



Digital civics in action: the promise and emerging practices of generative AI in grassroots community advocacy

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Abstract

In an era marked by intensifying civic challenges and rapid digital transformation, grassroots advocacy groups face increasing pressure to adapt and innovate. Digital civics, a field exploring how digital tools can support civic participation, offers one pathway forward. This study investigates how generative AI (GenAI) tools, such as large language models and image generators, can support grassroots community groups in advancing three key goals: (i) improving scrutiny; (ii) boosting outreach, and; (iii) enhancing advocacy. While GenAI presents new opportunities for fostering digital civics, it also raises critical questions about risks, ethics, confidentiality, and trust in technology-enabled civic processes. This study employs a qualitative, participatory, design-led methodology, involving semi-structured interviews and a co-design workshop. The study was conducted in collaboration with Brisbane Residents United, the representative peak body for community and local citizen action groups in Brisbane, Australia, at a time when civic and urban planning issues are gaining renewed urgency ahead of the 2032 Olympic Games. Our findings reveal emerging GenAI use cases for grassroots advocacy, such as simplifying complex planning documents, creating persuasive campaign materials, and streamlining the drafting of petitions and submissions. At the same time, the study identifies key concerns, including misinformation, privacy, and intellectual property, which must be addressed to ensure ethical and strategic deployment of AI tools in grassroots contexts. This paper contributes timely and practical insights into how digital civics in action—when co-designed with communities—can help bridge the gap between emerging technologies and grassroots democratic innovation.

Keywords Artificial intelligence (AI) · Civic engagement · Generative AI (GenAI) · Grassroots advocacy · Digital civics

1 Introduction

Planning decisions have a noticeable impact on citizens' lives either directly or indirectly (Sanchez et al. 2025). Citizens respond to planning-related issues not simply because they are affected, but because they seek to be heard, exercise agency, assert social ownership, and play an active role in shaping urban imaginaries through collective meaning-making and peer-production (Estrada-Grajales et al. 2018). However, in practice, civic engagement has been constrained

by multiple factors, including power dynamics (Bee and Guerrina 2014), institutional constraints and tokenistic approaches to participation (so-called 'engagement theatre') (Monno and Khakee 2012; Kamols et al. 2021), and insufficient civic education (Galston 2004; Bananuka and Mugarra 2023).

Despite these institutional bottlenecks and procedural roadblocks, citizens continue to organize, form movements, and assert their right to shape the cities they live in. Rather than being discouraged by the limitations of formal engagement mechanisms, such constraints often galvanize public action. Legacy (2017) argues that the inadequacies of institutional channels can prompt citizens to pursue alternative forms of participation beyond official planning processes. When governments fail to acknowledge and meaningfully respond to civic concerns, they risk provoking widespread backlash—as demonstrated by the #BlockSidewalk campaign against Sidewalk Labs in Toronto (Mann et al. 2020), the citizen-led resistance to Stuttgart 21 in Germany (Novy

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and Peters 2012; Nagel and Satoh 2019), and the broader civic uprisings of the Arab Spring (Cottle 2011; Wolfsfeld et al. 2013). These examples illustrate how collective mobilization can emerge in response to perceived exclusion, and how citizens actively create new spaces of engagement when formal systems fall short. In this context, there is a pressing need for diverse and alternative tools to support civic engagement and community participation with tools that empower communities to be heard and to shape urban futures on their own terms (Foth et al. 2015b; Calingaert and Petrovic 2024). The expanding use of digital technologies, particularly artificial intelligence (AI) tools, provides new possibilities in this regard (Fernández-Martínez et al. 2018; Sarafis et al. 2025).

Recent advancements in AI technologies' abilities to perform various tasks, such as learning, data analysis, and prediction, have expanded their applications (Dauvergne 2021). While AI tools have been identified as offering certain capabilities, considerable discussion has also addressed their potential drawbacks, particularly the risks of misinformation, privacy, transparency, and accountability (Sargiotis 2024; Overney 2025; Sarafis et al. 2025). Previous studies have explored the potential roles of AI-based tools in supporting civil society's political engagement, particularly in relation to data analysis, understanding public attitudes, and campaign planning processes (Savaget et al. 2019; Hsu et al. 2022; Maina 2025). However, understanding how the use of AI-supported tools varies according to context-specific criteria and how local groups can be effectively supported still requires further research (Hsu et al. 2022), which our study aims to address.

Considering both the opportunities and risks of AI tools, this research investigates how generative AI (GenAI) tools, such as large language models and image generators, can be practically applied by grassroots community groups to support civic activities, community engagement, and political advocacy. This study is structured around three interrelated categories of civic practice, which are grounded in the community's lived experience and were used as analytic lenses that are further elaborated through our empirical analysis: (i) scrutiny; (ii) outreach, and; (iii) advocacy. We examine how GenAI tools may support each of these categories: improving scrutiny through the interpretation of complex information; strengthening advocacy through the development of submissions and strategic interventions; and expanding outreach by enabling mobilization and communication. Based on these insights, this paper outlines an initial set of considerations for the ethical and strategic use of GenAI in community-based advocacy contexts.

This research employs a qualitative approach with a participatory, design-led methodology involving semi-structured interviews and a co-design workshop. This research was carried out in collaboration with our research partner

organization: Brisbane Residents United (BRU), the representative peak body for community and local citizen action groups in Brisbane (Australia). This collaboration with BRU ensured the study's alignment with community needs, the lived experience of citizens and residents, and their real-world conditions and contexts. A total of nine community organizations were recruited for the study. This included representatives who are members of some of the community organizations affiliated with BRU as a peak body. Our sample pool comprises individuals who represent the diversity of BRU-affiliated organizations, including campaign leads, volunteers, and community organizers with direct experience in grassroots advocacy and civic engagement. In this context, the research contributes to the strategic goals of community resident action groups and, academically, to the evolving discourse on AI-enabled digital civics and community empowerment.

2 Role of AI tools in civic engagement

2.1 Civic engagement

For the purposes of our study, we understand civic engagement as the active participation of citizens in public life aimed at influencing and improving existing conditions for a better shared community future (Adler and Goggin 2005). This interpretation aligns with approaches that foreground participation, collective agency, and civic innovation (Foth and Brynskov 2016; Rehm et al. 2018), particularly in response to complex urban and societal challenges. Civic engagement practices include various forms of involvement, such as volunteering, voting, lobbying, campaigning, and submitting petitions or formal statements (Adler and Goggin 2005; Papacharissi 2009). However, there are several limitations that restrict civic engagement in practice, including power dynamics, institutional constraints, and a lack of civic education (Bee and Guerrina 2014; Kamols et al. 2021; Bananuka and Mugarra 2023). In this context, the primary concern of this research extends beyond the question of whether these limitations can be overcome; instead, it emphasizes understanding the locally and contextually specific challenges citizens encounter and identifying potential strategies to minimize their effects. Based on this investigation, we discuss civic engagement through the lenses of three interrelated concepts—scrutiny, outreach, and advocacy—which are grounded in community practice and later elaborated through our empirical analysis (see Sects. 3 and 4).

