

Improving citizen-based monitoring in South Africa: A social media model



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Background: In contemporary public governance, transparent, accountable, and citizen-centric practices are paramount. Citizen-based monitoring (CBM) of government projects is a promising avenue to uphold these principles. However, there is a pressing need for a more effective, structured, and technologically driven approach to CBM.

Objectives: This research aims to present a tailored model for the South African government. Utilising social media, the model seeks to transform CBM practices, enhancing governance and ensuring project success. The limitations of current CBM tools necessitate such a model in South Africa.

Method: Rooted in rigorous mixed-methodology research, the model's development and validation involve in-depth interviews with government officials, local media, and civic organisations, along with a citizen survey and literature review. International best practices in CBM and social media analytics inform its design.

Results: The study uncovers that current CBM tools have a dual nature, empowering citizens yet facing context-specific challenges like elite capture and inclusivity issues. Social media emerges as a preferred tool among citizens for monitoring government projects, showcasing its transformative potential in fostering transparency and citizen engagement.

Conclusion: By leveraging social media's dynamic capabilities, this model can enhance transparency, accountability, and project success in South Africa's governance landscape, marking a significant advancement in the digital era.

Contribution: This research introduces a novel CBM model for South Africa, tailored to leverage social media's transformative potential. Addressing existing limitations in CBM tools provides insights into the challenges and opportunities of utilising social media for government project monitoring.

Keywords: citizen-based monitoring; social media; government programmes; transparency; digital inclusion.

Introduction

In the contemporary landscape of public governance, there is an ever-growing demand for transparency, accountability, and citizen-centric practices, which are essential pillars of effective democratic governance, particularly in South Africa (Jain 2019; Newig & Fritsch 2018). These pillars serve as safeguards against the challenges that often plague public administrations, including financial pressures that can lead to resource misallocation, mismanagement, and concerns about corruption (Heald 2019; Open Government Partnership 2020). The call for transparency is driven by the need to ensure that financial resources are used efficiently and effectively, preventing wastage or the diversion of funds away from their intended purposes. Accountability mechanisms act as checks and balances, holding public officials and institutions responsible for their actions, thereby reducing the risk of mismanagement or corruption. Moreover, citizen-centric practices place citizens at the centre of decision-making processes, ensuring that government actions align with the public's needs and preferences, reducing the likelihood of poor resource allocation (Bovens 2007; Fox 2020). These principles are not mere ideals but fundamental requirements for ensuring that governments serve the best interests of their citizens.

To uphold the above-mentioned principle, the concept of citizen-based monitoring (CBM) of government projects has emerged as a powerful mechanism (Fox 2020). Citizen-based monitoring is described as a participatory and bottom-up approach to governance and public

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service oversight that involves active citizen engagement in the monitoring, evaluating, and reporting of government activities, particularly in the context of public projects and services (Bithas & Nijkamp (2019a). Citizen-based monitoring operates on the foundational principle that citizens have a fundamental right to access quality public services. Their involvement in monitoring and shaping these services is essential for effective democratic governance (UNDP 2019). At its core, CBM is grounded in transparency, accountability, and citizen-centric governance. It empowers ordinary citizens, community groups, and civil society organisations to actively participate in public projects' decision-making processes, ensuring that resources are allocated efficiently, and projects are executed effectively (Fox 2020). Citizen-based monitoring extends beyond mere data collection; it fosters a sense of ownership and responsibility among citizens for the public services they receive (Mishra, Akter & Basher 2021).

Despite the critical importance of CBM, there is a pressing need for a more effective, structured, and technologically driven approach to this practice, especially within the context of South Africa (Bithas & Nijkamp 2019b). Noteworthy studies by Johnson and Smith (2020a) and Ngcobo (2018) explore traditional methods and challenges in CBM without relying on social media platforms. While CBM is recognised as a vital mechanism for enhancing transparency and accountability in public project management, there is a significant void in the existing literature – the absence of a structured and comprehensive model that fully harnesses the potential of social media in this context (Mishra et al. 2021). This gap represents a substantial challenge in South Africa's dynamic socio-political landscape (Dinur & Everett 2020). The challenges associated with traditional CBM tools and techniques in the South African public sector are multifaceted and have garnered criticism over time. Traditional CBM methods often rely on manual data collection, which can be time-consuming, resource-intensive, and susceptible to errors (Kinyanjui 2017). This manual approach hinders the real-time monitoring of government projects and creates challenges in aggregating and analysing data effectively. Furthermore, traditional CBM practices may not fully engage citizens in project oversight because of their passive nature, as citizens are typically only involved during periodic data collection exercises (Swanepoel 2020).

Critics, including Smith (2017), Johnson and Smith (2020b), and Brown and Green (2021), highlight issues related to transparency and accountability in traditional CBM methods, particularly within the South African context. In South Africa, where these critiques are particularly pertinent, concerns arise because of the involvement of intermediaries or government officials in data collection, potentially introducing biases or manipulation (Mthembu & Nkosi 2018). This jeopardises the credibility and reliability of reported data, raising questions about its accuracy in reflecting on-the-ground realities of project implementation. Moreover, the lack of direct citizen engagement in the monitoring process in

South Africa can foster a perception of exclusion and limited influence over project outcomes, eroding trust in public institutions (Mokone 2019). The challenges extend to the limited capacity for citizens in South Africa to promptly report issues and provide feedback. Existing mechanisms are often fragmented, leading to delays in addressing critical concerns and allowing problems to escalate without timely intervention (Dlamini 2022; Mishra et al. 2021). This underscores the need for a more robust CBM process tailored to South Africa's specific challenges and dynamics.

However, integrating social media platforms into CBM practices presents a promising solution to these challenges. By harnessing the power of social media, CBM can transition from a predominantly passive, periodic process to an active and real-time engagement model (Ishmaev 2021). Social media enables citizens to participate continuously in project oversight, providing accessible channels for sharing information, concerns, and feedback. Moreover, introducing a web-based application that integrates social media can enhance the credibility of reported issues. This web-based application can incorporate authentication mechanisms that protect participants' anonymity while verifying the information's accuracy (Sukumaran 2019). Such mechanisms can include digital signatures or secure identifiers allowing validation without revealing participants' identities. In addition, the web-based application can provide features for cross-referencing information with project data, ensuring the credibility of reported issues and reducing the potential for misinformation.

The pressing need for a more effective, structured, and technologically driven approach to CBM in South Africa presents multifaceted challenges (Samuel & Chirambo 2018). This article addresses these challenges by presenting a novel model explicitly tailored for the South African government. This model leverages the transformative potential of social media, offering practical guidelines for government institutions. By filling this knowledge gap and addressing these challenges, this research contributes to enhanced transparency, accountability, and citizen engagement in government projects, advancing effective governance practices in South Africa and aligning with global trends in digital-driven governance (Virtanen et al. 2019a).

