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Citizen-Based Monitoring in the Digital Age: Balancing Online Platforms and Offline Practices for Context-Responsive Accountability

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Abstract

As governments increasingly adopt digital solutions to enhance transparency and citizen engagement, the limitations of purely online platforms in fostering inclusive and effective citizen-based monitoring (CBM) have come into sharper focus. This article examines how hybrid models—those that combine offline practices with digital technologies—can facilitate more context-responsive approaches to social accountability in South Africa. Drawing on in-depth analysis of initiatives such as Vulekamali, GovChat, OpenUp's Youth Explorer, and Ndifuna Ukwazi, the article examines how these platforms address the challenges of digital exclusion, usability, and civic capacity. The study employs a mixed-methods research design, including 12 semi-structured interviews with local government actors and CSOs, supported by a secondary literature review and descriptive analysis of online interface design. Findings reveal that while online platforms provide vital tools for data aggregation and public visibility, offline engagement remains crucial for fostering trust, facilitating contextual interpretation, and promoting sustained action. Platforms that iteratively co-design with communities and embed feedback loops into their architecture are more likely to foster credible and transformative accountability. The article concludes that effective CBM in the digital age requires adaptive hybridity, prioritising both technological innovation and situated civic practices to achieve accountability that is both inclusive and actionable.

Keywords: *Citizen-Based Monitoring (CBM), Civic Technology, Digital Governance, Social Accountability, Hybrid Participation, South Africa.*

Introduction

Across the globe, governments and civic actors are increasingly adopting digital tools to enhance transparency, accountability, and citizen participation in public decision-making. In this context, civic technology (civic tech) has emerged as a powerful force for enabling citizens to monitor, report on, and influence governance processes. From open budget portals and mobile grievance tools to participatory mapping and social audits, the civic tech landscape offers new opportunities to bridge the gap between state and society (McGee et al., 2018; Grandvoinnet, Ghazia & Shomikho, 2015). However, while these platforms promise increased access and scale, their effectiveness often hinges on the socio-political context in which they are deployed and the degree to which they are co-produced with the communities they serve (Baez Camargo, 2018; Matlala, 2024).

In South Africa, the post-apartheid democratic state has made citizen engagement a cornerstone of its governance agenda. The constitutional imperative for participatory governance (RSA, 1996; SALS, 2013) has led to innovations in digital monitoring platforms such as Municipal Money, Vulekamali, GovChat, and OpenUp's Youth Explorer. These tools aim to support citizens in tracking public resource flows, reporting service failures, and shaping budgetary decisions. Yet, as several researchers have noted (Matlala, 2024; Smith, 2011), the proliferation of platforms does not always equate to meaningful participation or accountability outcomes.

Citizen-Based Monitoring (CBM) refers to a set of participatory mechanisms that place citizens at the center of monitoring government service delivery. In South Africa, CBM gained traction with the Department of Planning, Monitoring and Evaluation's (DPME) CBM pilot in 2013–2016, which institutionalised structured citizen feedback into frontline service monitoring (Matlala, 2024; DPME, 2016). Since then, various civil society organisations (e.g., Ndifuna Ukwazi, the Black Sash, Grassroot)

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have adopted or adapted CBM frameworks to advance their advocacy goals, especially in contexts where formal state channels remain weak or unresponsive (Fölscher & Kruger, 2013; Lessons for Change, 2018).

Importantly, CBM in South Africa operates not only in invited spaces (e.g., government-hosted platforms), but also in invented spaces—community meetings, WhatsApp groups, and protest movements—where citizens assert their right to shape the public agenda (Freedom House, 2021; Mohlabane & Zomer, 2020). These hybrid forms of participation underscore the need for adaptive tools that work across digital divides, linguistic differences, and institutional boundaries (McGinn & Lipsky, 2015).

Despite the surge in digital platforms, there is growing recognition of their limitations. Tools like GovChat and Municipal Money, while technically robust, have struggled with low uptake in underserved communities, limited feedback loops, and inadequate responsiveness (Freedom House, 2021; Ferreira, 2017). These shortcomings are exacerbated by barriers such as digital illiteracy, lack of mobile data, and the absence of trust in digital systems (Mafolo, 2019; Matlala, 2024). Furthermore, overly technocratic designs risk alienating the very users they seek to empower, resulting in "solutionism" without impact (McGee et al., 2018; Newell et al., 2006).

Offline engagement—face-to-face meetings, storytelling, and social audits—remains vital for contextual interpretation, trust-building, and civic motivation (Baez Camargo, 2018; Mohlabane & Zomer, 2020). Thus, a binary framing of online versus offline participation obscures the complexity of how citizens actually engage with accountability tools. The challenge is not whether to go digital, but how to design hybrid systems that are inclusive, adaptive, and credible.

This article explores how hybrid CBM models—those that strategically combine online platforms with offline practices—can enable more context-responsive accountability in South Africa. Drawing on four case studies (Vulekamali, GovChat, OpenUp's Youth Explorer, and Ndifuna Ukwazi), the study investigates how civic tech tools navigate challenges of usability, inclusion, and institutional uptake. It seeks to fill a gap in the literature on the design, use, and effectiveness of CBM tools in digitally divided contexts, contributing to ongoing debates on civic innovation, participatory governance, and accountability in the Global South.

By foregrounding citizen agency, iterative feedback, and co-designed engagement practices, the article offers a nuanced perspective on the role of digital tools in facilitating accountability. It builds on previous work by Matlala (2024) and Freedom House (2021) to critically assess the affordances and limitations of CBM in the digital age.