To practice civic engagement meaningfully, people usually first need access to relevant information about the issues they seek to change and influence, along with the ability to critically evaluate that information (Galston 2004;

Brandtzæg et al. 2021). This *scrutiny* enables citizens to question the information provided by authorities and to monitor the accountability of public assessment and approval processes (Anderson 2023). However, when concerns are identified by individuals or small groups, their capacity to effect change is often limited. To build a group's standing, influence, and momentum, it becomes necessary to expand awareness and mobilize broader support. This is where *outreach* plays a vital role. Disseminating information accurately and strategically to a wider audience helps transform isolated acts of scrutiny into collective civic action. Civic outreach refers to supporting citizens' meaningful engagement by empowering them through knowledge, skills, and various activism practices (Boyd and Mitchell 2012; McNabb 2013). Equipping citizens with these capacities enables them to effectively diagnose issues in public life and to generate informed and context-specific responses (Irvin and Stansbury 2004). When combined with a critical perspective, these efforts support citizens' capacity to assert their voice and agency in public life, and this in turn contributes to a more active and empowered citizenry and polity. This aligns with longstanding debates on the "right to the city" (Lefebvre 1996; Harvey 2020), which have seen renewed relevance in the digital age. Contemporary scholarship points to the role of digital tools, platforms, and interfaces—and now GenAI—in revitalizing claims to urban participation, access, and justice (Foth et al. 2015a; Shaw and Graham 2016).

Effective scrutineering of information and mobilizing public support are two essential practices to support meaningful civic engagement. *Advocacy* builds on these foundations and plays a key role in translating public concern into political influence. Broadly defined as "a wide range of individual and collective expression or action on a cause, idea, or policy" (Reid 2000, p.1), advocacy is a cornerstone of democratic participation. It seeks to influence public policy and decision-making—whether directly or indirectly—with the aim of improving current conditions and future imaginaries for individuals and communities (Samuel 2007; Foth et al. 2020).

In a healthy democracy, advocacy serves as a counterbalance to concentrated power. Yet, the playing field is far from level. Well-resourced corporate actors and industry lobby groups often maintain privileged access to decision-makers, and as a result policy is often shaped and decided behind closed doors through professional lobbyists and entrenched networks (Murray and Frijters 2017, 2022). This form of institutionalized advantage has been described as "state capture," where public interest is systematically subordinated to private gain (Diesendorf and Taylor 2023). In contrast, communities and civil society groups often lack equivalent access, funding, and visibility, which makes advocacy not only necessary but urgent.

Grassroots advocacy groups play a key role in fostering civic engagement by organizing collective action, amplifying underrepresented voices, and holding governments to account (Dai and Spires 2018). Their effectiveness often hinges on the specific tools and strategies they employ to foster interest, build capacity, and sustain engagement within their communities (Han et al. 2017). Therefore, this study examines how such groups can enhance their scrutiny, outreach, and advocacy practices by strategically adopting GenAI tools with a view to strengthen their civic capacity in an increasingly digital landscape.

2.2 Use of AI tools in grassroots advocacy

Challenges in citizen involvement processes call for innovative strategies and tools to address these difficulties (Overney 2025). The growing use of digital tools in recent years has led to more interest in their potential to support citizen involvement (Mandarano et al. 2010). While online platforms (e.g., social media, forums, and blogs) provide alternative ways for involvement, recent advances in information and communication technologies have offered new opportunities to engage citizens (Papacharissi 2009). In this context, rapid advancements in AI technologies, and especially the development of large language models (LLMs), such as ChatGPT and Google's Gemini, have drawn attention to their potential applications. These tools offer opportunities for promoting strategic and innovative forms of involvement beyond traditional political engagement practices (Savaget et al. 2019). Recent scholarship emphasizes the civic potential of GenAI when designed for collaboration with, rather than replacement of, community actors, which shifts the emphasis from automation to empowerment (Foth et al. 2021; Calingaert and Petrovic 2024; Williams et al. 2024). Tailoring and diversifying the use of AI tools in advocacy practices according to specific objectives has the potential to achieve more effective outcomes (Salzano et al. 2024).

Civic processes often face challenges related to the accessibility and clarity of information, as well as limited resources (Overney 2025). These challenges are particularly visible in urban settings, where AI technologies are increasingly integrated into planning processes and civic infrastructures (Luusua et al. 2023), which in turn prompts a need to assess how such tools support or constrain democratic agency. AI tools have the potential to aid grassroots groups in scrutinizing complex or technical documents by facilitating access to understandable information (Maina 2025). Furthermore, these tools support a dynamic learning process by simultaneously processing different types of data and generating responses (Cortés-Cediel et al. 2023). Especially in planning contexts, chatbots and similar tools can provide a way to gather and assess citizens' feedback (Cohen and Suzor 2024). In advocacy practices, not only

information access but also its effective communication to local communities, are needed. The facilitative role of AI tools in content generation can enhance social media engagement and information dissemination, thus contributing to more effective public outreach (Salzano et al. 2024). In this regard, emerging work on AI-supported moderation and transparency frameworks points to the value of designing tools that both reduce harm and uphold civic deliberation online (Zangl et al. 2025). Alongside access to information and its dissemination through various channels, there is also a need for practices that can translate this information into active forms of engagement. In this context, AI tools can play a supportive role in advocacy pathways, including drafting petitions and assisting organizations in conducting more strategic campaigns (Foos 2024; Vasilakopoulos et al. 2024).

Despite their potential benefits, AI tools also have certain drawbacks, including bias, as well as concerns related to misinformation, accuracy, transparency, and authenticity (Kreps and Jakesch 2023; Salzano et al. 2024; Overney 2025). Previous studies have explored the potential impact of AI tools on advocacy practices and their applications in democratic processes, considering both potential benefits and associated risks (Zidouemba 2025).

They have also examined strategies to mitigate these risks (Overney 2025) and how AI technologies can enhance the capacity of local communities to address social and environmental challenges (Hsu et al. 2022). Empirical research further suggests that AI technologies can strengthen this capacity by fostering civic engagement and advocacy practices. For instance, Hsu et al. (2022) demonstrate that AI-mediated systems can facilitate increased civic engagement by supporting citizens' interpretation of shared data, thereby enabling more informed forms of public involvement and collective action. Drawing on empirical evidence from real-world AI for Social Good projects, Cows et al. (2021) also show that structured frameworks (e.g., United Nations' Sustainable Development Goals) guiding AI deployment can enhance the usefulness of AI applications for societal and environmental goals. Together, these findings support the potential of AI tools to contribute to broader and locally grounded social and environmental advocacy practices. In addition, emerging work points to the ways in which GenAI is reshaping not only communicative practices but also the material and spatial dimensions of civic life, such as the design of public spaces and infrastructures (Campo-Ruiz 2025). In this context, it is important to recognize that the use of AI tools in advocacy practices should be employed as supportive instruments and the need for human collaboration and experts-in-the-loop remains (Salzano et al. 2024).

While an emerging body of scholarship has begun to explore the role of GenAI in grassroots advocacy, much of this work remains preliminary and uneven, particularly given the rapid pace of technological change. This corroborates a

persistent gap in situated, practice-led research that examines how GenAI tools are being taken up—or could be ethically and effectively embedded—within community-based civic action. The present study responds to this gap through a qualitative, participatory, and design-led methodology, outlined next.

3 Methodology

Participatory research enables participants to take an active role in the research process, allowing for the inclusion and exploration of participants' knowledge, including diverse forms of local knowledge and skills (Cornwall and Jewkes 1995; Reason 1998; Pain and Francis 2003; Vaughn and Jacques 2020). Following a participatory, design-led approach, the research methodology comprised semi-structured interviews and a co-design workshop. The study was informed by three interrelated categories of civic practice—scrutiny, advocacy, and outreach—which are grounded in the community's own experience and practice. They were used as sensitizing concepts to guide data collection and analysis. In line with a reflexive thematic analysis approach (Braun and Clarke 2006), these categories informed early coding while remaining open to revision, and were iteratively refined and elaborated through the empirical work (Fig. 1).