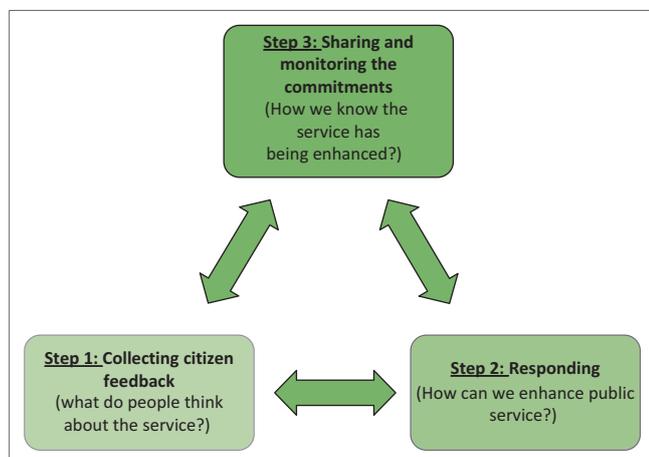
The remainder of the article is organised as follows. It begins with exploring CBM in the South African context, shedding light on the challenges encountered in government project monitoring within the nation. It then delves into relevant international models and best practices. The research methods, key findings, and discussions are presented, including qualitative findings concerning critical issues in CBM and preferred tools. Moreover, quantitative findings are discussed, emphasising the potential role of social media as a CBM tool. Following this, a novel social media-driven CBM model is proposed. The subsequent part provides recommendations for various stakeholders, encompassing government adoption, capacity building, and policy

development. Lastly, the article concludes by outlining potential avenues for future research in the field of CBM.

Citizen-based monitoring in the South African context; challenges faced in government project monitoring in South Africa

Citizen-based monitoring, as a dynamic and evolving concept, adapts to different regions and countries' unique needs and contexts, with its effectiveness contingent on solid partnerships between citizens, civil society, government agencies, and other stakeholders (Virtanen et al. 2019b). In South Africa, the three-step CBM model developed by the Department of Planning Monitoring and Evaluation (DPME) serves as a structured process to enhance service delivery (DPME 2013, 2015, 2016; IRM 2018:89). Community-led surveys constitute the first step, collecting feedback from both citizens and government employees. The findings are compiled into a report, providing valuable data-driven insights. The second step involves collaborative analysis by citizens and institution staff, identifying concerns and root causes. Public meetings are then convened to share improvement strategies and address constraints, fostering transparent dialogue within the community (DPME 2013, 2015, 2016). Commitments resulting from these discussions are reviewed and adapted based on feedback received. In the final step, a strong emphasis is placed on sharing and monitoring these commitments, employing oversight and feedback mechanisms to ensure commitment fulfilment (IRM 2018:89). This step involves the integration of commitments into planning, budget allocation, and management assessments. Achieving these commitments may necessitate effective collaboration among various stakeholders, government levels, and departments, underscoring the importance of a lead actor in fostering collaboration and realising the intended objectives (DPME 2016).

This model adheres to the principles of participatory governance and community engagement (Kozila & Tolmie 2016). The iterative feedback loop, driven by transparent



Source: Adapted from DPME (Department of Planning, Monitoring, and Evaluation), 2013, *Independent impact assessment of the community monitoring and advocacy programme of the Black Sash Trust*, Government of South Africa, Pretoria

FIGURE 1: Citizen-based monitoring three-step model.

public meetings, supports adaptive decision-making and responsive service improvements (DPME 2013). The model facilitates an inclusive, community-driven approach to enhance local government service delivery, emphasising responsiveness, collaboration, and accountability.

Despite the current CBM in South Africa, monitoring government projects through CBM in South Africa faces a myriad of challenges, with several prominent limitations impacting the efficacy of widely used tools such as transparency portals, presidential hotlines, community scorecards, grievance redress mechanisms, mobile phone surveys, and quantitative service delivery surveys (Mafunisa 2016; Moleleki & Makgopa 2021; Naidu 2017). Chief among these is the need for robust citizen engagement, which is hindered by complex bureaucratic procedures, limited user-friendliness, poor accessibility, usability, and interactivity of these conventional CBM tools, and low public awareness (Johnson & Singh 2018; Vundule et al. 2019). The credibility of the data collected poses a substantial hurdle, as ensuring the accuracy and trustworthiness of information gathered through these tools can be problematic (Mukuru 2016). Additionally, disparities in digital literacy and resource access challenge equitable participation, while anonymity and security concerns may discourage citizens from reporting issues or concerns about government projects (Birundu 2020). Furthermore, resource-intensiveness and scalability issues often plague the implementation of CBM in South Africa, necessitating innovative solutions (Bhatia & Nair 2019; Pillay 2015).

In South Africa's public governance context, it is essential to critically examine the limitations of traditional CBM tools in fostering citizen engagement and ensuring transparency in government projects. For instance, transparency portals and presidential hotlines, designed to facilitate public input, face criticism because of their lack of interactivity and responsiveness (Smith & Jones 2019; White & Brown 2017). These platforms may be perceived as clunky and uninviting, particularly by individuals with low digital literacy or limited access to technology, posing barriers to usability and accessibility (Gupta 2020; Patel & Chen 2018). The absence of real-time features of these tools further hinders immediate feedback or updates on reported issues, impacting citizen engagement (Brown & Green 2021; Kumar & Singh 2019). These limitations result in restricted citizen participation, impeding the crucial process of public oversight of government projects. A community member reporting a service delivery issue through a transparency portal may experience delays in receiving responses or updates on the issue's status (Anderson & Martinez 2017; Smith 2020). Similarly, presidential hotlines may lack mechanisms for interactive dialogues with citizens, contributing to a perception that voices go unheard (Chen & Patel 2018; James 2016).

Moreover, ensuring the credibility of collected data poses a substantial challenge, as validating and cross-referencing information gathered through these tools can be problematic,

eroding trust in the data (Mukuru 2016; Steyn & Swanepoel 2017). The issue of equitable access, coupled with limited resource availability for specific population segments, underscores the need for widespread digital literacy and accessibility (Hossain & Alam 2018; Stirling 2017). Anonymity and security concerns deter citizens from reporting issues, as existing tools lack mechanisms to ensure safety and anonymity (Katz & Abdulai 2020; Mkude et al. 2019). Navigating government procedures for raising concerns or complaints about projects can be complex, and traditional tools struggle to simplify these processes, making it challenging for citizens to voice their concerns effectively (Makina & Ntombela 2015; Shilubane & Ezeonwuka 2018). Lastly, the resource-intensiveness of many existing CBM tools in terms of financial costs and time can limit their scalability, hindering the involvement of a broader population segment (Bhatia & Nair 2019; Sabwa 2017). This complex array of challenges highlights the need for innovative solutions that can enhance the effectiveness of CBM in South Africa.