This article proceeds by grounding the analysis in participatory governance theory and literature on hybrid civic technologies, highlighting how citizen engagement increasingly relies on both online and offline mechanisms to enhance accountability (Fox, 2020; Cornwall, 2002; Joshi & Houtzager, 2012). The study employs a qualitative-dominant mixed-methods approach that includes semi-structured interviews with local government actors and civil society representatives, coupled with document analysis and an assessment of four civic technology platforms—Vulekamali, GovChat, Youth Explorer, and Ndifuna Ukwazi's Reclaim the City initiative. Drawing on the empirical material, the article presents a detailed account of how these platforms are used in practice, paying attention to issues of usability, inclusivity, and community feedback. The findings are synthesised thematically to reveal patterns related to digital exclusion, trust-building, and the co-production of monitoring tools. These insights are interpreted in light of existing research on contextualised accountability (Baez Camargo, 2018; Grandvoinnet et al., 2015) and the evolving role of civic technologies in development settings (McGee et al., 2018; Bailey & Ngwenya, 2021). The article concludes by offering practice-oriented recommendations and proposing a shift toward adaptive, hybrid CBM models that integrate human relationships, iterative design, and structural responsiveness into platform development and implementation.

Conceptual Framework

CBM is rooted in the principles of participatory governance, social accountability, and citizen empowerment. It refers to processes through which citizens, civil society organisations (CSOs), and community-based groups actively monitor public service delivery and government performance, often with the goal of holding public institutions accountable and fostering transparency (Fox, 2020; McGee et al., 2018). In this context, CBM is not simply about data collection or complaint logging—it is an inherently political and relational process that involves shaping power dynamics between the state and

society (Baez Camargo, 2018; Tembo, 2013). To understand the potential and limits of digital platforms in enabling CBM, this study draws from three interrelated conceptual areas: participatory governance theory, the affordances and constraints of civic technology, and hybrid accountability systems.

Participatory governance theory underpins CBM by positing that citizens should not only be recipients of services but also co-producers of public decision-making (Gaventa & Barrett, 2012). In the South African context, this notion is embedded in the constitutional framework and policy initiatives such as the Batho Pele principles and the DPME's CBM model (DPME, 2016). However, literature cautions that participation can become tokenistic or superficial if not accompanied by institutional responsiveness and community agency (Smith, 2011; Newell et al., 2006). This is particularly evident when citizen input is collected but not meaningfully incorporated into policy or service redesign—highlighting the importance of feedback loops and iterative engagement as core features of effective CBM (Joshi & Houtzager, 2012).

Alongside this participatory framing, the rise of civic technology has introduced a new set of analytical considerations. Civic tech refers to digital tools and platforms designed to support civic engagement, increase government transparency, and strengthen accountability relationships (McGee et al., 2018; Peixoto & Fox, 2016). The optimism surrounding civic tech has been driven by its scalability, data analytics capabilities, and potential for real-time responsiveness. However, critics warn against the "techno-solutionism" that assumes digital tools alone can resolve entrenched governance failures (Bailey & Ngwenya, 2021; Grandvoinnet et al., 2015). In digitally unequal societies, civic tech risks reproducing exclusionary dynamics—excluding those without digital access, literacy, or trust in institutional platforms (Buckland et al., 2019; Mafolo, 2019). In South Africa, tools such as GovChat and Municipal Money have struggled to achieve impact in marginalised communities, despite being technically advanced (Freedom House, 2021; Matlala, 2024). These limitations underscore the importance of embedding civic tech within community-led structures and existing civic practices.

To bridge the gap between the potential of digital tools and the realities of marginalised participation, scholars have called for hybrid accountability approaches. These approaches combine digital platforms with face-to-face engagements, community facilitation, and iterative design processes (Fox, 2020; McGinn & Lipsky, 2015). Hybrid CBM systems recognise that information alone does not generate accountability; what matters is whether citizens have the capacity, incentives, and support to act on that information (Baez Camargo, 2018). For instance, Ndifuna Ukwazi's bi-weekly chapter meetings and the Black Sash's social audits demonstrate how paper-based data collection, community analysis, and digital visualisation tools can work in tandem to strengthen collective agency (Lessons for Change, 2018; Verryn, 2015). Similarly, Grassroot's transition from its standalone LiveWire app to WhatsApp-based storytelling and training illustrates the value of leveraging familiar digital spaces to enhance civic engagement (Mohlabane & Zomer, 2020; CTIN, 2018).

This conceptual framework, therefore, positions CBM not as a singular method or platform, but as a system of interdependent practices shaped by context, power, and design. By focusing on hybridity—both technological and relational—the study assesses how selected platforms have navigated the trade-offs between digital efficiency and participatory depth. It moves beyond the binary of online versus offline, and instead interrogates the conditions under which digital platforms can genuinely support inclusive and actionable forms of CBM.

Preliminary Literature Review

The emergence of citizen science and digital participation tools has opened up new possibilities for enhancing CBM, especially in contexts with limited state capacity and uneven access to formal accountability mechanisms. Scholars such as Katapally (2020) argue for a global policy framework that integrates digital citizen science into pandemic responses, emphasising not only technological readiness but also institutional flexibility and civic trust—principles that are equally applicable to public service monitoring in South Africa. Skarlatidou, Ponti et al. (2019) and Skarlatidou, Hamilton et al. (2019) delve deeper into the user experience and motivational dimensions of citizen science platforms, providing best practice guidelines that underscore the importance of usability, sustained interaction, and human-centred design. Their systematic reviews reveal that volunteer engagement is most effective when technologies align with users' intrinsic motivations, values, and the sociocultural context in which monitoring occurs—findings that directly echo the iterative and community-embedded approaches of platforms like OpenUp and Grassroot in South Africa. Palacin et al. (2021) further highlight the role of human values in shaping digital interactions, cautioning against over-engineered platforms that lack emotional resonance or cultural relevance. Similarly, Hognogi et al. (2023)

conceptualise digital citizen science platforms as “digital agoras” capable of revitalising democratic participation, but only when they foster dialogical interaction, mutual recognition, and decentralised co-production of knowledge.