3.1 Participants

This research was conducted in close collaboration with Brisbane Residents United (BRU), a peak community advocacy organization that brings together a wide network of local citizen action groups engaged in urban planning and development issues across Greater Brisbane. As a research partner, BRU provided access to its extensive organizational knowledge, stakeholder networks, and community-based expertise.

In addition to drawing on insights from BRU's leadership team, the study engaged with nine grassroots advocacy organizations affiliated with BRU. These groups focus on various local grassroots advocacy themes and causes that address a range of urban issues, such as housing, green space, urban infrastructure, and planning transparency. They aim to support communities affected by planning decisions, with an explicit focus on enabling them to participate in, and influence, planning decision-making processes. Each group nominates representatives or spokespersons to liaise with BRU and contributes to collective advocacy efforts. These representatives were the direct participants in the study and were purposively selected in consultation with BRU based on their active involvement in community organizing and planning-related campaigns.

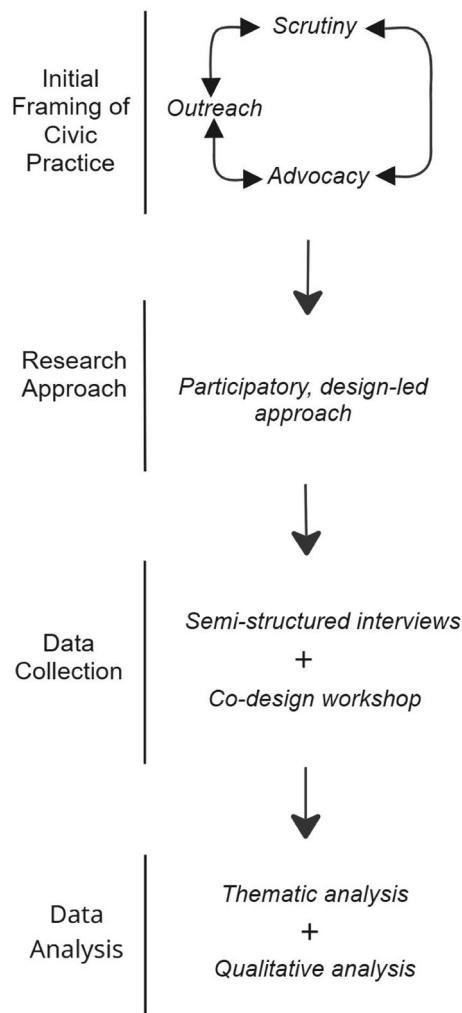


Fig. 1 Study design. Grounded in community practice, the three categories are used as sensitizing concepts and iteratively refined through empirical analysis

Participants were contacted via email through BRU coordinators and were provided with detailed information regarding the study and its aims and ethical protocols. Semi-structured interviews were subsequently conducted with representatives from five grassroots advocacy groups, followed by a co-design workshop involving nine participants in total, including four who had also participated in interviews. This multi-method layered engagement approach enabled the research to capture rich data and insights about both individual perspectives and collective priorities, while respecting the time and availability constraints common among volunteers in grassroots settings.

The study was reviewed by and received ethical clearance from the University Human Research Ethics Committee (file number #10,082).



Fig. 2 Co-design workshop setting

3.2 Semi-structured interviews

A semi-structured interview is a common qualitative research method where the interviewer follows a guiding set of open-ended questions but allows for flexibility in the conversation (Seidman 2006; Minichiello et al. 2008; Bogner et al. 2009; Portigal 2013). This approach enables participants to share relevant experiences and insights in their own words and allows the interviewer to explore unexpected but valuable themes that may emerge.

In this research, we conducted semi-structured interviews with participants drawn from the study sample (see Sect. 3.1), each lasting approximately 30–60 min. The interview protocol consisted of 13 questions grouped under five subcategories: *Context and Organizational*, *Challenges and Communication Practices*, *Technology and AI Use*, *Perceived Risks and Opportunities*, and *Future Directions*. These interviews aimed to help us understand the workflows of grassroots advocacy groups, the tools they currently use, the challenges they face, and their concerns regarding the use of AI tools. The insights gained also highlighted the potential of GenAI tools to support their advocacy practices. Accordingly, these insights also later guided the content and activities of the co-design workshop, where potential use cases were identified.

3.3 Co-design workshop

Co-design, rooted in participatory design traditions, is a collaborative process where stakeholders participate as partners in shaping ideas, tools, or solutions, with shared influence over the design process and outcomes (Sanders and Stappers 2008; Bratteteig and Wagner 2014). Rather than treating participants as passive sources of data, co-design actively engages them as partners in the creation of relevant and context-sensitive outcomes, supported shared learning and

reflection. In this research, the co-design workshop (Fig. 2) aimed to bring together members of BRU and affiliated community organizations to collectively explore potential applications of GenAI tools in grassroots advocacy.

The goal of the workshop was to collaboratively identify community needs and jointly imagine practical use cases. In this context, a half-day workshop was conducted with nine participants representing different community groups. The workshop focused on exploring how GenAI tools could support community-based advocacy practices, considering concerns around using these tools. Accordingly, the workshop consisted of two main parts. Before beginning the activities, facilitators introduced the research and the workshop agenda, inviting participants to ask questions and clarify expectations, followed by participant introductions and the distribution of consent forms. Finally, the facilitators introduced and explained the participant activity templates (Fig. 3) for each activity.

The first part of the workshop focused on mapping current advocacy practices including both offline and analog methods as well as the use of digital tools other than AI; this stage preceded any discussion of GenAI and was designed to establish a clear baseline of their practices. Guided by the templated activities, participants engaged in small-group discussions about their existing advocacy workflows, articulated challenges and barriers to engagement, and storyboarded current processes, such as petitions, public submissions, and outreach activities (Fig. 4). This helped to surface and align diverse practices as well as establish a common reference point. Before moving on to the second part, facilitators and BRU representatives gave a short presentation introducing GenAI tools and selected examples, supporting a shared understanding of how these technologies might intersect with participants' existing advocacy practices.

The second part of the workshop explored how GenAI tools could enhance the advocacy practices of community groups. Participants were divided into three small groups, each focusing on one of the following areas: scrutiny, outreach, and advocacy. Drawing on insights from the earlier interviews, as well as their own experiences and priorities, each group identified potential use cases illustrating how GenAI tools could help address specific community needs. Building on these ideas, participants collaboratively brainstormed possible use cases for advocacy, education, or campaign communication but also critically reflected on issues, risks, ethics, and challenges. At the end of each session, participants took part in a wrap-up discussion to share their insights and reflect on the key ideas generated across groups.