Recent developments in citizen engagement platforms are addressing these aforesaid limitations effectively. Platforms such as FixMyStreet in the United Kingdom (Peled & Unkule 2016), Adaa in Saudi Arabia (Almalki & Mohammed 2018), Ushahidi in Kenya (Okolloh 2009), SeeClickFix in the United States, and GovChat in South Africa (Charowa, Gavaza & Mavodza 2020; Doppelt 2013) have emerged as innovative solutions (see Appendix 1). These platforms go beyond addressing the constraints of traditional CBM; they are reshaping the fundamentals of citizen engagement. By decentralising information and democratising monitoring, they contribute to developing more inclusive, responsive, and citizen-centric public services (Aday 2010).

Research methods, key findings and discussions

The research methodology for developing and validating the model employed a robust mixed-methods approach, strategically chosen to provide a comprehensive understanding of CBM in the South African context (Jain 2019; Newig & Fritsch 2018). This approach integrates qualitative and quantitative research techniques, ensuring a nuanced exploration of the multifaceted aspects of CBM, social media use, and citizen engagement. The selection of a mixed-methods approach stems from recognising that CBM, a complex and evolving concept, requires a holistic examination beyond numerical data and statistical patterns.

The extensive literature review formed the foundation of the research, exploring the existing academic and practical work on CBM, social media analytics, citizen engagement, and project management. This integrative approach aligned the study with global standards while addressing South Africa's specific needs and challenges, providing a robust theoretical framework (Booth et al. 2016; Machi & McEvoy 2016). Incorporating insights from successful international case studies adapted to the South African context aimed to enrich

the research and contribute to the global discourse on effective CBM strategies. Data collected through interviews, surveys, and secondary sources underwent a meticulous and thorough analytical process, incorporating thematic, statistical, and content analysis. This rigorous approach aimed to uncover nuanced insights, providing a comprehensive and multifaceted understanding of the research objectives. The validation of the developed model was a multifaceted process involving expert reviews, pilot testing, and soliciting stakeholder feedback. This robust validation ensured that the model met the specific needs and standards of the South African context, aligning with established research methodologies (Creswell & Creswell 2017).

The survey design employed a targeted approach to engage 6912 participants, with 384 allocated to each South African province. Exceeding expectations, the survey garnered 7282 responses, surpassing its goal and ensuring a robust representation of diverse perspectives, as detailed in Table 1 (IRM 2018:89). This extensive survey not only quantified preferences and priorities but also provided a deeper understanding of the varied perspectives on CBM across different regions.

In the interview design, 12 key stakeholders played a crucial role by participating in in-depth interviews, offering rich qualitative insights (Booth et al. 2016). This qualitative dimension was essential for capturing nuanced perspectives on CBM requirements, challenges, and potential solutions. The participants' specifications outlined in Table 2 provide a detailed overview of the diverse backgrounds and expertise of the interview respondents, spanning government, community media, and community-based organisations.

Qualitative key findings: Key issues in citizen-based monitoring of government projects and citizen-based monitoring tools

Qualitative interviews conducted in this study provided a wealth of insights into the CBM of government projects in South Africa. Engaging diverse stakeholders, including government officials, social media strategists, and local civic organisation representatives, the interviews explored nuanced CBM understanding, process challenges, and citizen engagement's role in public service delivery. Participants assessed current CBM mechanisms, highlighting strengths and limitations and discussing social media's dynamic

TABLE 1: Targeted sample size (survey).

Province	Urban population	Urban sample	Rural population	Rural sample
Western Cape	4 088 709	384	435 626	384
Eastern Cape	2 500 234	384	3 936 529	384
Northern Cape	680 460	384	142 267	384
Free State	2 052 115	384	654 660	384
KwaZulu-Natal	4 334 642	384	5 091 375	384
North West	1 533 768	384	2 135 581	384
Gauteng	8 590 798	384	246 380	384
Mpumalanga	1 288 434	384	1 834 556	384
Limpopo	700 459	384	4 573 183	384
Total	25 769 619	3456	19 050 157	3456

TABLE 2: Sector specification of the respondents.

Organisation	Province	Sector	Qualification	Experience (years)
A	Gauteng	Government	Postgraduate degree	5 +
B	Gauteng	Government	Postgraduate degree	5 +
C	Gauteng	Government	Postgraduate degree	5 +
D	Gauteng	Government	Postgraduate degree	5 +
E	Mpumalanga	Community media	Undergraduate degree	5 +
F	Free State	Community media	Undergraduate degree	5 +
G	Gauteng	Community media	Undergraduate degree	5 +
H	Limpopo	Community media	Undergraduate degree	5 +
I	Western Cape	CBO	Postgraduate degree	5 +
J	Gauteng	CBO	Undergraduate degree	5 +
K	Gauteng	CBO	Postgraduate degree	5 +
L	KZN	CBO	Undergraduate degree	5 +

KZN, KwaZulu-Natal; CBO, community-based organisation.

potential. To present these insights comprehensively, findings are categorised into two main themes (see Table 3): 'CBM of Government Projects' and 'Existing CBM Tools'. These themes include relevant sub-themes reflecting the multifaceted perspectives uncovered during interviews.

Citizen-based monitoring of government projects

Stakeholders, including government officials and civic organisation representatives, raised multifaceted concerns regarding the challenges inherent in the South African CBM process. These challenges ranged from technical data collection and monitoring difficulties to citizen access to government services. A common concern highlighted the complex nature of project monitoring, where the lack of standardised processes and tools can hinder effective CBM, aligning with the existing literature (Eyben 2016). Furthermore, interviews revealed a pervasive lack of public awareness about CBM, extending to the concept's objectives and citizen engagement methods. Stakeholders voiced the need for comprehensive awareness campaigns, aligning with scholars' recognition of the importance of citizen education for CBM success (Tripathi & Bevan 2013).

Moreover, limited citizen participation in CBM initiatives emerged as an issue requiring attention. Factors such as awareness gaps, perceived government unresponsiveness and inadequate participation incentives contributed to this problem. Addressing this passivity is pivotal, as passive participation can undermine the effectiveness of CBM efforts, consistent with scholarly findings (Bjoersten & Van Der Hoek 2008). The study also unveiled diverse perceptions of government responsiveness to CBM reports. While some stakeholders commended the government's efforts, others expressed concerns about response timeliness and effectiveness. This divergence emphasises the complexity of evaluating government responsiveness, aligning with scholarly insights

TABLE 3: Qualitative themes ($N = 12$).

