI-based tools*. Journal of Community Education, 23(1), 34–47.
- 5) Joshi, M. (2022). *Capacity building for AI integration in school management: A training framework for SMCs*. Indian Journal of Educational Administration, 10(1), 66–79.
- 6) Kumar, R. (2022). *Challenges in the implementation of NEP 2020 in rural India*. Policy and Education, 5(2), 21–35.
- 7) Mehta, A. (2019). *Leadership and governance in government schools: The role of SMCs*. Indian Educational Review, 57(1), 45–60.
- 8) Nair, S. (2023). *AI pilots in Indian education: Lessons from state-level initiatives*. Technology in School Management, 11(2), 77–91.

- 9) Patel, T. (2021). *School Management Committees in India: Status, challenges, and future directions*. Indian Journal of Public Education, 6(4), 93–108.
- 10) Ranganathan, K. (2023). *Reducing administrative workload through AI-based monitoring tools*. Journal of Smart Education Systems, 8(1), 12–27.
- 11) Rao, P. (2021). *The evolving role of School Management Committees under NEP 2020*. Education Policy Perspectives, 3(2), 59–72.
- 12) Sharma, N. (2022). *Artificial Intelligence and school governance: Bridging the data gap*. Educational Technology Insights, 15(1), 101–115.
- 13) Singh, R. (2020). *Decentralization and community participation in school governance: A critical review of the RTE Act, 2009*. Contemporary Education Dialogue, 17(3), 256–272.
- 14) Thomas, D. (2021). *Digital infrastructure in rural India: A bottleneck for educational innovation*. Journal of ICT and Rural Development, 13(1), 28–41.
- 15) Verma, S. (2021). *Designing accessible AI platforms for low-literate users*. Human-Centered Technology Journal, 4(2), 87–98.