3.4 Data analysis

In this research, the interview data were analyzed through reflexive thematic analysis using NVivo 14 software. For

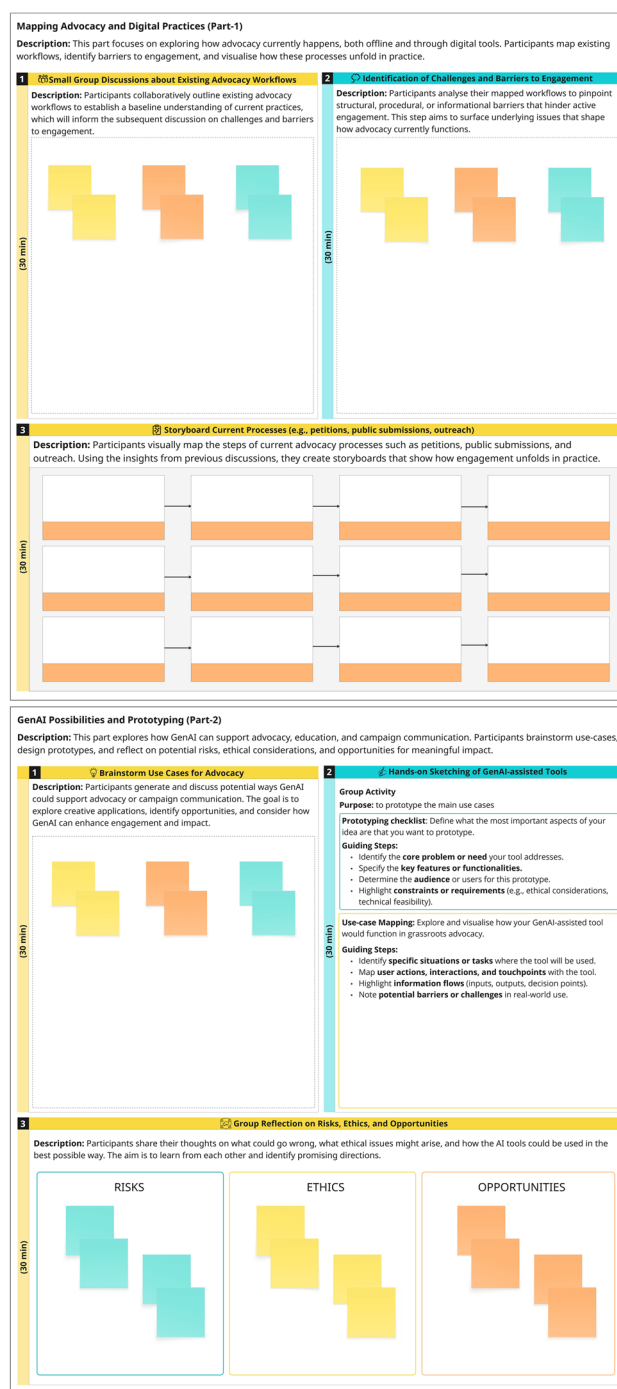
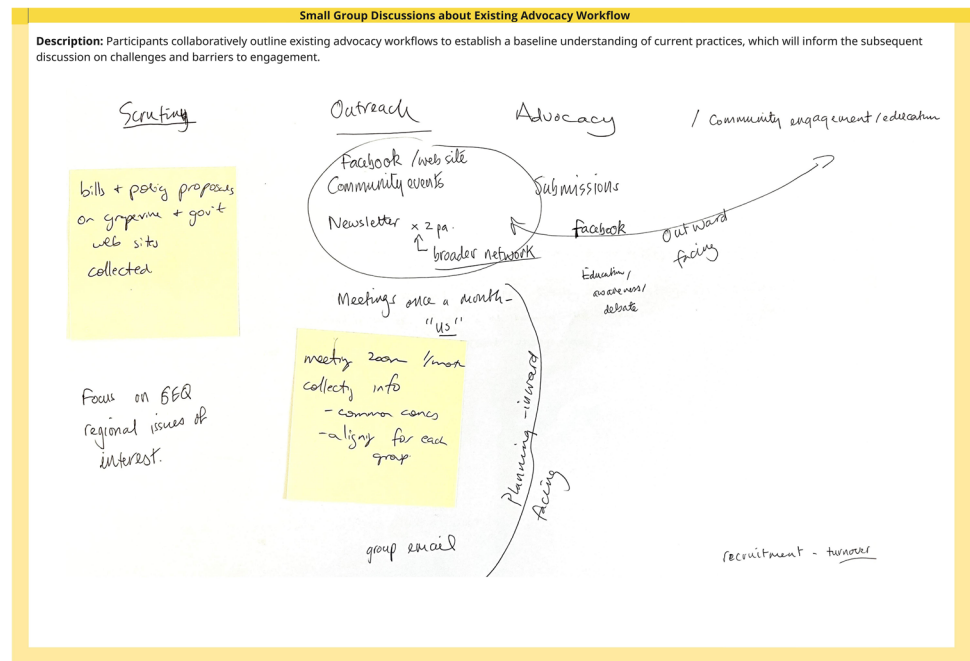


Fig. 3 Co-design workshop participant activity template

this purpose, the six steps proposed by Braun and Clarke (2006, p.87) were followed: “Familiarizing yourself with your data; Generating initial codes; Searching for themes; Reviewing themes; Defining and naming themes; Producing the report.” All interviews were audio-recorded, transcribed verbatim, and checked for correctness. Once the interview transcripts were prepared, they were imported into NVivo. Initial coding was iteratively and reflexively refined by

Fig. 4 Example of a participant activity template



clustering into final codes and finally themed for the context of this paper. Codes were developed as analytic tools and revised throughout the process. These codes were then organized into four general themes: *General Advocacy Challenge*, *Existing Advocacy Practices & Tools*, *GenAI Opportunities in Grassroots Advocacy*, and *GenAI Concerns in Grassroots Advocacy*. A summary of themes, codes, definitions and illustrative sub-codes (derived from the initial coding), along with some examples from the data is provided in Table 1.

For the co-design workshop data, a qualitative analysis approach was employed. Workshop data comprised participants' notes captured in activity templates and sticky notes. For both parts of the workshop, participants worked in small groups, and the data were transcribed according to these groups. The transcripts preserved exactly what participants recorded in their activity templates and on the sticky notes. These transcripts were then uploaded to NVivo, where prominent and recurring concepts and themes were analyzed. Concepts and themes relating to the workflows of grassroots advocacy groups, the challenges they face, and the areas where GenAI tools could provide support—including associated risks—were integrated with the themes from the interview analysis to inform the overall data interpretation (see Table 1). The three civic practice categories—*scrutiny*, *outreach*, and *advocacy*—were used as sensitizing concepts to guide interpretation of the findings. In line with a reflexive thematic analysis approach (Braun and Clarke 2006), which emphasizes iterative, interpretive engagement with the data, these categories informed early coding while remaining open to revision and were further

refined and elaborated through the analysis. Themes relating to challenges and opportunities were mapped onto these categories and are explored in the Discussion section. The following section presents the integrated findings from both the interviews and the workshop. We examine how grassroots advocacy groups currently operate and how GenAI tools may enhance or reshape their practices.

4 Results

The findings from the interviews and co-design workshop are organized into four thematic categories that reflect key insights across the data: (i) General Advocacy Challenges; (ii) Existing Advocacy Practices & Tools; (iii) GenAI Opportunities in Grassroots Advocacy, and; (iv) GenAI Concerns in Grassroots Advocacy.

4.1 General advocacy challenges

This theme primarily addresses the limitations of community groups' advocacy practices. In this context, the identified limitations are related to community, organizational, and external dimensions. Across the data, these limitations clustered around three interrelated areas of engagement, understanding and capacity, and procedural challenges.

