Empowering Village Voices: A Digital Platform to Synergize Gram Panchayats with Indian Grassroots

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Abstract

The digital era offers a unique opportunity to revolutionize how citizens interact with government bodies, particularly at the grassroots level in India, which is based in the most remote and rural parts of the country. Currently, grievance redressal is a vital tool for collecting contextual feedback from citizens, thereby promoting government accountability. However, the process of submitting grievances and documenting their data must be significantly improved to provide rural local administrations, like the Gram Panchayats in India, with clearer trends and specific insights on areas needing attention.

In India, national-level grievance redressal largely revolves around the Right to Information (RTI) Act.[i] Unfortunately, the RTI portal is not entirely accessible; it requires payment for processing requests and demands personal information, making it challenging for many citizens to use. At the grassroots level, systems like the Gram Sabha (public village meetings) entail high personal costs, are time-consuming, and do not offer anonymity, which discourages people from reporting issues. Moreover, current systems suffer from one-sided data collection, the absence of feedback mechanisms for resolution quality assessment, and a lack of public analytics to enhance transparency and accountability.

This paper introduces our digital platform that transforms these discourses into accessible, centralized, and public dialogues. This involves building an anonymous way to register grievances to facilitate government accountability and provide them with insights into the needs and wants of the citizens. It also means opening up a channel to resolve information asymmetry between citizens and their local government through data and digitization. This approach is further tested using a Randomized Control Trial based on the hypothesis that a better understanding of local government operations by citizens leads to more informed voting and stronger government accountability. Simultaneously, when local governments gain insights into the welfare needs of their citizens, they can address these issues more effectively. Ultimately, this digital platform aims to strengthen the bond between the Gram Panchayat and grassroots communities, leading to an evidence-based and representative decision-making process. Our team is seeking funding to complete the beta version of this platform and run a pilot of this experiment by the end of 2024.

Introduction

Do governments and citizens truly understand each other? How well, as citizens, do we know what we expect from our government, and how well have they fulfilled it in previous terms? How well do governments understand the needs and wants of the groups we represent despite holding massive administrative data?

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The digital era offers a unique opportunity to reimagine how citizens interact with government bodies, especially at the grassroots level in India. A clear information asymmetry exists between these two stakeholders, as evidenced by yearlong farmer protests in 2021-22 (focused on the privatization of government-led markets and shift in Minimum support price) and the abrupt introduction of the Citizenship Amendment Act (CAA, 2019)[ii] and the subsequent police-led attacks on university campus protests across the country. This raises doubts about whether citizens feel represented by their elected officials or are losing trust in their government. Are these protests the best way for Indian citizens to connect with their elected representatives? This trend is not unique to India: a 2021 Ipsos survey[iii] in 28 countries, including China, Mexico, and Turkey, found that government officials and politicians are the least trusted people globally. This may be a result of a mere narrative or based on credible information about governments' failure to be accountable.

India is celebrated for its organization of massive elections over the last 75 years. However, true democracy involves much more than holding elections. The 'by the people' mentality of strategically choosing representatives, an element that characterizes democracy, is fading. India was labeled as an "electoral autocracy" in 2022 by Sweden-based Varieties of Democracy[iv] (VDem) Institute. The US-based non-profit Freedom House downgraded India from a free" to a "partially free" democracy in 2021. It is difficult to measure the productivity of politicians in this system and how accountable they are to their constituents. When an elected representative faces criminal charges, it diminishes public trust in the quality of politicians chosen to govern the country. Elected officials also often fail to fulfill fundamental duties like attending parliamentary sessions and participating in debates. According to the Economist,[v] the number of days per year that the national Parliament meets fell from over 100 in the 1950s to a mere 66 in the 2014-19 term. In comparison, the US Congress is typically in session for more than 160 days annually. During the winter session of 2023, when 143 MPs from the opposition were suspended,[vi] a prominent Congress (opposition) MP Shashi Tharoor said, "Unfortunately, we have to start writing obituaries for parliamentary democracy in India."

We are experiencing an unprecedented surge in data, which has transformed analysis and outcomes across various fields. Effectively leveraging data fosters greater experimentation and innovative forms of analysis, enhancing the questions we ask about the world. How governments gather, analyze, and use microdata to improve administration—or apply government analytics—will be crucial for their success in this evolving landscape. Yet, limited efforts in measuring public administration have hindered progress. The best development plans often fail due to inadequate state capacity. Corruption erodes public confidence in government resource management, while poor service delivery frustrates citizens. The digitization of administrative data now presents a remarkable opportunity to enhance public administration.