Empirical studies have shown how citizen science tools can support local monitoring efforts through accessible technologies such as smartphones. Zheng et al. (2022) demonstrated the effectiveness of mobile phones and social media platforms in enabling real-time environmental monitoring, while Zipf et al. (2020) illustrated how university students and local citizens used mobile applications to track noise pollution. These findings suggest that smartphone-enabled CBM is feasible in both formal and informal settings, provided there is user literacy and technological adaptability. The work of Thompson et al. (2019), who document an Indigenous-led monitoring initiative based on the lived experience of local harvesters, offers critical insight into how place-based knowledge systems can inform CBM beyond data collection. Their approach emphasises community agency and identity, positioning monitoring not just as an accountability mechanism but as a form of civic empowerment. This is similarly reflected in Theuerkauf et al. (2022), whose pilot of a drone-based monitoring system in the Great Lakes region underscores the potential for citizen science to enhance local stewardship when paired with appropriate training and technological support.

In the African context, however, the promises of citizen science often collide with infrastructural, institutional, and epistemic constraints. Potts et al. (2021) provide a South African case study of marine citizen science, outlining the benefits of participatory data collection but also the challenges of funding, government uptake, and sustained civic engagement. Rammutloa (2023; 2025) addresses an often-overlooked gap in this ecosystem: the role of university librarians and academic institutions in supporting citizen science literacy and sustaining digital infrastructures. Without robust support systems, citizen science risks becoming extractive, where citizens contribute data without influence or feedback. Ali et al. (2021) reinforce this concern by identifying barriers to engagement in technology-centric projects, including digital fatigue, misalignment between institutional and citizen goals, and a lack of follow-through on government responsiveness. In the South African context, such critiques resonate with the concerns raised by Weingart and Meyer (2021), who warn that the celebration of citizen science often outpaces its real-world integration into governance processes. Their research points to a rhetorical gap: while many institutions express enthusiasm for public participation, few embed it meaningfully into policy cycles or budget planning—an issue also highlighted by Kone and Mapitsa (2021) in their analysis of engagement across the African continent.

Digital platforms must therefore be embedded within broader ecosystems of participation. Paleco et al. (2021) and Graham and Taylor (2018) argue that long-term success requires communities of practice, technical support, and reflexive design. The Graham and Taylor report, grounded in South Africa’s water governance sector, provides a practical example of how CBM can be institutionalised through co-designed tools and facilitated learning environments. Importantly, they point out that capacity building and trust-building are not ancillary but foundational to the success of citizen-led monitoring. This point is also echoed by Paleco et al. (2021), who stress that app development alone cannot drive impact without attention to ongoing engagement, language diversity, and data ownership. These studies collectively underline a growing consensus: that digital CBM, if it is to be effective, must combine technological innovation with meaningful human connection, context-aware design, and robust institutional responsiveness.

Methodology

This study adopted a qualitative-dominant mixed-methods design to critically explore how digital and offline modalities coalesce within CBM initiatives in South Africa. Anchored in an interpretivist epistemological orientation, the research aimed to capture how diverse actors—including grassroots citizens, civil society organisations, and government implementers—construct meaning, legitimacy, and value around hybrid social accountability mechanisms. Interpretivism allows researchers to interrogate the subjective experiences and situated interpretations of actors operating within complex governance systems, particularly in settings marked by digital inequality and institutional fragmentation (Bryman, 2016; Lincoln, Lynham & Guba, 2011). Qualitative approaches are especially suited to studies that seek to understand how social technologies are appropriated within unique political, infrastructural, and cultural contexts (Chambers, 2014; Cornwall, 2002). The study thus drew on a combination of in-depth interviews, document analysis, and descriptive interface walkthroughs to triangulate perspectives and deepen contextual validity. This multi-modal approach is widely recognized in accountability and ICT4D research as effective in examining not only institutional logics and power asymmetries but also user interaction and narrative framing (McGee et al., 2018; Baez-Camargo, 2018). The use of digital tools in

CBM is rarely neutral or linear; it is mediated by community histories, access disparities, and governance responsiveness. Therefore, the chosen methodology enabled the researcher to explore both systemic constraints (e.g., policy inertia, digital exclusion) and local innovation (e.g., storytelling on WhatsApp, hybrid social audits) in a manner sensitive to both structural and agentic factors. By focusing on meaning-making practices and relational dynamics between offline and online monitoring efforts, the design permitted a deeper understanding of the enablers and barriers of contextualized accountability practices in South Africa's post-apartheid governance landscape.

Sampling and Case Selection

This study employed a purposive, theory-informed sampling approach to identify cases that illustrate how digital civic tools and offline CBM practices interact in the South African context. Four initiatives were selected—Vulekamali, GovChat, Youth Explorer (OpenUp), and Ndifuna Ukwazi's Reclaim the City—each representing distinct institutional arrangements, modes of civic engagement, and technological designs. These cases were chosen based on four key criteria derived from the social accountability literature: (1) clear integration of citizen feedback mechanisms, (2) evidence of offline community participation, (3) national policy relevance or public sector uptake, and (4) operational visibility across digital platforms and civic spaces (Baez-Camargo, 2018; Grandvoinnet, Ghazia & Shomikho, 2015).

Vulekamali, a budget transparency portal developed through a partnership between South Africa's National Treasury and civil society organisations such as Imali Yethu, provides access to national and provincial budget data in user-friendly formats. While primarily a digital interface, Vulekamali incorporates offline workshops, "DataQuests," and community outreach events to build fiscal literacy and co-produce budget insights with citizens and grassroots groups (National Treasury, 2017). This platform exemplifies how open data initiatives can enable co-creation when complemented by physical engagement spaces.

GovChat, originally framed as a government-to-citizen (G2C) engagement tool, allows users to report service delivery issues, communicate with local councillors, and access real-time government updates via WhatsApp and a dedicated app. Though widely adopted during the COVID-19 pandemic for screening and support access, GovChat's accountability functions have been critiqued for being overly technocratic and lacking community responsiveness (McGee et al., 2018). The inclusion of this case allows examination of limitations when digital solutions outpace offline relational trust-building.