Challenges related to engagement were evident in participants' accounts of low motivation among residents to participate. This was attributed to a range of personal and structural factors including lack of time, fear of potential consequences like job loss, as well as broader disengagement

Table 1 Examples of extracting themes, codes, definitions, and illustrative sub-codes from raw data

Theme	Code	Definition	Illustrative sub-codes (derived from initial coding)	Examples from the data
General advocacy challenges	Procedural constraints	Institutional and procedural barriers, including funding limitations and regulatory requirements, that restrict advocacy activities	Funding challenges, Procedural constraints	"...and we do not have an account of the money. So, funding is precarious."
	Participation constraints	Limitations in community participation, including low motivation, limited youth involvement, and reliance on volunteers	Low motivation to engage among residents; Limited youth participation; Volunteer dependency; Difficulties in conveying positive messages	"I roughly estimate that 90–95% of people do not go beyond surface-level engagement." "But we try to keep it low maintenance, because we are all volunteers, and we do not want to spend hours doing things like this when we could be doing other things."
	Understanding and capacity	Limitations in community knowledge and skills, including challenges in education, media and digital literacy, and accessing and interpreting information relevant to advocacy	Challenges in community education and awareness; Limited media literacy; Digital literacy limitations; Accessing and understanding information	"As a group, we are probably not very strong when it comes to social media and related skills, because we are generally in the 60-plus age bracket." "...the council is a giant vault, very hard to get into ... it remains hard work."
Existing advocacy practices and tools	Critique/scrutinize	Activities focused on reviewing, evaluating, and interpreting information to understand issues, decisions, or institutional processes	Reviewing documents (e.g., government documents)	"We analyze a range of documents, including the master plan itself, which is currently under discussion by the committee. The document is 284 pages long."
	Engage and disseminate	Activities aimed at communicating information, raising awareness, and mobilizing participation or action, including events, campaigns, and other outward-facing advocacy practices	Using social media platforms; Publishing newsletters; Writing petitions and submissions; Information and digital tools; Organizing community events and meetings; Organizing campaigns and protests	"...a lot of local awareness comes through social media... Getting people aware is step one.;there are official submission pathways that we can use..." "We're mostly active on Facebook, though we've started branching out a bit into Instagram. We also maintain a mailing list and use it to send newsletters and announcements."

Table 1 (continued)

Theme	Code	Definition	Illustrative sub-codes (derived from initial coding)	Examples from the data
GenAI opportunities in grassroots advocacy	GenAI-enhanced content creation	Use of GenAI to generate or assist with written advocacy and outreach materials, including visual or media content to support public communication and generation of visual or textual representations for alternative futures or policy options	GenAI text creation, support for media and visualization, support for alternative scenario	"GenAI support for media and visualization has been particularly helpful..." "It's a ChatGPT-generated image that's obviously exaggerated, but that's part of the point, right? In these advertisements, the goal is to draw attention to the issue you're addressing."
	GenAI support for advocacy pathways	Use of GenAI to assist with drafting and strengthening advocacy actions such as petitions, submissions, or campaigns	Drafting petitions, preparing submissions, and developing campaign strategies	"I think there's potential in that approach to ask how we can be more strategic in campaigns and what we can use to support that."
	GenAI-assisted document analysis	Use of GenAI to summarize, interpret, and analyze large or complex documents for advocacy purposes	Reviewing and analyzing planning documents	"...they can hire consultants, they have people on staff, they have people on salary, so it is their job to produce these documents, the analysis. They are constantly working in favor of the industry. We got volunteers, and now we got Generative AI as a tool to lift the game a bit."
	GenAI support for community-level learning	Use of GenAI to support learning through comparison of policies, practices, or advocacy models across contexts	Analyzing and comparing similar issues across different scales, such as countries and cities	"Examining planning and community activism models that have worked elsewhere..."
GenAI concerns in grassroots advocacy	Confidentiality and privacy	Concerns about data security	Issues around sensitive information and control over access to it	"Is it safe? Is it secure?"
	Accuracy	Concerns about the reliability of GenAI-generated outputs	Correctness issues in generated outputs	"Another issue, of course, is inaccuracies—AI can just make things up, so we have to double-check everything."
	Misinformation	Concerns about the potential for GenAI to distort, misrepresent, or amplify misleading information	Exaggeration or bias in generated outputs	"...and, I suppose, there is also the risk that it could be misused or used to spread misinformation."
	Intellectual property	Concerns about ownership, reuse, and control of content generated or shared through GenAI tools	Ownership issues	"With AI, the content you provide can be adapted or repurposed, which raises intellectual property concerns."

from civic processes. Participants also highlighted limited youth participation and a strong dependency on volunteers which constrained the sustainability of advocacy efforts, creating difficulties in sharing responsibilities such as determining who is responsible for which tasks.

A second cluster of challenges related to understanding and capacity, particularly in relation to how communities' access, interpret and act upon information. Participants commented on difficulties in community education and awareness alongside limited media literacy, which restricted deeper engagement with advocacy issues. As one participant explained:

I roughly estimate that 90–95% of people do not go beyond surface-level engagement. Most are content scrolling through Facebook, reading a few comments, and checking for anything outrageous, without delving deeper.

These challenges were further compounded by digital literacy limitations, which affected the ability of community members to use online tools effectively, and by difficulties accessing and understanding information especially when dealing with bureaucratic systems and institutional documentation. Participants described limited transparency and accountability of government departments, restricted access to decision-makers and information overload from lengthy reports as significant barriers. As one participant noted:

...the council is a giant vault, very hard to get into and to ask a straight question and get a straight answer, in my experience and I think in our community, in our associations experience.

Another participant similarly reflected on how changing political contexts and lost informal networks had reduced access to information:

...with changes in government, the different governments have different attitudes. Basically, council and the state government are a bit of a closed book now. ...it remains hard work.

Finally, procedural challenges as persistent external limitations on advocacy practice. These include fundraising and procedural constraints, such as obtaining permission for protests.

4.2 Existing advocacy practices and tools

Both the interviews and the co-design workshop confirmed the relevance of three civic practice categories identified through the study: scrutiny, outreach, and advocacy. Participants broadly agreed that these categories reflect the core dimensions of their day-to-day organizing, and most described their activities in ways that naturally aligned

with this framework. While individual groups placed different emphases on particular phases—depending on factors such as their organizational maturity, current campaign focus, or strategic priorities—the tripartite structure was consistently recognized as capturing the full spectrum of civic advocacy work.

One additional suggestion that surfaced during discussions was the potential value of a fourth category: a kind of “back-of-house” or secretariat function, referring to the administrative and compliance-related duties that accompany the operation of incorporated community groups. These included tasks such as maintaining insurance, managing finances and accounting, PO box renewals, organizing AGMs, and fulfilling legal or regulatory obligations. While participants acknowledged that GenAI tools may also prove useful in supporting this kind of clerical work, these duties were considered outside the direct scope of civic advocacy, and so were not integrated into the analysis of our study.

Focusing on the workflows of grassroots advocacy groups, this theme explores how participants currently engage in scrutiny, outreach, and advocacy practices, along with the information and digital tools used to inform citizens. In relation to scrutiny, participants mainly emphasized activities such as reviewing government documents, while they also engaged in related monitoring and information-gathering activities, including tracking development announcements, elections, legislative developments, and media coverage.

It was also found that some activities cut across outreach and advocacy, not surprising given the overlapping and iterative character of community organizing. Regarding outreach, participants highlighted efforts to raise public awareness and facilitate civic engagement through organizing community events and regular meetings, using social media platforms, issuing media announcements, and publishing newsletters. In terms of advocacy practices, participants emphasized activities aimed at prompting action and influence (Fig. 5), including writing petitions, making submissions, organizing protests, and running campaigns.