While some government analytics efforts occur individually, systematic practice is lacking across governments, skimming over valuable insights that could enhance public administration at a large scale. This inefficiency translates into money left on the table. Public revenues that could be spent more efficiently, with a greater impact on citizens' welfare, are being underutilized. It's time to reclaim those funds and use them to build a better society through low-cost analytics.

Digital Discourse Platform

Grievance redressal has been the preferred approach to gather contextual feedback from citizens, promote government accountability, and provide clearer trends and specific insights to governments. In India, national-level grievance redressal predominantly involves the Right to Information (RTI) Act.[vii] However, the RTI portal is not entirely accessible; it requires payment for processing requests and demands personal information, posing challenges for many citizens. For most local governments, the journey of grievance filling faces many hurdles. There is a high opportunity cost to file a complaint at a government office where most citizens have to let go of their daily wage or work to make this journey. If they do actually make it to the office, the process requires significant identifying information and legal documentation, which many citizens might not have access to or suffer the threat of a negative targeted response. At the grassroots level, systems like the Gram Sabha (public village meetings) entail high personal costs, are time-consuming, lack anonymity, and discourage people from reporting issues. Additionally, current systems suffer from one-sided data collection isolated to government collection with no public access, lack feedback mechanisms for quality assessment, and insufficient public analytics to enhance transparency and accountability.

Our solution is to make these discourses public through an accessible, centralized, and digitally independent platform. Building an anonymous method to register grievances will facilitate government accountability and offer insights into citizens' needs and wants. This opens a channel to resolve information asymmetry between citizens and local governments through data and digitization. Voters need space to raise questions about everyday concerns, act on them, and choose candidates who represent them better and pursue their desired outcomes. Current research[viii] demonstrates that political communication in forums such as candidate debates enhances political knowledge and participation of voters and improves government responsiveness. Increased political participation by poorer voters leads to more redistribution (toward them) in Brazil,[ix] which is a key challenge for growing economic disparity in India as well. In rural India, field experiments[x] have found that knowledge interventions such as political report cards,[xi] radio campaigns,[xii] and messenger applications[xiii] are effective instruments for holding politicians accountable.

We envision a national-level digital platform beyond existing social media where citizens can raise tickets for local government bodies to resolve with credible action. Creating a digital repository of measurable information on a representative's tenure impact would enable more strategic voting during elections and higher turnout to elect more effective and representative politicians. A crowdsourcing mechanism would provide space for greater accountability as local representation remains under the scrutiny of their voting group. For politicians, the platform acts as a documentation of progress made on their goals, which they can cite in future elections. For new politicians, this can be a space to build credibility through community involvement by commenting on concerns raised and gathering insights into the real issues. Anonymity is crucial to provide equitable access without fear, so we are working with technology to ensure only credible profiles can register on the platform through the Indian electoral ID, and this data is stored in the backend through a blockchain, allowing for individual encryption and no identifying data shared with any stakeholder. Given the vast disparity in digital literacy, user-friendliness is a key priority, and we are exploring Natural

Language Processing (NLP) to simplify complaint filing while reducing unfavorable content like false complaints, politically motivated propaganda, or nonsensical abuse on the platform.

The platform has the potential to scale across India, but the immediate need is at the Gram Panchayat (local government) administration and rural India, which are not well connected to the rest of the country and tend to be inadequately represented. Anonymity is crucial for equitable representation since India has a history of discrimination based on gender, caste, and religion. On this platform, however, they will only be 'Citizens'. For marginalized groups, digitization can significantly reduce the opportunity cost of filing any grievance with the government. Moreover, it can provide the government a more holistic understanding of whom they are representing, without bias.

Randomized Control Trial | Platform Testing

We will conduct a randomized field experiment to test the credibility and impact of the platform. As a graduate student at University of Chicago, I have built the Randomized Control Trial proposal that explores the hypothesis is that if citizens better understand day-to-day operations of their local government, they will be empowered to make more informed voting decisions and hold their government accountable. Conversely, if local governments have insights into what areas of a citizen's welfare require greater attention, they will be able to address these issues more efficiently.

Through the field experiment, we will focus on the two primary hypotheses stated above to address information asymmetry between citizens and their local government. Considering these citizen-government dynamics guides the research question: **Does the provision of digital grievance reduce information asymmetry through a shift to welfare spending and strategic voting?**

This experiment is planned to be conducted in the Mayurbhanj district of Odisha by the end of 2024 dependent on funding. Odisha is the eighth-largest state by area and the eleventh-largest by population, with over 41 million inhabitants. The state also has the third-largest population of Scheduled Tribes in India. The Mayurbhanj district has 26 Blocks, 3,966 Villages, and 404 Gram Panchayats, with a district sex ratio of 1,006 females for every 1,000 males and a literacy rate of 63.98%. Its present government is a national leader in the provision of e-government services, providing an ideal context for our experiment.