Broad themes	Sub-themes
CBM of government projects	<ul style="list-style-type: none"> Challenges in the CBM process Lack of awareness about CBM Limited citizen participation in CBM Perceptions of government responsiveness Capacity and resource limitations
Existing CBM tools	<ul style="list-style-type: none"> Assessment of current CBM mechanisms Strengths and weaknesses of existing tools Social media for government monitoring Potential of social media in CBM Advantages of using social media platforms Technical and access challenges Data privacy and security concerns

CBM, citizen-based monitoring.

on its significant impact on citizen engagement (Joshi & Houtzager 2012).

Interviewees shared instances where CBM had positively influenced project implementation, contributing to improved outcomes. These instances underscore CBM's potential to enhance government project effectiveness, consistent with the broader literature highlighting its transformative role (Guijt & Shah 1998). Another common thread was the recognition of capacity and resource constraints in CBM. Both government officials and civic organisation representatives acknowledged that effective CBM necessitates sufficient resources, aligning with scholarly emphasis on resource availability as crucial for CBM success (Dassen, Kunst & Bishai 2020). These insights underscore the importance of addressing resource limitations to optimise CBM practices in South Africa.

Assessment of current citizen-based monitoring tools

Stakeholders emphasised the need for a comprehensive evaluation of the current strengths and weaknesses inherent in existing CBM tools. While recognising their potential to enhance citizen engagement and government accountability, stakeholders acknowledged contextual limitations in these mechanisms. This perspective aligns with scholarly discourse, which underscores the context-dependent nature of CBM tools, balancing strengths and weaknesses, including risks of elite capture and inclusivity issues (Fung & Wright 2003). The importance of continuous evaluation to optimise existing CBM mechanisms was highlighted by stakeholders, reflecting a commitment to adaptability in the evolving landscape of citizen-government interactions.

Another critical theme was the importance of collaborative partnerships between the government and civic organisations. These partnerships were essential for effectively utilising existing tools, sharing resources, building capacity, and co-creating solutions to address community concerns. Scholarly discussions support the significance of such collaborations in CBM, emphasising their role in enhancing mechanisms' legitimacy and sustainability (Shah 2007). Stakeholders' recognition of this collaborative potential emphasises its relevance in the specific context of South Africa.

In addition, interviews underscored the transformative potential of social media platforms in enhancing CBM practices, providing dynamic and accessible mediums for citizen engagement, data collection, and information dissemination. This aligns with the existing literature advocating integrating social media into CBM efforts to reach broader audiences, facilitate real-time interactions, and enable data-driven decision-making (Yin & Jia 2013). However, stakeholders acknowledged challenges related to the digital divide, data accessibility, digital literacy, data privacy, and security, emphasising the need for robust data protection mechanisms. These concerns align with scholarly emphasis on safeguarding citizen data and ensuring its collection and storage adhere to legal and ethical standards (Howard & Parks 2012; Livingstone 2008). These insights highlight the multifaceted nature of integrating social media into CBM mechanisms in South Africa.

Integrating social media platforms, such as dedicated government project monitoring applications linked to popular platforms such as WhatsApp and Facebook, was proposed to address these limitations. These platforms offer user friendly interfaces and real-time interactions, enabling citizens to easily report issues, receive updates on project statuses, and engage in discussions with relevant government officials (Garcia & Rodriguez 2017; Rodriguez & Lee 2019). Such integration enhances accessibility, usability, and transparency by facilitating immediate communication and feedback. For example, a citizen reporting an issue through a project monitoring application can subsequently track progress, engage with project managers, and receive real-time updates on issue resolution (Garcia & Patel 2018; Lee 2019). By enhancing citizen engagement and accountability, this approach underscores its practical utility, particularly when compared to traditional, less interactive tools that have often struggled to keep citizens engaged and informed throughout the project monitoring process (Gonzalez 2019; Smith & Anderson 2018).

Quantitative key findings: Preferred tools and the potential use of social media as a citizen-based monitoring tool

This section presents the quantitative findings regarding citizens' preferred tools for monitoring government projects, their social media usage, and engagement with government platforms, and perceptions about social media as a suitable tool for CBM in public service.

Preferred tools for public service monitoring and social media usage

The study delved into citizens' preferred tools for monitoring government projects and public service delivery. As illustrated in Figure 2, among the 7282 respondents, it was evident that 27% preferred group chats through social media platforms as their primary tool, signifying the growing importance and accessibility of social media in fostering discussions and information sharing in public service delivery monitoring (Mukerjee, Zhang & Maity 2020). This

underscores the broader recognition of social media as a practical means of citizen engagement and promoting government transparency (Ruiu 2019). Traditional media channels such as television and radio were favoured by 16% of respondents, highlighting their continued role in information dissemination and public service assessment (Vargo & Gu 2017). Newspapers, chosen by 11% of respondents, reiterated their significance in public service monitoring and information sharing (Picard 2019). On the other hand, mechanisms such as surveys, emails, and mystery clients were less preferred, suggesting that while they hold value, they may not be the primary choices for monitoring public service delivery among respondents (Baker, Wang & Wakefield 2016; Mikkelsen & McNiece 2003).

Furthermore, the study explored social media ownership and citizen engagement on government pages, revealing that 83% of respondents were active on these platforms. As shown in Figure 3, WhatsApp emerged as the most popular platform with 32% usage, especially among those aged 25–40. Facebook remained attractive to 25% of participants, indicating its enduring popularity, while 14% preferred Instagram, particularly in the 25–40 age group, highlighting the appeal of visual content sharing. Notably, 50% of respondents used multiple social media platforms, reflecting diverse engagement with various communication and information-sharing options (Bakshi & James 2017). These findings underscore the potential of leveraging social media as practical tools for broad citizen engagement and collaboration in public service monitoring, providing versatile channels for information sharing (Capobianco & Meckel 2019).

The extensive use of multiple social media platforms reflects the presence of various communication channels. It aligns with the importance of diversifying communication strategies to reach different population segments (Kiouis & Wu 2017). This study demonstrates that most participants are well-connected to digital platforms and social media networks, making them valuable channels for CBM efforts. However, addressing internet access disparities is crucial to ensure inclusive citizen engagement, in line with the broader trend of increasing digital participation in public service monitoring (Guzmán 2019).

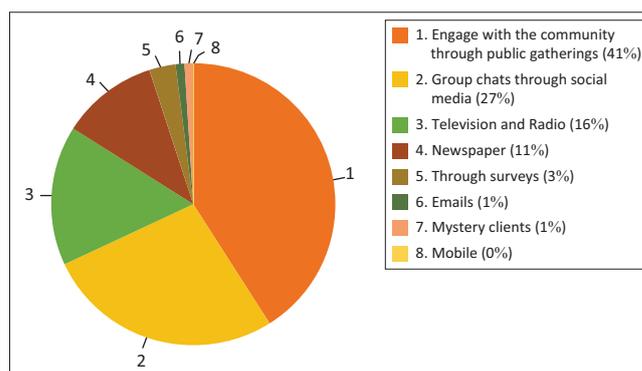


FIGURE 2: Preferred tools to monitor public service delivery ($N = 7282$).