These activities can be understood as engage and disseminate practices and functioning between scrutiny and action. Information gathered through scrutiny is often interpreted, translated, and communicated in parallel, rather than passed through a strictly sequential workflow. One participant summarized this process:

...there are official submission pathways that we can use. Sometimes relevant services ask for feedback, so we write submissions through those channels. That forms one category. Another category involves taking independent action to influence the government,

Fig. 5 Example of a participant activity template illustrating current processes



such as writing to elected representatives, submitting petitions, or similar initiatives. We have also been exploring legal avenues to support our advocacy, including consulting with lawyers.

Finally, information and digital tools refer to the existing resources used by grassroots advocacy groups to support advocacy, including newsletters, websites, email, and social media platforms. These same tools are commonly used across multiple phases of advocacy, supporting both the dissemination of information and the mobilization of action. This cross-phase character creates important opportunities for digital and GenAI tools to support communities across the advocacy lifecycle, rather than within isolated stages. As one participant noted:

...a lot of local awareness comes through social media, mainly Facebook, because our community is somewhat older than average demographically. Getting people aware is step one.

4.3 GenAI opportunities in grassroots advocacy

In exploring how GenAI tools can support grassroots advocacy, participants identified several key use cases across three main categories: scrutiny, outreach, and advocacy. In this context, scrutiny refers to the discovery of deeper issues through the capacity to review and manage large volumes of materials. The highlighted use cases include GenAI-assisted document analysis, which participants described as a potentially transformative aid in making planning-related information more accessible

and understandable for community groups. A commonly cited example concerned Development Applications (DAs), which local governments are typically required to publish for public consultation. While these documents are nominally available for scrutiny, participants noted that they often consist of dozens of individual files—frequently running to hundreds of pages, written in highly technical language, and at times only available as scanned, non-searchable PDFs. Accessing and analyzing such material traditionally required manual optical character recognition (OCR) processing and input from experts with formal training in urban planning, regulation or law.

Given that statutory consultation periods are often brief (sometimes only a few weeks), the delay in interpreting these documents can hamper a community group's ability to prepare and submit timely responses. In this context, participants reported that GenAI tools reduce the burden on community groups in expediting the analysis process by summarizing complex information and identifying key planning issues. However, participants also highlighted the limitations of current GenAI tools, noting that while these systems enabled a faster initial pass-through document, they still depended heavily on skilled human operators. In particular, participants emphasized the need for expertise not only in the domain but also in GenAI, to craft effective prompts, critically evaluate outputs, and identify and correct hallucinations or inaccuracies. From participants' perspectives, GenAI was therefore not viewed as a replacement for expert oversight, but rather as a time-saving augmentation that could assist, though not fully automate, the scrutiny process.

Another key use case is GenAI support for comparative policy learning. Participants emphasized the potential of GenAI to compare policies on similar issues across different countries or cities. At the interview, one participant explained:

...some aspects of international models are hard to follow, as not everything is transferable. However, comparative policy learning—examining planning and community activism models that have worked elsewhere—can provide valuable insights. GenAI tools are improving at offering detailed examples of these models, which can support communities in learning from others' experiences.

In the context of outreach, insights mainly focus on developing media and visualization strategies to foster civic engagement and raise public awareness. The key use cases identified include GenAI-enhanced content creation, such as generating campaign messages, writing emails, and producing meeting notes. Participants also mentioned the use of GenAI to assist with media creation and visualization (Fig. 6), including generating social media posts and creating images for social media, blogs, and websites. As one participant noted:

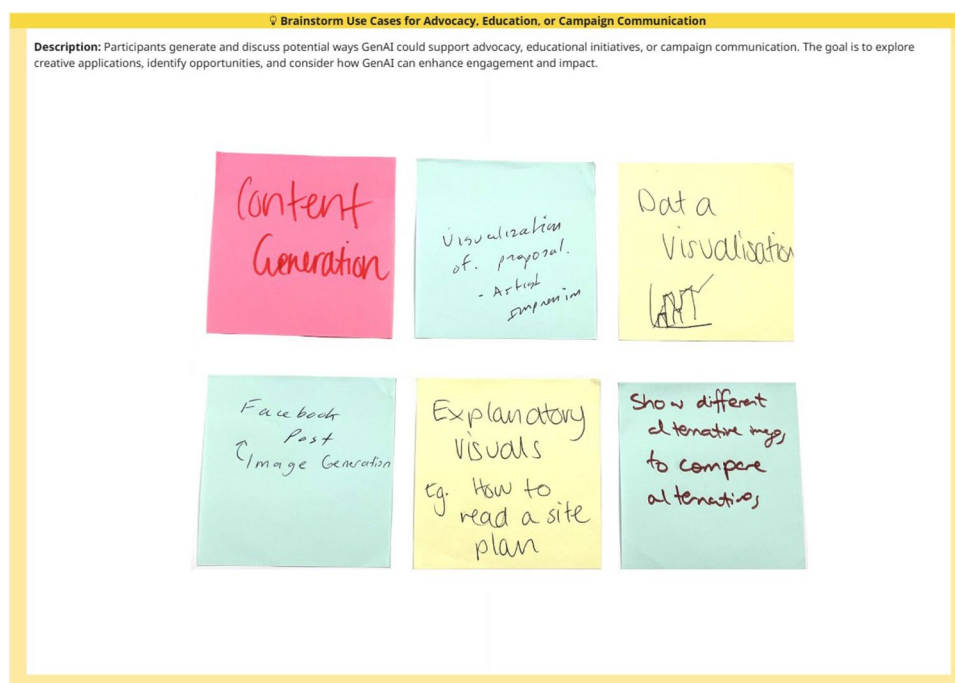
Media coverage is useful, as it helps reach people who may disagree or feel unaffected by the issue. GenAI support for media and visualization has been particularly helpful, for instance in generating images for media releases. Although these images may be exaggerated, this is intentional, as the goal

is to draw public attention to the issue being advocated for.

Another use case identified under this category is GenAI support for alternative scenario generation, which involves creating visual or textual representations of more desirable futures to help the public grasp complex urban issues through comparative, imaginative insights. Participants emphasized that grassroots advocacy is often positioned in opposition to dominant planning narratives, particularly those put forward by local governments and private developers. In such contexts, community perspectives are frequently dismissed as obstructionist or reactionary, framed within the derogatory label of 'Not In My Back Yard' (NIMBY) politics (Campbell and Marshall 2000; Inch 2012). Against this backdrop, participants recognized the strategic importance of presenting not just critique, but credible and constructive alternatives. This includes articulating community-led visions for urban futures that are inclusive, ecologically responsible, and grounded in lived local knowledge (Estrada-Grajales et al. 2020; Schalbetter et al. 2023). Until recently, rendering such urban imaginaries in a way that could compete with professional development proposals required specialist design expertise (in architecture, planning, 3D modeling, or virtual reality)—resources largely inaccessible to community groups.

Participants appreciated how GenAI tools offer new possibilities for non-experts to generate compelling imagery and textual narratives that may approximate the persuasive quality of industry-produced materials. They noted that this could help address asymmetries in representational power,

Fig. 6 Example of a participant activity template for brainstorming use cases



enabling communities to move beyond primarily oppositional positions toward articulating alternative visions and proposals. This then reframes their advocacy in terms of hope, creativity, and alternative value systems (Foth et al. 2018; Foth and Burton 2026). The ability to visualize “what could be” equips local actors with a stronger voice in shaping planning debates, reducing reliance on elite technical expertise and opening up space for contested imaginaries to circulate in more equitable terms.