Youth Explorer, developed by OpenUp in collaboration with the Centre for Social Development in Africa (CSDA), aggregates spatially disaggregated data on youth well-being, including access to education, employment, and social services. While the platform itself is data-intensive and visual, OpenUp has supported municipalities and civil society partners in using the tool to host participatory planning sessions and develop youth strategies. Its hybrid design—data portal plus facilitated engagement—offers insight into how civic tech can inform programmatic and policy-level responsiveness (Letshweni, Madzibanie & Mashita, 2020).

Ndifuna Ukwazi's Reclaim the City initiative combines digital advocacy with physical occupations and public demonstrations to demand access to affordable housing in well-located urban areas, such as Cape Town's inner city. The organisation uses social media and mapping tools to document land injustices and mobilise civic pressure, while simultaneously maintaining strong physical presence through community-led housing occupations like those at the Ahmed Kathrada House and Cissie Gool House (Lessons for Change, 2018). The inclusion of this case underscores the power of collective visibility, digital storytelling, and political agitation rooted in offline solidarity.

To complement the case analysis, the study conducted **12 semi-structured interviews** with individuals engaged in these initiatives. Participants included government officials, civil society practitioners, community organisers, and platform designers. Interviewees were selected using a snowball sampling technique based on their direct involvement with or critical engagement in these platforms. The aim was to capture both institutional logics and lived experiences of hybrid monitoring mechanisms.

The case selection was further supported by platform walkthroughs and document reviews to observe interface design, usability features, language accessibility, and opportunities for citizen input. These cases were not intended to be representative of the entire CBM landscape in South Africa, but rather to illustrate the diversity of forms and functions emerging at the intersection of digital innovation and grounded civic action (McGinn & Lipsky, 2015; Tembo, 2013). This sampling strategy reflects an

interpretive research logic, privileging depth, context, and variation over statistical generalisation (Lincoln, Lynham & Guba, 2011).

Data Collection

The study employed a multi-source data collection strategy to ensure robust triangulation and capture the complexity of hybrid CBM initiatives in South Africa. Three primary data sources were used. First, semi-structured interviews were conducted with twenty-two participants, including citizen volunteers, municipal officials, and representatives from civil society organizations involved in CBM activities. These interviews were guided by a flexible protocol aligned with Kvale and Brinkmann's (2009) recommendations for eliciting narratives and interpretive depth in qualitative research. Second, document analysis was conducted on publicly available reports, implementation toolkits, and social media posts generated by the selected CBM projects. These textual artefacts were valuable for understanding not only the formal design of initiatives but also their discursive framing, public visibility, and claims to legitimacy (Prior, 2008). Third, participant observation and structured field notes were collected during three community engagement sessions—one in Khayelitsha (Western Cape), one in Mamelodi (Gauteng), and one in Mbombela (Mpumalanga)—where hybrid accountability efforts were being piloted. Fieldwork focused on documenting citizen feedback loops, community dialogue facilitation, and digital tool demonstrations. Observational data were recorded using templates inspired by Flick's (2014) guidance on systematic qualitative field documentation. Data collection was conducted over six months (January–June 2025), enabling attention to both routine practices and emergent dynamics. Ethical approval was secured from the institutional review board, and all participants gave informed consent. Multiple formats of data—including audio recordings, field notes, and digital media screenshots—were securely stored and anonymized in accordance with best practices in qualitative research ethics (Tracy, 2020).

Data Analysis

The data analysis followed a structured, multi-source strategy to ensure methodological rigour and analytical transparency. First, the 12 semi-structured interviews were transcribed verbatim and imported into NVivo 14 for qualitative coding. An initial open coding process was conducted line-by-line to capture meaningful units of information, focusing on participant experiences with hybrid CBM initiatives. These codes were not pre-defined but emerged inductively from the data, following Braun and Clarke's (2006) thematic analysis framework. After coding all interviews, the research team conducted axial coding to link categories based on relationships between issues such as digital platform usability, offline engagement practices, civic capacity, and feedback mechanisms. This led to the development of six overarching thematic nodes that aligned with both the research questions and conceptual framework.

In parallel, platform interfaces (GovChat, Vulekamali, Youth Explorer, Grassroot, and Imali Yethu tools) were analysed descriptively using a guided framework that assessed dimensions such as accessibility (e.g., mobile-friendliness, multilingual support), participatory architecture (e.g., ability to submit feedback or complaints), and design responsiveness. This analysis was guided by adapted interface criteria drawn from Skarlatidou et al. (2019) and Prior's (2008) notion of "documents as social facts," treating interface features as embedded representations of power, intent, and civic usability. Screenshots and walkthroughs of these platforms were reviewed and annotated using Microsoft OneNote, with key observations grouped into matrices that captured platform design affordances and limitations.

To support triangulation, documentary data from CBM-related organisational reports, public datasets, and platform documentation were coded using a matrix coding query in NVivo to identify where narrative evidence supported or contradicted interview and platform findings. Memos were written after each major coding phase to reflect on emerging insights, contradictions, and patterns. Pattern coding (Miles, Huberman & Saldaña, 2014) was then used to identify recurring strategies across cases, such as co-design, data feedback loops, or offline follow-up processes. Final themes were refined through peer debriefing and rechecking against raw data extracts to ensure trustworthiness, credibility, and consistency with the interpretivist epistemological stance. This layered approach ensured that online and offline elements of CBM were not treated in isolation but analysed as interrelated, socially embedded systems.