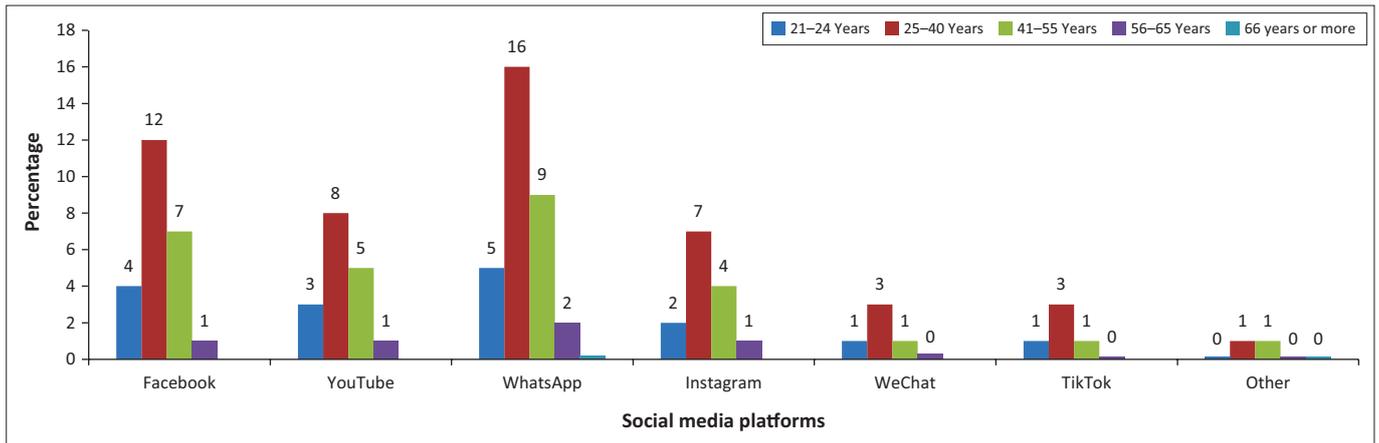


FIGURE 3: Ownership of social media platform by age ($N = 7282$).

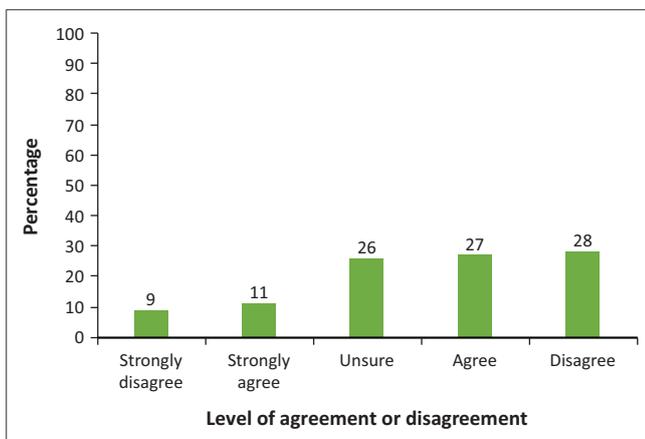


FIGURE 4: Number of participants who report public service delivery issues via social media ($N = 7282$).

Perceptions of social media as a citizen-based monitoring tool for public service monitoring and engagement

The insights from Figure 4 underscore the significant potential of social media as a means for citizens to engage with government authorities on public service delivery issues. Notably, 27% of respondents express their willingness to interact with government agencies on social media, indicating a growing desire for digital platforms to serve as avenues for citizen-government dialogue (Gil De Zúñiga, Jung & Valenzuela 2012). This underscores the importance of responsive and accessible government social media pages that can facilitate these interactions effectively (Kaplan & Haenlein 2010). Nevertheless, it is essential to acknowledge the variety of attitudes within the surveyed population, as many respondents express dissent or uncertainty about this form of engagement, reflecting a diversity of perspectives (Tatarchevskiy & Pan 2015). These differences highlight the need for government agencies to build trust in their online interactions with citizens and address concerns (Grunig & Grunig 2010).

In Figure 5, the data provide a positive perception of social media's convenience in monitoring public service delivery affairs among 33% of the participants. They view digital platforms as practical tools for staying informed about public service matters, in line with an expanding body of literature

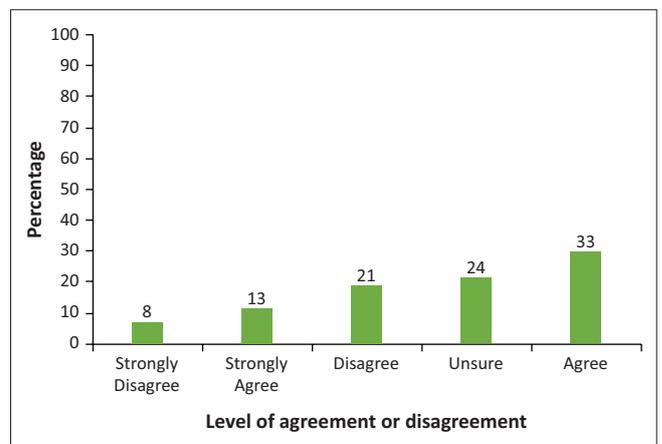


FIGURE 5: Participants' perceptions on the convenience of social media for citizen-based monitoring of service delivery ($N = 7282$).

emphasising the accessibility and convenience of social media for citizen engagement and information sharing (Foth, Hearn & Tacchi 2011). Social media is recognised for offering real-time updates, interactive features, and a space for open discussions, catering to the preferences of individuals seeking convenience and engagement in the digital age (Van Dijck 2013). Furthermore, social media's potential to reach diverse digitally connected audiences is a critical advantage for government communication and citizen engagement, particularly given the convenience of smartphones and web-based platforms. However, it is crucial to consider that while 33% agree on social media's convenience, a substantial portion of respondents may still have reservations or uncertainties about using these platforms for monitoring public services. Addressing these concerns and offering a balanced view of social media's capabilities and limitations remain pivotal for effective citizen engagement (Chadwick 2013).

Interest in participating in citizen-based monitoring initiatives via social media

The data in Figure 6 provide critical insights into participants' willingness to engage in CBM initiatives through social media platforms. Notably, 36% of respondents express their inclination to participate in monitoring initiatives via social media, underscoring the potential of digital platforms to foster active citizen involvement in monitoring public service

delivery. These findings align with the broader literature, highlighting the benefits of using social media for citizen engagement and participation in governance processes (Linders 2012). Scholars emphasise that digital platforms provide citizens with accessible and convenient means to engage in monitoring activities, thereby contributing to greater transparency and accountability (Gupta, Jain & Sharma 2014). Conversely, 17% of respondents who disagree with participating in CBM initiatives on social media indicate a lack of interest or a preference for alternative engagement methods. While social media can be a potent tool for engagement, these findings highlight that it may not be the preferred avenue for everyone (Chadwick & Stromer-Galley 2016). In summary, the data unveil a significant level of interest among respondents in using social media for CBM of public service delivery, suggesting its potential to enhance citizen participation in monitoring activities and contribute to improved transparency and accountability in public service delivery.