Finally, within the advocacy category, the main use case identified was GenAI support for advocacy pathways, such as drafting petitions and submissions and facilitating campaign strategies by strengthening advocacy outputs. In general, participants noted that these use cases could enhance learning, collaboration, and engagement.

4.4 GenAI concerns in grassroots advocacy

This theme focuses on grassroots advocacy groups’ concerns regarding the use of GenAI tools in advocacy practices. The highlighted concerns include confidentiality, referring to challenges in managing information permissions and data privacy. As one participant explained:

One is around confidentiality. When dealing with sensitive information—whether personal data or our own tactics that we do not want to disclose—using GenAI still involves a level of risk or uncertainty. Is it safe? Is it secure? Can it be accessed by someone else? What kind of database does it reside in? All these questions arise.

Participants also emphasized accuracy, which relates to the correctness and reliability of AI-generated information. Closely linked to this is the concern about misinformation, which may lead to confusion within communities. As one participant noted:

There is also a risk of manipulation or misrepresentation of information. Even without AI, human processes are not perfect and have their own flaws and risks. Often, the loudest person or whoever controls the minutes can influence how information is recorded

and presented, shaping the agenda according to their preferences.

Finally, intellectual property was identified as another key concern, referring to the difficulties in managing usage rights and potential issues of copying. This concern was expressed by a participant:

The more information you put into places you cannot fully control, the greater the risk that it could be made publicly available or otherwise used without permission. With AI, the content you provide can be adapted or repurposed, which raises intellectual property concerns.

5 Discussion

This section discusses the insights gained from grassroots advocacy groups’ existing advocacy practices, the challenges they face, and the identified use cases for improving advocacy. The identified use cases are categorized into three interrelated areas: scrutiny, outreach, and advocacy. As illustrated in the conceptual framework (Fig. 7), these categories are interconnected and reinforce one another.

Each category is discussed in relation to the opportunities that GenAI offers for grassroots advocacy, alongside the associated concerns and possible mitigation strategies.

5.1 Improving scrutiny

Accessing and understanding information plays a crucial role in grassroots advocacy. However, the main challenges in this context involve analyzing excessively lengthy documents (e.g., government planning documents) and translating them into content that citizens can easily understand. To support the scrutiny practices of grassroots advocacy groups, GenAI tools can play a complementary role in document analysis. Features, such as quick search, question–answer functions, deep analysis, and automated note or summary generation offered by these tools, can facilitate the scrutiny process. Furthermore, employing these tools to analyze documents that are technically complex can save time and effort

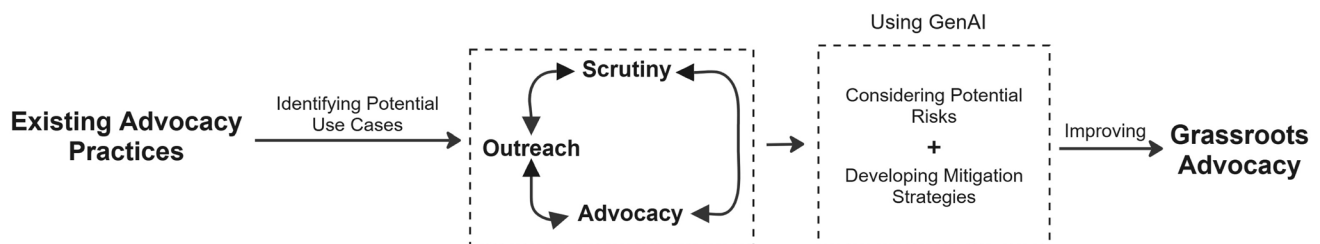


Fig. 7 Conceptual framework

while also easing access to information (Maina 2025). Notwithstanding the opportunities GenAI affords for improving scrutiny, systemic challenges remain that are neither purely technical nor incidental. Governments may release documents in ways that obscure or gate access, overwhelm with bureaucratic and technical complexity, or require professional expertise for interpretation. These conditions can deter lay engagement and limit the public's ability to scrutinize policy decisions (Foth et al. 2022; Rittenbruch et al. 2022). At the same time, GenAI tools are increasingly used by both citizens and professionals in government and planning contexts. While such tools may improve efficiency and accessibility, they may also contribute to the production of increasingly voluminous and complex materials, which—whether deliberately or not—can bamboozle lay readers and thus reduce the likelihood of effective public opposition. In such cases, GenAI may operate as a double-edged sword, with the potential to both support and inadvertently entrench existing power asymmetries.

Another potential use case under this category is comparative policy learning. GenAI tools can assist in identifying similarities and differences across policies and initiatives in different countries or cities, thereby helping grassroots groups gain valuable insights and enhance their learning to support advocacy practices. Therefore, the potential use of GenAI tools in scrutiny can provide citizens with information that is more diverse, accessible, and comprehensible, thereby supporting their learning process (Cortés-Cediel et al. 2023; Overney 2025). This aligns with the growing recognition that data literacy is inseparable from democratic literacy, that is, the ability to read, interpret, and question how information circulates through institutions of power (Foth et al. 2021). For instance, participants described the case of reviewing local government Development Applications (DAs), which often involve dozens of documents spanning hundreds of pages, written in highly technical language and published as low-quality scans, making them inaccessible to many community members. Previously, a dedicated volunteer might spend weeks analyzing such proposals. Participants suggested that GenAI tools can assist them in extracting summaries, identifying key issues, and translating planning jargon into more accessible language within shorter timeframes. This was perceived as offering some capacity to ease the burden on community groups and improve the timeliness of public responses, although participants stressed that expert oversight is still required to verify outputs and address potential inaccuracies or hallucinations.

Despite these opportunities, issues concerning the accuracy of AI-generated outputs and misinformation risks emerged in this study. In this context, involving human collaboration in the oversight of AI-generated outputs is crucial for their ethical use and for mitigating potential risks, such as the identification and correction of misinformation (Saeidnia

et al. 2025). Furthermore, it is important to ensure transparency and accountability in the use of these tools, including in the creation and sourcing of information (Mensah 2023; Williamson and Prybutok 2024). Adopting collaborative, multi-actor approaches to AI use and risk management further supports their ethical and strategic application (Park and Nan 2025). Such hybrid workflows—where GenAI tools are used to augment but not replace human analysis—demonstrate how community-led scrutiny can become more efficient without sacrificing rigor. However, without a human-in-the-loop, AI-generated content may simply introduce a new form of opacity. Additionally, the benefits of GenAI were described as unevenly distributed, due to barriers, such as digital literacy, paid access to proprietary platforms, and the absence of support infrastructure. Addressing this requires investment in civic data infrastructures—shared spaces where communities can collaboratively engage with complex information, build capacity, and translate data into informed civic action (Foth et al. 2021). In this way, scrutiny may shift from a reactive posture of complaint toward more proactive practices of civic intelligence. Within this framing, GenAI could support community groups to not only review but also co-produce critical knowledge about the urban systems that govern them.