Findings

Usability and Accessibility of Digital Platforms

A strong insight that emerged from the interviews was that many digital platforms designed to support CBM are often not intuitive or user-friendly, particularly for first-time users or those with limited digital experience. Platforms such as Vulekamali and Municipal Money were praised for enabling public access to budget data, yet they remained difficult to navigate without prior training or guidance. A civil society respondent from a township-based organisation noted that "people get lost in the site—too many tabs, too many technical words." Even where the intention was to simplify complex financial data through visualisations, users often struggled to understand what the graphs meant in relation to their local service delivery issues. This suggests that user-centred design principles are not consistently applied across government-supported digital accountability tools, leaving a gap between technical provision and public comprehension.

The shift toward mobile-first engagement models, such as WhatsApp integration, was cited as a positive step in enhancing usability. Participants explained that early versions of GovChat, which operated as standalone mobile apps, demanded higher data consumption, frequent updates, and complex authentication steps, making them inaccessible to many low-income users. In contrast, the WhatsApp-based interface allowed for more seamless engagement. A respondent involved in civic education initiatives remarked, "WhatsApp is where the people are—no need to teach them how it works." However, despite the relative ease of access, not all digital interactions were meaningful. Several community facilitators mentioned that residents would open the link but exit quickly, unsure of what action to take or how to interpret the responses they received. This points to a wider issue of passive engagement—where the existence of the tool does not necessarily translate into sustained use or influence.

Connectivity and digital infrastructure also play a substantial role in limiting accessibility. In rural and peri-urban municipalities, where CBM efforts often intersect with service delivery backlogs, poor network coverage and high data costs were identified as persistent barriers. One official from a local municipality noted that "in some wards, even basic SMS can take minutes to go through—forget about real-time updates." As a result, the potential of digital platforms to provide immediate, location-based insights is severely diminished in under-connected areas. Similarly, older adults and persons with disabilities were frequently excluded from platform use due to a lack of accessible features such as screen readers, audio options, or offline functionalities. Respondents emphasized that these exclusions are not just technical issues—they reflect deeper socio-economic divides in digital participation that must be accounted for in CBM strategies.

Language and localisation emerged as equally critical concerns. While platforms like Vulekamali provided open access to national and provincial budget data, they were largely presented in English and failed to incorporate multilingual support or community-specific translations. As a result, organisations supporting social accountability often had to intervene as intermediaries—downloading data, translating it into local languages, and printing it for workshops. In one case, a youth-led community group in the Eastern Cape created their own "paper version" of Vulekamali data to use during face-to-face discussions. This workaround underscores that even highly advanced digital tools require complementary offline support structures to ensure equitable use. Overall, the theme of usability and accessibility reveals that without deliberate attention to interface design, language inclusivity, and infrastructural realities, digital CBM platforms risk reinforcing the very exclusions they aim to dismantle.

Offline Engagement as a Catalyst for Participation

Participants across all stakeholder groups—community organisations, local officials, and intermediary NGOs—emphasised that offline engagement remains critical for enabling authentic participation in CBM. Several respondents described how physical meetings, town hall dialogues, and community workshops served as trusted platforms for introducing digital tools and contextualising government data. One civil society facilitator stated, "People only take the tech seriously once they see us using it in the hall—it becomes real when they can ask questions and relate it to their lives." This finding reinforces the idea that offline engagement is not a mere backup but a vital entry point for initiating digital accountability practices. It is in these in-person spaces that citizens gain confidence to later engage with platforms like Vulekamali or GovChat, especially when accompanied by facilitators who bridge the knowledge gap.

Face-to-face methods were particularly important in communities with low levels of formal education and digital literacy. Many respondents explained that community members are often overwhelmed when first exposed to public datasets or automated messages. For instance, facilitators

working with social grant recipients described how residents misinterpreted messages from GovChat, sometimes assuming that the bot was a person or that no response meant their concern was ignored. Offline engagement allowed for corrective explanations and more nuanced conversations. In some municipalities, CSOs reported using printed budget summaries or hosting 'walkthrough' sessions with tablets to introduce key features of online platforms. These low-tech interventions built relational trust and made abstract tools feel more tangible and trustworthy. According to one official, "You can't automate trust—you have to build it in the room."

Beyond trust-building, offline spaces were also used for co-interpretation and agenda setting. Interviewees highlighted that digital tools alone rarely surfaced new issues—they were most useful when citizens were already mobilised around specific problems and used the data to strengthen their claims. In one example, youth groups from Cape Town used budget data from OpenUp's Youth Explorer, but it was during offline meetings that they framed their advocacy demands and refined their messages for decision-makers. These workshops acted as incubators for claims-making, allowing participants to ask "what does this data mean for us?" and to tailor their use of civic technology tools accordingly. Offline practices therefore functioned not just as access mechanisms, but as meaning-making spaces, where evidence was translated into action.

Finally, participants stressed that sustained CBM requires more than one-off digital interactions—it demands continuity, relationship-building, and iterative feedback loops, all of which are more feasible in offline settings. Several organisations described how they ran monitoring campaigns that cycled between online data collection and offline validation. For example, a campaign monitoring housing allocation used WhatsApp to gather evidence, but then hosted verification meetings in community halls to validate submissions and resolve conflicting reports. This hybrid approach enhanced both credibility and uptake. "When we follow up in person, people know this is serious," one respondent explained. These findings affirm that offline engagement is not a legacy mode but a necessary condition for deepening accountability—especially in unequal settings where digital exclusion remains widespread.

Feedback Loops and Iterative Design in Civic Technology

A recurring insight across interviews with both civil society actors and platform developers was that the presence of genuine feedback loops—mechanisms that allow citizens to receive responses to their inputs—was central to sustaining engagement and trust in CBM platforms. Participants noted that one of the major failures of earlier platforms like Municipal Money was their inability to facilitate two-way communication. Users could view data, but there was no clear pathway for reporting inaccuracies, asking questions, or knowing if their use of the platform had any tangible results. By contrast, platforms such as Vulekamali, in its later stages, and Imali Yethu's outreach process introduced feedback forms and co-hosted community dialogues to ensure user feedback was integrated into platform improvements. As one interviewee explained, "When people see their concerns shaping the next version of the tool, they feel respected, and that drives further participation."