The proposed social media-driven citizen-based monitoring model

The development of this model for utilising social media as a tool for CBM in public service delivery builds upon the analysis of existing conceptual models such as the Theory of Reasoned Action (TRA) (Ajzen & Fishbein 1980), Technology Task Fit (TTF) (Goodhue & Thompson 1995), and Two-Step Flow of Communication (TSFC) (Lazarsfeld & Katz 1955). This integration is motivated by the need to leverage well-established theoretical frameworks to ensure the practical applicability and effectiveness of the proposed model. These existing models provide valuable insights into the factors influencing behaviour, technology adoption, and communication dynamics, which are highly relevant to the context of CBM through social media. Furthermore, it considers the advantages and drawbacks of the existing South African CBM three-step model depicted in Figure 1. This newly proposed model incorporates several features inspired by successful social media-driven platforms such as GovChat, Aada, FixMyStreet, and SeeClickFix (Almalki & Mohammed 2018; Charowa et al. 2020; Doppelt 2013; Okolloh 2009; Peled & Unkule 2016), which are examined in Appendix 1. Figure 7

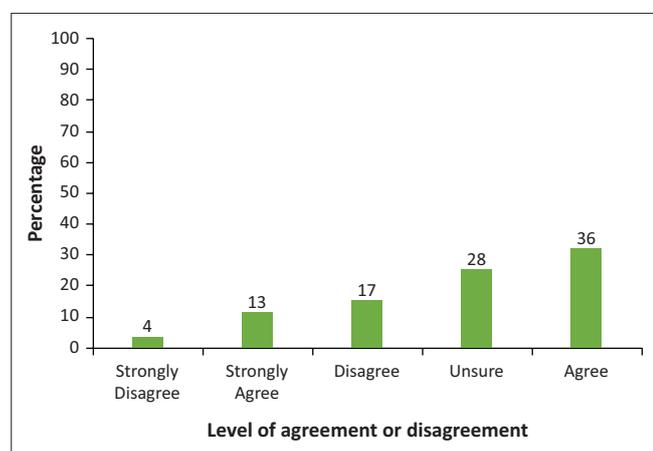


FIGURE 6: Participants' level of interest in participating in monitoring initiatives via social media ($N = 7282$).

presents a comprehensive and detailed social media-driven model. This model illustrates the intricate web of interactions among various stakeholders monitoring government projects. The highlighted boxes within the diagram spotlight critical components central to the primary interactions and eventual outcomes. This model aims to encapsulate the multifaceted dynamics when leveraging social media to monitor government initiatives. It delves into the diverse relationships and exchanges occurring between the involved parties, highlighting key elements pivotal for the success of these interactions and, consequently, the attainment of desired outcomes.

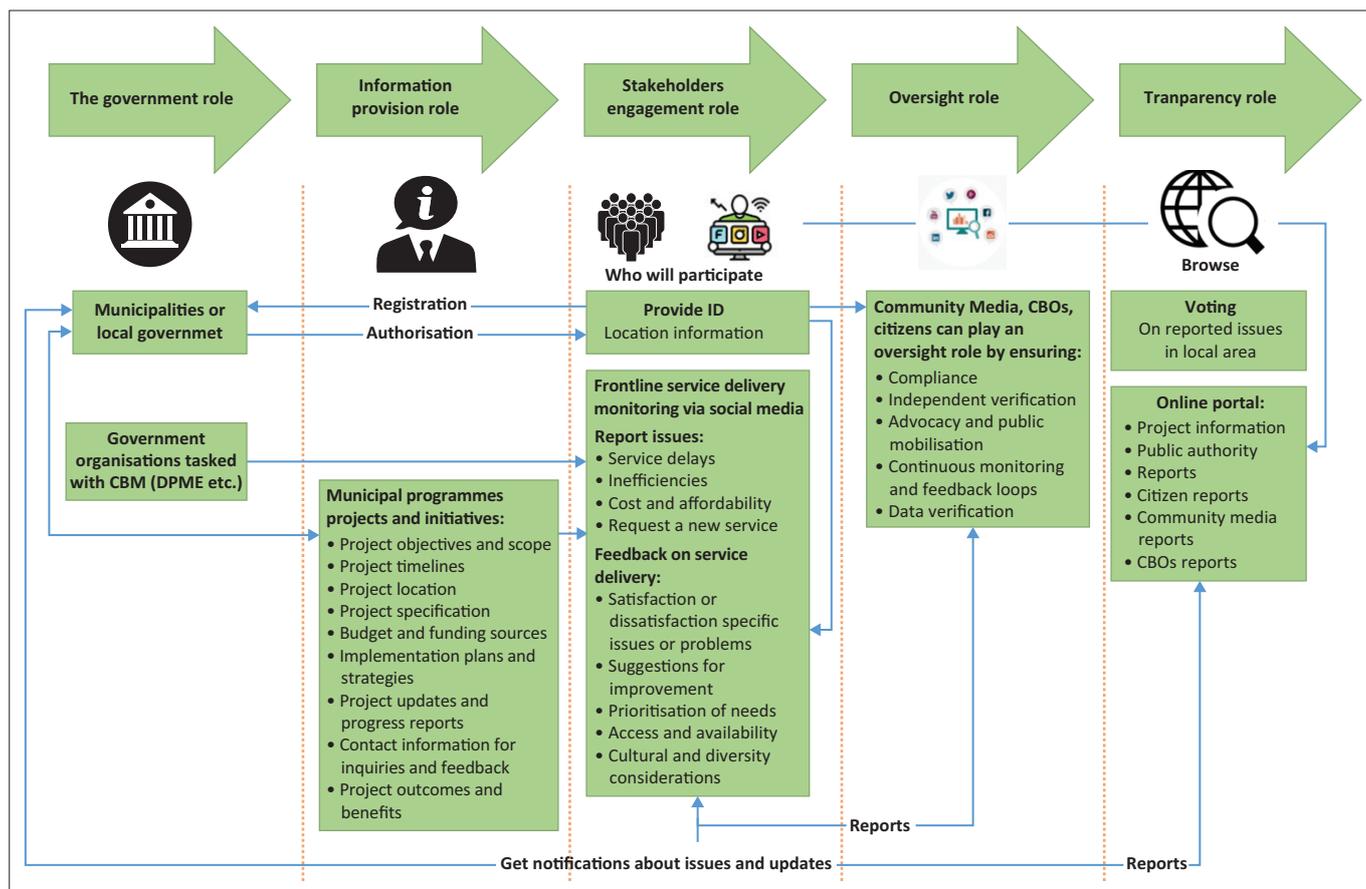
The proposed social-media-driven CBM model comprises five interconnected roles delineating the components and their interrelationships, with social media playing a pivotal role in each. *The government's role* is the backbone, involving municipalities and government entities responsible for public service delivery. These entities collaborate with other stakeholders through social media, aligning CBM initiatives with service delivery goals, providing oversight, ensuring transparency, and promoting accountability. *The information provision role* focuses on empowering citizens through social media by offering them accurate and relevant information. It enables citizens to actively participate in CBM initiatives, express opinions, raise concerns, and advocate for improvements, fostering a collaborative approach between citizens and other stakeholders. *The engagement role* emphasises using electronic means, mainly social media, to facilitate citizen participation. Citizens use social media platforms to report on government projects, request services, and provide feedback. In contrast, through social media interaction, government entities, community-based organisation (CBO) and community media contribute to a comprehensive understanding of public service issues.