5.2 Boosting outreach

Equipping the public with the necessary knowledge and skills, as well as enhancing their engagement and awareness, is important for expanding and strengthening advocacy practices. While grassroots advocacy groups face certain limitations and challenges in this regard, GenAI tools may play a supportive role by offering possible improvements. Many grassroots organizations use various digital tools, such as social media platforms, websites, newsletters, and emails to raise public awareness. However, preparing content that effectively and attractively conveys information requires both time and effort. In this context, GenAI tools can play a facilitating role in content creation, for example, in preparing social media posts (e.g., suggesting captions and hashtags) and drafting email content. Furthermore, GenAI tools can support media and visualization by presenting information to the public in an engaging way, thereby supporting outreach efforts. Regarding this, these tools can assist in generating visuals using detailed and explanatory inputs, which can then be used for social media posts, campaign processes, or event posters. By editing the generated visuals, grassroots groups can effectively direct their information-sharing processes. Outreach in this context serves three interlinked purposes: building visibility and legitimacy; recruiting supporters and volunteers; and mobilizing civic action and resources. Where traditional media channels have declined in civic capacity (Karadimitriou et al. 2022; Peterson and

Dunaway 2023), community groups must now work across hybrid civic space—combining social media with local meetings, email campaigns, yard signs, and market stalls—to amplify message resonance across digital and physical domains.

The last use case in this category is GenAI support for alternative scenario generation. For example, GenAI tools can support the visualization of potential outcomes of planning decisions or alternative proposals developed by grassroots advocacy organizations, helping to present these alternatives in a more concrete way to the public. Such efforts are not only strategic but also necessary, as outreach is often the only avenue available to translate technical findings from scrutiny into accessible narratives that invite broad public engagement and pressure.

Before dissemination, these outputs should be verified for accuracy to minimize misinformation. Additionally, supporting citizens' digital literacy (e.g., through media literacy programs) and raising awareness about AI can help mitigate trust-related concerns (Washington 2023; Onayinka et al. 2024). Ethical guidelines and assigned responsibilities for AI data creation and dissemination enhance transparency and accountability while helping to reduce additional risks such as intellectual property concerns (Mensah 2023; Salzano et al. 2024). In addition, offering user training programs on AI limitations and potential risks, especially for organizations employing these tools, can play a supportive role (Williamson and Prybutok 2024). Yet, outreach strategies must also remain vigilant: AI-powered tools embedded in social platforms (e.g., chatbots like Meta AI) may influence civic discourse by prioritizing algorithmic popularity over democratic deliberation (Coudry and Yu 2018; Gal 2025). This tension corroborates the need to consider outreach not as a purely digital practice but as a situated, hybrid engagement strategy.

5.3 Enhancing advocacy

In advocacy practices, action-oriented initiatives with the potential to drive change are essential. Accordingly, the core practices of grassroots advocacy groups include various activities such as writing petitions or formal statements, making submissions, and organizing campaigns. However, similar to the activities in other categories, all these processes require considerable time and effort. One of the challenges faced by grassroots advocacy organizations is their reliance on volunteers, which creates certain limitations in this regard. In this context, GenAI tools have the potential to assist in managing these processes more efficiently and strategically, saving both time and effort. These tools can serve as assistants for organizations in their advocacy pathways (e.g., writing petitions, making submissions, etc.).

At its best, advocacy translates the collective energy of community activism into persuasive interventions targeting decision-makers. While protest and resistance may signal urgency and disruption, advocacy seeks standing: legitimacy built through persistence, credibility, and informed argumentation. As community groups seek to gain that standing, GenAI tools can support the development of well-reasoned, policy-relevant submissions and evidence-based campaign materials, which bolster both the visibility and authority of grassroots voices.

GenAI tools can support the creation of compelling visual and narrative artifacts that offer alternative urban imaginaries—speculative yet plausible scenarios that help communities articulate a positive vision of what they stand for, not just what they oppose (Estrada-Grajales et al. 2018). This is particularly relevant in contexts where dissent is delegitimized or dismissed as NIMBYism (Inch 2012). Participants suggested that their advocacy efforts may extend beyond reactive opposition toward more imaginative practices, including the articulation of alternative, and potentially more just, sustainable, and liveable futures.

Furthermore, advocacy operates across multiple modalities, such as petitions, social media, digital visualizations, interactive workshops, and formal policy submissions—all of which aim to bridge digital tools and physical publics (Ylipulli et al. 2020). In this regard, GenAI can play a mediating role by translating complex or technical insights into communicative artifacts and alternative world-building that can be understood by journalists, policymakers, and everyday citizens alike (Taboada et al. 2024).

As with the risks identified in other categories, establishing ethical and strategic guidelines for transparency, privacy, and accountability plays a key role in this category as well (Washington 2023; Saeidnia et al. 2025). Particularly in terms of privacy, maintaining transparency throughout data collection, usage, and sharing processes, along with applying data privacy safeguards, can contribute to mitigating user mistrust (Sargiotis 2024). Additionally, implementing a multi-actor approach (including AI experts) that actively engages citizens and integrates monitoring and iterative improvement processes can help mitigate potential risks (Sargiotis 2024; Syukrina and Nugraha 2025).

6 Conclusion

This research examined the potential role of GenAI tools in strengthening grassroots advocacy by exploring the scrutiny, outreach, and advocacy practices of grassroots advocacy groups. It provided insights into general advocacy challenges, existing advocacy practices and tools, and the opportunities and concerns related to GenAI in this context. Based on these findings, this study identified key use cases across

three civic practice categories—scrutiny, outreach, and advocacy—grounded in the perspectives and experiences of participants involved in civic engagement. Accordingly, the key use cases identified under scrutiny (e.g., document analysis, comparative policy learning) have the potential to improve the accessibility and understandability of information for citizens through GenAI support. In outreach, the identified GenAI-supported use cases (e.g., content creation, visualization) may strengthen the effectiveness of informing and engaging citizens. Finally, in the advocacy category, the use of GenAI tools (e.g., drafting petitions, preparing submissions) can save time and effort while also improving the overall effectiveness of advocacy processes.

This study has several limitations that should be acknowledged. While it identifies a range of potential GenAI use cases and associated risks—including privacy, accuracy, misinformation, and intellectual property—it does not empirically evaluate how these risks can be mitigated in practice. The mitigation strategies discussed (e.g., collaborative, multi-actor approaches to AI governance and the development of ethical guidelines with clearly assigned responsibilities for AI data creation and dissemination) are derived from participant insights and existing literature but remain conceptual and require further validation. Importantly, the role of human oversight as a safeguard must itself be treated with caution: rather than a straightforward solution, it represents a complex governance challenge shaped by institutional design, competing logics of trust and distrust, and the distributed nature of control in AI systems (Laux 2024; Maggetti 2026; Foth 2026). As such, oversight mechanisms may be limited in their effectiveness if they are implemented as symbolic or reactive measures rather than embedded structurally across the lifecycle of AI systems. In addition, the findings are based on a small, context-specific sample of grassroots advocacy groups and thus qualitative and exploratory by nature. The co-designed use cases reflect anticipatory practices and speculative design discussions rather than implemented interventions. The results should therefore be understood as indicative rather than generalizable. Future research could extend this work by prototyping and evaluating these use cases in practice, and by examining how proposed governance and oversight strategies operate across different organizational and socio-political contexts.

Ultimately, however, communities may not be able to rely on GenAI alone to address structural inequalities or entrenched power dynamics. Rather, the findings of this study suggest that the value of these tools lies in how they can be strategically and tactically leveraged within existing civic practices (Teli et al. 2020). GenAI may support communities in articulating alternative, bottom-up imaginaries and in expanding the ways they engage with and contest dominant narratives. Used in this way, these tools can contribute to forms of civic creativity and resistance that enables

grassroots groups to explore and communicate more just, sustainable, and liveable urban futures. The work of building these futures remains participatory, situated, and ongoing.

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Data availability The data that support the findings of this study are not publicly available due to the need to protect participant confidentiality and anonymity.

Declarations

Conflict of interest The authors declare no competing interests.

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