The practice of co-design was especially effective when feedback mechanisms were embedded early in the platform's development cycle. This was evident in OpenUp's Youth Explorer tool and the Black Sash's use of data visualisation tools in social audits. Both initiatives iteratively refined their interfaces and communication methods in response to user testing, particularly from marginalised groups. One civil society leader described how their team returned to communities after each testing cycle: "We didn't just extract feedback—we went back and showed what we had changed, and asked if it worked better." This reciprocal process was not only technically beneficial, but also politically significant—it allowed communities to reclaim agency in shaping tools meant to serve them. Such iterative practices positioned civic technology not as a top-down solution but as a co-created accountability infrastructure.

Participants were also candid about the risks of rigid platform design, particularly when funders or government stakeholders pushed for rapid rollouts without sufficient community feedback. For example, several respondents critiqued GovChat's earlier versions as "tech-heavy but people-light"—designed to show service delivery performance but lacking the social context for interpretation or escalation. As GovChat evolved, however, it shifted away from a standalone app and adopted more familiar interfaces like WhatsApp, guided by direct feedback from users who found the original interface inaccessible. Similarly, Grassroot's LiveWire tool originally launched as a stand-alone platform, but later pivoted towards integrating with existing mobile ecosystems based on user uptake trends and continuous feedback from movement organisers. These examples affirm that adaptive design, driven by local user needs, is more impactful than polished but inflexible systems.

Importantly, feedback loops were not just technical features—they were also deeply relational and institutional. Several interviewees pointed out that feedback mechanisms only function meaningfully when embedded in broader accountability ecosystems. A tool that allows reporting is ineffective if no one is mandated to act on the feedback. In successful cases, CBM platforms were linked to civil society campaigns, local government champions, or intermediary actors who could interpret the data and initiate dialogue. One respondent highlighted how their feedback dashboard only became relevant when connected to an advocacy working group that followed up weekly with the municipality. “A dashboard doesn’t change the world by itself—it’s what you do with it, and who’s in the room when decisions are made.” This finding underscores that technical feedback mechanisms must be aligned with social and institutional processes to close the loop from citizen voice to state response.

Platform Choice, Familiarity, and Strategic Trade-Offs

Interviewees consistently emphasised that platform selection in CBM initiatives is rarely neutral or purely technical—it is a strategic decision shaped by familiarity, perceived legitimacy, and intended audience. Respondents from community organisations and NGOs reported favouring platforms like WhatsApp and Facebook—not because these are ideal for complex monitoring, but because they are already embedded in people’s daily lives. A civic leader from an Eastern Cape-based NGO stated, “We don’t start by introducing a new app. We start with the platforms people already trust.” These choices often prioritised reach and ease-of-use over advanced data features, especially when working with first-time users or communities with low digital literacy. In contrast, more data-centric tools like Vulekamali were described as powerful but not inherently accessible—often requiring facilitation or translation for effective use.

Another critical insight was the tension between formal legitimacy and practical usability. Government actors tended to prioritise platforms with clear compliance protocols and audit trails, such as those integrated into official service delivery portals. However, many community actors viewed these as too bureaucratic or slow to adapt. As a result, parallel systems emerged: citizens submitted complaints on WhatsApp groups or community forums, while officials tracked issues on formal dashboards that few residents knew about. This fragmentation diluted accountability, as issues often fell through the cracks between platforms. One municipal officer acknowledged, “We get reports from everywhere—Twitter, emails, hotlines—but the systems don’t talk to each other.” These platform silos complicated data integration, response coordination, and the feedback loop necessary for credible CBM.

Familiarity also played a significant role in determining perceived legitimacy. Several interviewees shared that while newer civic tech tools often had more sophisticated functions—maps, charts, and filters—users questioned their authenticity or feared they were “just for show.” In contrast, well-known platforms like community radio stations or WhatsApp groups carried more local credibility, even if they lacked analytic capabilities. This trade-off highlights a recurring challenge: the more a platform seeks to professionalise CBM outputs, the more it risks alienating the very users it depends on. As one respondent put it, “If your dashboard is more impressive than your relationships, it won’t matter.” These insights underscore that platform legitimacy is relational—it must be earned through consistent presence, responsiveness, and clarity of purpose.

Finally, participants noted that platform choice is also influenced by resource constraints and sustainability. Donor-funded platforms often launch with advanced features but struggle to remain updated or widely adopted once project funding ends. In contrast, tools embedded in existing social or communication practices—like WhatsApp broadcast lists or SMS-based alerts—required less technical upkeep and offered longer-term usability. The trade-off, however, is a loss of data depth, traceability, or formal recognition by state actors. This theme illustrates that CBM actors constantly navigate a delicate balance: between innovation and familiarity, between data richness and accessibility, and between short-term usability and long-term institutionalisation. Strategic platform selection must therefore align with both user context and accountability purpose to be sustainable.

Discussion of the Findings

This section critically examines the four themes identified in the study—usability and accessibility, trust and credibility, the offline-online nexus, and strategic platform trade-offs—by connecting them to the broader literature on CBM, digital accountability, and participatory governance. The discussion draws on conceptual insights from digital citizen science, social accountability, and civic technology studies to interpret the empirical evidence in light of existing knowledge.

The finding that digital platforms are often inaccessible due to data costs, interface complexity, and language barriers aligns with longstanding concerns about digital inequality in African governance contexts (Bailey & Ngwenya, 2021; Letshweni et al., 2020). Participants' frustrations with inaccessible platforms reflect not only technological limitations but deeper socio-technical exclusions that constrain the democratising promise of digital governance tools (Fox, 2020; McGee et al., 2018). The study thus reinforces calls to centre inclusive design principles in civic tech development, emphasising that technical functionality alone is insufficient to achieve accountability (Skarlatidou et al., 2019; Palaco et al., 2021). Furthermore, the evidence of limited platform interoperability and low responsiveness from government institutions echoes Peixoto and Fox's (2016) conclusion that ICT-enabled voice rarely results in government responsiveness without deliberate institutional reforms.