The oversight role is vital for ensuring the effectiveness and accountability of CBM via social media. It involves monitoring, evaluation, compliance, accountability, and reporting. Oversight entities monitor social media interactions, evaluate the impact of CBM initiatives, ensure compliance with standards, and hold stakeholders accountable, promoting transparency and trust. *The transparency role* complements other roles by ensuring open access to CBM content on social media platforms. It introduces mechanisms like voting for reports and fosters collective assessment, enabling scrutiny, responsible behaviour, and accountability. Transparency enhances citizen engagement, trust, and inclusivity in the CBM process, making social media-driven monitoring more effective and legitimate.

Recommendations

Government adoption

Facilitating the seamless integration of the proposed social-media-driven CBM model into existing government structures requires careful alignment with the established three-step CBM approach developed by the DPME. This integration involves incorporating social media as a complementary tool within the DPME's existing framework. Crafting a



DPME, Department of Planning Monitoring and Evaluation; CBM, citizen-based monitoring; CBO, community-based organisation.

FIGURE 7: The proposed social media-driven model for citizen-based monitoring of government projects.

comprehensive social media strategy is pivotal, aligning and elevating the objectives of the DPME's CBM model. This includes specifying integration points of social media platforms into citizen reporting processes and institutional feedback mechanisms. Emphasis should be on user-friendly features within the proposed online portal, ensuring a seamless fusion with the DPME's ongoing public engagement efforts. Strategic recommendations aim to enhance transparency, inclusivity, and efficiency within the DPME model, fostering a harmonious integration without proposing an entirely new model.

Capacity building and training

A smooth transition into incorporating social media into CBM practices necessitates designing robust training programmes in collaboration with existing educational institutions and government bodies. Aligning with the DPME's ongoing efforts, digital literacy training for citizens should be expanded to include specific skills related to leveraging social media for issue reporting and active engagement with the government. Similarly, for government officials, integrating social media communication training should be seamlessly woven into existing modules, emphasising effective response protocols and issue resolution within the specific context of the DPME's CBM model. Community engagement workshops must be thoughtfully designed to integrate social media aspects into their content, ensuring participants gain practical skills that align with the DPME's established framework.

Policy and regulatory foundations

Successfully incorporating the social-media-driven CBM model into existing practices requires a tailored policy and regulatory framework that seamlessly integrates with DPME's current governance policies. Rather than introducing entirely new structures, this recommendation advocates for enhancing the DPME's governance framework. This involves developing a data governance structure that transparently incorporates social media data handling practices, ensuring alignment with the DPME's regulatory landscape. The policy framework should strictly align with data protection laws within the DPME's purview, fostering a cohesive regulatory environment. Enhancing the public records management policy becomes crucial to accommodate social media data holistically, preserving valuable information while maintaining transparency and reflective analysis capabilities within the DPME's CBM context.

Cross-departmental collaboration

Collaboration among various government entities should be built upon existing structures and models, emphasising a unified approach to regulatory development within the DPME's CBM model. Recommendations should underscore streamlined collaboration between the Department of DPME, the Department of Public Service and Administration (DPSA), and the Public Service Commission (PSC). Efforts

should be meticulously aligned to prevent potential duplications and gaps in the regulatory framework, ensuring that incorporating social media into CBM initiatives operates consistently and efficiently within the established governance landscape of DPME's model. A unified approach to regulatory development within the DPME's framework guarantees that CBM initiatives operate within clearly defined legal parameters, promoting effectiveness and coherence.

Public awareness and education

Recommendations for public awareness campaigns should leverage existing initiatives while seamlessly integrating the introduction of social media into CBM practices within DPME's framework. Collaborate with government entities and organisations, such as the South African Human Rights Commission (SAHRC), to actively participate in educational efforts. Rather than creating entirely new campaigns, integrate CBM aspects into current awareness initiatives, ensuring that citizens and stakeholders are well-informed about their rights and responsibilities in the evolving CBM process. This collaborative approach ensures the reach and effectiveness of these campaigns while building on existing structures and awareness programmes within the DPME's established framework.

Future research directions

One crucial direction for future research lies in comprehensive impact assessments, allowing for a thorough understanding of how CBM influences transparency, service delivery, and citizen engagement. These assessments provide a data-driven foundation for governments and organisations to refine their strategies. Additionally, it is essential to focus on digital inclusion studies to uncover the extent of digital accessibility and identify the barriers marginalised communities encounter in their participation in CBM through social media. By addressing these disparities, researchers can develop strategies that foster a more inclusive and equitable environment for CBM, enabling all citizens to participate effectively. Sharing best practices and case studies is another vital aspect of future research, as it enables the dissemination of insights and successful strategies from CBM initiatives, informing governments and organisations globally. Lastly, research must remain adaptable and embrace technological advancements to assess emerging social media platforms and technologies, exploring their potential to enhance data collection, citizen engagement, and service monitoring. This approach ensures that CBM initiatives stay dynamic and responsive, evolving alongside the ever-changing governance and citizen empowerment landscape.

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Competing interests

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Authors' contributions

L.S.M. was involved in conceptualising the study, designing the research, collecting and analysing data, interpreting findings, drafting the manuscript, and critically revising it. L.S.M. also contributed to data analysis and participated in revising the manuscript. The article was authored by L.S.M.

Ethical considerations

Ethical clearance to conduct this study was obtained from the University of Johannesburg School of Public Management, Governance and Public Policy Research Ethics Committee (No. 21PMGPP29). Ethical considerations played a paramount role in the research process, guiding the study to ensure the well-being and rights of participants. Approval from the University of Johannesburg's before data collection underscored the research's commitment to ethical standards. Informed consent was obtained from all participants, emphasising their voluntary participation, right to withdraw at any stage and assurance of confidentiality. Measures were in place to mitigate potential risks to participants, particularly considering the sensitive nature of discussing CBM, governance, and citizen engagement. Pseudonyms and anonymisation were employed to protect the identity of interview participants, and data confidentiality was rigorously maintained throughout the research lifecycle.