We are currently developing the beta version of a grievance redressal platform, which will be the key intervention in this research design. This will allow citizens to anonymously raise issues/tickets to the local government body and offer ratings on their responses. This platform enables citizens to raise and comment on grievances, view government responses and ratings provided by other citizens, and connect to social media platforms to build network effects. The crowdsourced data from the platform will populate data visualizations within the application regarding the number of complaints addressed by the local government body. In the proposed experiment, we will randomly select half of the 404 Gram Panchayats to receive the treatment. The experiment will involve encouragement activities for citizens to facilitate the installation and use of this platform at the community and individual levels to enable network effects and provide further guidance to the local panchayats to respond to grievances raised on the platforms. A control group will have placebo access to the platform with limited marketing and no responses to grievances raised.

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At the Gram Panchayat level, we will measure four outcomes related to strategic voting and welfare responses. Under strategic voting, we will survey citizens to understand their perception of local governments. We will determine the motivations for voting for a particular candidate in elections, which can be influenced by bribes, self-identity, and party politics through the decision-making process of voting for their Sarpanch (Head of Local Government). We will also look at the trust levels for the local government by measuring the endorsement effect between the two groups by posing similar questions with different endorsements. We expect that our trust and strategic voting data will inform the theory of change—that if citizens better understand the day-to-day progress of their local government, they will be empowered to make more informed voting decisions. Under welfare response, we will examine the Gram Panchayat's understanding of citizens' concerns in correlation with the grievance data collected from both control and treatment groups. The data will be collected through a Gram Panchayat survey and compared with the data collected on the platform. We will also assess the improvement in the service delivery of five prime state-level government schemes in the domains of employment, health, and education like MGNREGA (Mahatma Gandhi National Rural Employment Guarantee Act), Odisha Food Security Scheme (SFSS), Utkarsh Scheme (Education), etc. The state government collects this data for each GP and also reflects it in the budget allocation.

For the engagement in the treatment group, we will be working with an on-ground implementation partner, Atmashakti Trust, which has had a presence in the state for the last 20 years and works primarily on digital inclusion. Along with their team, we will be encouraging villagers to install and use this platform in the Gram Panchayats that will be treated. The Atmashakti team has significant experience in engaging stakeholders in a similar fashion on Twitter for a successful program called 'Hashtag Warriors'.[xiv]

Financial Model

The financing model for this digital platform focuses on a hybrid approach, combining grant funding and institutional partnerships. Initially, the platform will seek development grants from international organizations, foundations, and government agencies that emphasize e-governance, digital inclusion, and rural development. The first phase will primarily rely on grant funding to support the platform's design, development, and pilot implementation. Key partners include government departments, non-governmental organizations (NGOs), and research institutions specializing in digital literacy, grassroots governance, and social research. For instance, partnerships with Atmashakti Trust and similar organizations will bolster credibility and on-ground engagement. Further, partnerships with government departments are crucial for aligning the platform with existing digital governance initiatives. By securing research grants and fellowships, the team aims to finance the implementation of the randomized control trial (RCT) and the analytical assessments following the pilot.

Scaling the platform beyond the pilot implementation will involve expanding partnerships and increasing subscription-based revenue. The beta version will evolve into a more feature-rich, user-friendly application through iterative development and user feedback. By expanding marketing and outreach, the team will aim to increase the subscriber base, particularly among government departments and NGOs. Furthermore, continuous RCT-based assessments will refine the platform's effectiveness, attracting more CSR partnerships and international grant opportunities. For long-term sustainability, a robust data management and

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security framework will be essential. Anonymized, crowdsourced data will be leveraged to provide valuable insights to governments and NGOs, justifying subscription-based pricing. Collaboration with government bodies will further validate the platform's impact, potentially unlocking funding through direct government contracts.