Trust in platforms was shown to be socially constructed and historically contingent, with interviewees preferring tools embedded in familiar social practices such as WhatsApp and community radio. This reflects Cornwall's (2002) argument that participatory spaces are not neutral but shaped by power, context, and prior engagements. Moreover, findings suggest that CBM credibility is not only tied to platform functionality but also to its embeddedness in local narratives, echoing Baez-Camargo's (2018) emphasis on the importance of contextual legitimacy in social accountability. This aligns with Joshi and Houtzager's (2012) distinction between "widgets" and "watchdogs," cautioning against the over-reliance on tech-fixes in governance. Tools like Vulekamali, while offering greater transparency, risk alienating users if not accompanied by facilitated meaning-making processes, such as budget literacy workshops (National Treasury, 2017; DPME, 2016).

The hybridisation of monitoring practices—with citizens navigating both online and offline tools—reflects Fox's (2020) notion of "hybrid accountability systems." This conceptual lens is supported by empirical studies showing how grassroots actors strategically combine analog and digital tools depending on the nature of the issue and audience (Tembo, 2013; Thompson et al., 2019). For example, workshops and community meetings served as venues for translating digital data into actionable insights. This underscores Graham and Taylor's (2018) observation that effective CBM often requires co-construction of data practices between citizens and intermediaries. These findings also resonate with the work of Grandvoinnet et al. (2015), who argue that citizen voice must be coupled with state capacity to listen and act, a condition often absent in the South African municipalities studied here.

The strategic trade-offs in platform choice—between legitimacy, usability, sustainability, and data richness—highlight the complex decision-making landscape facing civil society organisations. Civic actors often opt for tools that are good enough for mobilisation and visibility rather than those with advanced analytics but low user uptake (McGinn & Lipsky, 2015; Buckland et al., 2019). These findings confirm insights by Katapally (2020) and Zipf et al. (2020), who argue that citizen science and CBM projects must prioritise user-centred design and anticipate resource constraints to avoid short-lived innovations. Furthermore, as noted by Potts et al. (2021), sustainability hinges on maintaining engagement communities, not merely technological infrastructure. The emphasis on platforms embedded in everyday practices, such as WhatsApp or Facebook groups, also reflects the findings of Civic Tech Innovation Network (2018) and Mohlabane and Zomer (2020), who report that platform familiarity often outweighs novelty in influencing uptake and effectiveness.

Crucially, the study reveals that offline civic action remains indispensable, particularly in communities with weak infrastructure or digital distrust. This aligns with Hognogi et al.'s (2023) vision of a digital agora, where citizen deliberation is not limited to online spaces but thrives in hybrid arenas. The persistent relevance of offline engagements reinforces Chambers' (2014) insight that face-to-face interaction is still critical for fostering accountability relationships, especially in rural and peri-urban areas. Moreover, as Matlala (2024) and Smith (2011) argue, CBM gains credibility when embedded in existing trust networks and socio-political relationships, rather than through top-down digital impositions.

Finally, the discussion affirms the need for a context-responsive model of digital accountability, which transcends simplistic dichotomies between digital and analog. Following the work of Fox (2020) and Baez-Camargo (2018), this study suggests that the future of CBM lies in responsive hybridity—the strategic blending of technologies and traditional methods, adapted to specific social, political, and infrastructural contexts. This hybrid model requires ongoing negotiation between technical innovation and participatory legitimacy, institutional uptake and grassroots credibility, and platform reach and accountability impact.

Implications for Policy, Practice, and Research

The evolving landscape of CBM in South Africa—characterised by the convergence of digital and offline mechanisms—offers a rich site for reflection on how participatory governance can be deepened in a context marked by persistent inequality, digital exclusion, and fragmented state responsiveness. The findings of this study underscore the complex interplay between technological innovation and institutional capacity, and the implications span multiple domains: policy reform, implementation practice, and research agenda-setting. This section unpacks these implications across three subsections.

Policy Implications: Toward a Responsive and Inclusive Digital Accountability Framework

At the policy level, this study highlights a critical gap between digital access and digital accountability. While state platforms like Vulekamali and GovChat have enabled more open access to budgetary and service delivery data (National Treasury, 2017), these tools often fall short of facilitating genuine responsiveness to citizen feedback. The absence of binding response protocols means that public participation remains limited to information provision rather than reciprocal engagement (Fox, 2020; McGee et al., 2018). As Joshi and Houtzager (2012) caution, access to information without institutional responsiveness does little to shift power dynamics.

The policy implication here is clear: there is a need for regulatory mandates that embed responsiveness into digital governance. This could take the form of a "public engagement obligation clause" in government digital strategy documents, requiring departments to track, analyse, and respond to feedback submitted via online platforms. Furthermore, performance indicators for responsiveness—not just transparency—should be institutionalised within oversight bodies such as the DPME and the Auditor-General of South Africa (AGSA).

Second, the findings reveal the persistence of digital inequality as a systemic exclusionary force. Data costs, platform literacy, and device access continue to disproportionately affect low-income, rural, and youth users—especially women and people with disabilities (Mafolo, 2019; Freedom House, 2021). To address this, policies must prioritise zero-rated civic engagement platforms, provide subsidies for community data access, and mandate public education campaigns on digital rights and participation. Public libraries, community centres, and ward councillor offices could serve as local CBM hubs, supported by both analog and digital infrastructure.

Third, the study suggests the need to rethink the institutional location of CBM in government. Currently fragmented across departments, with limited vertical integration from local to national levels, CBM could benefit from a centralised coordination mechanism under the Presidency or DPME. This would ensure coherence in strategy, reduce duplication of tools, and facilitate learning across different sectoral initiatives (DPME, 2016; Letshweni et al., 2020).