In addition, the research team was trained to handle sensitive information responsibly, emphasising the importance of respecting participants' privacy and maintaining the integrity of the study. These ethical considerations and risk mitigation strategies were integral to upholding the research's credibility and ensuring the well-being of all involved parties.

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Data availability

Data sharing is not applicable to this article as no new data were created or analysed in this study.

Disclaimer

The views and opinions expressed in this article are those of the authors and are the product of professional research. It does not necessarily reflect the official policy or position of any affiliated institution, funder, agency, or that of the publisher. The author is responsible for this article's results, findings, and content.

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Appendix 1 starts on the next page →

Appendix 1

TABLE 1-A1: A comparative overview of social-media-driven citizen-based monitoring platforms.

Criteria	GovChat (South Africa)	FixMyStreet (UK)	Adaa (Saudi Arabia)	Ushahidi (Kenya)	SeeClickFix (US)
Digital user interface for citizens	Offers an intuitive interface accessible through multiple channels, including WhatsApp, Facebook Messenger, USSD and SMS, and a Progressive Web Application (zero-rated).	Utilises a user friendly website and mobile application interface, making it convenient for citizens to report issues and interact with local councils, and provides integration with various social media channels.	It employs a well-designed website and mobile application, providing citizens with an easy way to submit reports and engage with local authorities, with the option for seamless interaction through social media.	Features an engaging website and mobile application for citizens to report issues and collaborate with local entities with integrated social media engagement.	Offers a seamless web and mobile application interface, including access via social media channels, for citizens to report issues and communicate with local authorities.
User interface for government	Integrates a robust CRM system and a versatile mobile application for councils to manage and respond to citizen reports efficiently.	Councils receive reports through emails and direct system integration, streamlining the management and response process.	Integrates with a comprehensive CRM system and mobile application, allowing the government to handle citizen reports efficiently.	Offers councils a range of methods to receive reports, facilitating efficient management through a user-friendly mobile application and CRM system.	Councils can access reports through an integrated system, ensuring swift and effective management using a user-friendly website and mobile application.
Citizen privacy	All reports are publicly accessible, but citizens can conceal personal email and contact information. However, councils can still access this data for effective resolution.	All reports are publicly viewable, with privacy settings enabling citizens to protect their personal information; however, councils retain access for resolution purposes.	Citizens can choose whether to make their reports public or private, with accessible data for councils to address the issues effectively.	Reports are generally public, but citizens can safeguard their personal information while councils maintain access to ensure efficient issue resolution.	Reports are publicly visible, yet citizens can shield their data while councils retain access for effective resolution.
Availability	It empowers users to generate reports online or offline, allowing for draft reports on iPhone and Android devices.	It allows users to create reports online or offline, including the ability to draft reports using iPhone and Android applications.	Offers online and offline report generation options, including draft reports through mobile applications on iPhone and Android devices.	Enables users to create reports online or offline, with the convenience of drafting reports on iPhone and Android mobile applications.	Facilitates online and offline report creation, with draft report functionality available on iPhone and Android mobile applications.
Type of reports	Encourages citizens to report various issues, from broken items to environmental concerns, including graffiti, dog fouling, potholes, street lights, and more.	It addresses many problems, such as broken, dirty, damaged, or dumped items and issues like graffiti, dog fouling, potholes, street lights, and other quality-of-life concerns.	Encourages citizens to report diverse issues, including environmental and quality-of-life concerns, offering a comprehensive approach to addressing community problems.	Embraces comprehensive reporting, ranging from simple street and environmental issues to complex public health and community challenges, ensuring an inclusive platform for citizen concerns.	Covers a broad spectrum of issues, including broken items and environmental problems, providing a versatile platform for reporting various concerns.
Voting on reports	Does not offer a voting feature on reports.	Allows users to vote on issue reports and comments, enhancing community engagement and prioritisation.	Encourages user voting on reports.	A voting feature for reports allows users to express support or concern for specific issues, facilitating community participation.	A voting feature for issue reports enables users to express their opinions and support community matters.
Accessing reports or Open data	Provides open access for viewing reports. Advanced functionalities are accessible through integrated systems used by local councils.	Offers access to view reports, with advanced features available for governments to utilise.	Allows access to view reports. Advanced functionalities are accessible.	Offers open access to view reports, with robust data export capabilities and advanced tools designed for government use.	Provides open access to view reports, with advanced data export capabilities for enhanced data utilisation.
Analytics tools	Lacks built-in analytics tools.	Provides both basic and advanced analytics tools tailored for government use.	Offers a basic set of analytics tools for user insights.	Offers basic and advanced analytics tools for government use.	(Data not specified)
Validation (When closing a report)	Users can close reports without the need to be physically present at the issue location. However, users might be required to register or confirm their comments via email links for added issue resolution authenticity.	Users can enhance the credibility of issue resolution by confirming comments through email links when closing reports.	Some form of validation or confirmation may be needed ensuring that closed reports are legitimate.	A validation process, such as email confirmation, may be required when closing a report, adding to the reliability of issue resolution.	A validation process, such as email confirmation, may be necessary to verify the authenticity of closed reports.
Functionalities	Offers an array of features, including auto-detect location maps view, photo and video uploads, profile creation for registered users, access to report history, and the ability to find nearby issues.	It provides various functionalities such as auto-detect location maps view, photo and video uploads, profile creation for registered users, access to report history, and the option to discover nearby issues.	The platform includes diverse functionalities, such as auto-detect location maps view, photo and video uploads, profile creation for registered users, access to report history, and the ability to find nearby issues.	Users can access a range of features, including auto-detect location maps view, photo and video uploads, profile creation for registered users, access to report history, and the option to discover nearby issues.	SeeClickFix offers multiple functionalities, such as auto-detect location maps view, photo and video uploads, profile creation for registered users, access to report history, and the ability to find nearby issues.
Registration	Although not mandatory for making reports, users are encouraged to provide their email. In some cases, confirmation links may be required for specific actions.	Registration is not compulsory for making reports, and users are encouraged to provide their email; however, no confirmation link is necessary.	Registration is flexible, not always required for making reports and users are encouraged to provide their email. In certain instances, confirmation links may be needed.	Users have the option to register, but it is not mandatory for making reports. Personal email details are encouraged, and confirmation links may be required for specific actions.	While not mandatory for making reports, users are encouraged to provide their email. In some cases, confirmation links may be required for particular actions.

Note: The comparative overview in Table 1–A1 summarises the key features and distinctions of five social-media-driven CBM platforms, showcasing their efficiency in issue reporting and resolution. CBM, citizen-based monitoring; CRM, customer relationship management; UK, United Kingdom; US, United States.