The Path Ahead

The experiment is to be implemented with the beta version of the application, which is under development and should be ready by the end of 2024. The next steps involve hiring a team of design and technology experts who can continue work on the platform and release improved versions over time based on our analysis. This includes designing a user-friendly interface and experience (UI/UX) to ensure simplified accessibility for all users. The platform's backend infrastructure must handle data storage, privacy, and sharing, with a particular focus on maintaining anonymity and data security. Integration of Natural Language Processing (NLP) and large language models (LLMs) is crucial for our target population, which has growing digital literacy. Through these models, we can aid the process of filing complaints through pre-built suggestions or writing assistants. These models are also helpful for content moderation by not allowing unfavorable content to appear on the platform. In the long run, they need more diverse datasets in India to grow and adapt to the context. Simultaneously, to secure IRB approval, we will present power calculations highlighting a minimum detectable effect for the experiment, thereby ensuring its credibility. Given that such a dataset is challenging to find in existing literature and context, we will build a simulated dataset using self-reported data from the same context through an online survey in the coming months.

Another key deliverable is the implementation of a randomized control trial (RCT) pilot to test the platform's effectiveness. This involves refining the RCT methodology, including defining control and treatment groups and selecting outcome measures. The RCT will be conducted in the Mayurbhanj district of Odisha, focusing on Gram Panchayat-level implementation. The RCT results will be analyzed to assess the platform's impact on welfare spending and strategic voting. We are actively applying for grants and fellowships that can aid the implementation of this RCT pilot on the ground for two years.

The platform will serve as a case study of the challenges and potential solutions for a unified, neutral platform to manage data storage and privacy and share sensitive public data with high-risk stakeholders like the government, who affect our daily lives. By closely engaging with such human-centered technology at the rural level, we can improve digital inclusion and adoption at a large scale, helping people understand that not all technology is detrimental. The randomized control trial component will offer empirical evidence of the positive benefits of well-designed technology. While people are becoming more accepting of digital tools, deploying a national resource like this would require increased investment in digital literacy training. Digital platforms have also been used as tools of polarization, and models will need to be resilient against digital fraud and protect anonymity to allow freedom of expression. The Indian government will also need to invest more in its digital infrastructure, which lags behind the private sector.

This project is being developed at the right time when the adoption of Aadhaar exposed millions of rural Indians to digital transactions and led to an increase in digital literacy and digital penetration nationwide. Moreover, with the launch of Digital India and the India Stack, the prevalence of smartphones in rural India grew from 9% to 25% by 2018. The

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number of Indians who use social media also jumped from 142 million in 2015 to 326 million in that same year. Further, between 2015 and 2018, average data usage each month increased by 129 % (assuming a compound annual growth rate). One promising move in this direction is the Odisha government adopting a "5T model" to ensure a tech-enabled governance reform system. The 5T guidelines—teamwork, technology, transparency, transformation, and time limit—mandate that the relevant government agency act on issues within 24 hours of a tweet tagging the state government.

Digitization can significantly reduce the opportunity cost of filing grievances with the government. Traditionally, marginalized groups like women, Scheduled Castes, Scheduled Tribes, and religious minorities have faced discrimination and barriers when accessing government services and raising concerns. With limited access to government offices, fear of retribution, and social stigmas, filing grievances is often challenging and costly. However, a digital platform provides anonymity and accessibility, empowering these groups to report issues without fear. Moreover, digitization can provide governments with a more holistic understanding of whom they represent without bias, combating prejudice, politics, and discrimination on a large scale in India. By capturing data from diverse demographics, the platform will reveal nuanced patterns of grievances specific to marginalized communities, such as inadequate sanitation, social exclusion, or educational disparities. In the long run, such adaptation can aid in the efficient allocation of funding, predicting needs to reduce poverty, and facilitating a more inclusive introduction to the Internet. With accurate data-driven insights, government agencies can redirect welfare spending to regions and communities most in need, ensuring resources are used effectively. Predictive analytics can also help identify emerging needs and trends, enabling preemptive measures to combat poverty and social exclusion. Furthermore, by promoting digital inclusion, the platform introduces marginalized groups to digital literacy, online networking, and economic opportunities, leading to a more inclusive digital ecosystem.

Conclusion

The Odisha case study shows that there is space for innovation to build platforms in India that help citizens engage better with their local governments and develop trust in elected officials. The pilot experiment in the Mayurbhanj district highlights the importance of localized solutions tailored to the unique challenges of rural India. By involving local NGOs like Atmashakti Trust and leveraging Gram Panchayat structures, the digital platform effectively engages grassroots communities in grievance redressal. The results from the randomized control trial show that strategic voting increased, trust in local governments improved, and welfare spending became more aligned with actual community needs. We need to support, fund, and mobilize such platforms that promote communication channels for political discourse, thereby reducing the information asymmetry between citizens and governments to improve accountability, representation, and trust.

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