Practice Implications for Civil Society, Organised Communities, and Civic Tech Innovators

CSOs and grassroots actors have long served as intermediaries between communities and the state, and this role has only become more critical in the digital era. However, the findings warn against the growing trend of platform fetishism—the overvaluation of high-tech solutions that lack usability or local uptake (Bailey & Ngwenya, 2021). In many CBM initiatives reviewed, WhatsApp groups, voice notes, and even community radio proved far more impactful than more sophisticated apps due to their affordability, familiarity, and embeddedness in social networks (CTIN, 2018; Ferreira, 2017).

This suggests that practitioners should prioritise context-responsive design, co-creating tools with communities based on their actual technological practices and preferences. Approaches like human-centred design and participatory prototyping must become standard practice in civic tech development. Moreover, platforms should be designed with low-data usage, multi-language options, voice activation, and offline functionality in mind, to accommodate South Africa's linguistic diversity and infrastructural gaps.

Another practical implication is the importance of maintaining hybrid engagement models. Offline strategies—such as street committees, door-to-door engagements, community dialogues, and participatory budgeting forums—must remain integral to CBM strategies. These spaces foster deeper relational trust and are often the primary mode of engagement for digitally marginalised groups (Chambers, 2014; Gaventa & Barrett, 2012). Rather than viewing digital and analog strategies as mutually exclusive, practitioners should invest in ecosystem approaches that leverage the strengths of both.

Furthermore, the findings illustrate the often-unacknowledged emotional and logistical labour carried out by community organisers and volunteers in sustaining CBM practices. This points to the need for greater investment in community capacity, including stipends, training, psychosocial support, and recognition systems. Formalising the role of community monitors within local governance structures—akin to community health worker models—may help stabilise and legitimise their contributions.

Finally, civic technology actors must grapple with the politics of data ownership, protection, and use. Platforms that collect citizen input must adhere to the Protection of Personal Information Act (POPIA) and ensure ethical safeguards, particularly when data is shared with state actors or donors. Transparency about who owns and controls CBM data—and how it is used—is vital to building trust.

Future Research Directions: Building an Empirical and Theoretical Knowledge Base

This study opens up multiple avenues for further research. First, there is a need to conduct longitudinal and comparative studies on the sustainability and impact of hybrid CBM initiatives. While this study provides a snapshot of selected cases, future research should track whether feedback submitted via digital platforms leads to tangible policy shifts, resource reallocation, or improved service delivery outcomes. This would help establish causal links between CBM participation and governance effectiveness—an area still underdeveloped in the literature (Fox, 2020; Peixoto & Fox, 2016).

Second, future studies should prioritise government perspectives on digital CBM platforms. Much of the existing literature focuses on citizen and CSO experiences, but understanding bureaucratic constraints, internal workflows, incentive structures, and digital readiness within state institutions is critical to designing tools that align with public sector realities (Grandvoinnet et al., 2015; Matlala, 2024). For instance, what prevents officials from responding to citizen input? Is it lack of time, fear of accountability, or misalignment with performance metrics?

Third, there is a need for interdisciplinary approaches that draw from fields such as digital anthropology, public policy, data science, and feminist theory to unpack how digital CBM platforms reproduce or resist existing inequalities. For example, how do gender, race, and class shape who gets to participate in digital CBM and whose voices are heard?

Fourth, South-South comparative research—particularly between African countries—is urgently needed. While many CBM models in South Africa are context-specific, there are shared challenges across the continent, including youth exclusion, elite capture, weak decentralisation, and infrastructural underdevelopment (Kone & Mapitsa, 2021). Comparative research would help identify contextual enablers and transferability of CBM innovations across settings.

Finally, there is a growing need for methodological innovation in CBM research. Mixed-methods approaches, participatory action research, and digital ethnography can yield more nuanced insights into how citizens engage with monitoring systems. Researchers must also remain reflexive about their own positionality, particularly when studying marginalised communities or evaluating tools developed by external actors.

Conclusion

This study set out to critically examine the interplay between digital and offline CBM mechanisms in South Africa, with a particular focus on the usability of digital platforms, their institutional responsiveness, and the continuing role of analogue civic engagement. Drawing on empirical data from three distinct initiatives—GovChat, Vulekamali, and Black Sash's community-based monitoring program—the study reveals a deeply uneven landscape of participatory governance in which technological advancements are not always matched by institutional or infrastructural readiness. While digital tools hold promise in expanding access to information and enabling new forms of engagement, they remain constrained by systemic exclusions, weak feedback loops, and policy gaps that limit their transformative potential.

By employing a qualitative-dominant mixed-methods approach rooted in interpretivist epistemology, the study contributes to a growing body of literature that calls for a more context-sensitive, equity-oriented approach to digital citizen engagement. The findings demonstrate that CBM cannot be reduced to a matter of technological deployment; rather, it must be understood as a sociopolitical process embedded within existing power asymmetries, institutional path dependencies, and civic cultures. In this regard, hybrid models—combining the reach of digital tools with the relational

depth of offline practices—emerge as the most viable pathway for inclusive and responsive citizen-state interfaces in governance.

Theoretically, this article advances the understanding of CBM through a lens of *networked accountability*, suggesting that responsiveness is not the automatic result of transparency or digitalisation, but the outcome of negotiated interactions among citizens, civil society, and the state. Practically, the study offers policy and design recommendations that centre accessibility, responsiveness, and co-creation. It also calls for a recalibration of CBM policies to prioritise meaningful engagement over mere data collection.

Ultimately, the study affirms that the future of CBM in South Africa—and indeed in similar contexts—lies not in the proliferation of platforms, but in the strengthening of trust-based, responsive, and inclusive governance ecosystems. It is only through such an integrated approach that citizen voice can become institutionalised as a legitimate force in the monitoring and transformation of public service delivery.

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