

**WEB SCIENCE  
INSTITUTE**

# **Democracy Online**

Technologies for Democratic  
Deliberation

WSI White Paper 2024-02  
July 2024

Adam Meylan-Stevenson, Ben Hawes, Matt Ryan



## About the WSI

---

The Web Science Institute (WSI) brings together the University of Southampton's world-class, interdisciplinary, socio-technical expertise in web science, data science and artificial intelligence (AI) to leverage the unique role of online technologies in tackling global challenges. We work to create collaborations within the University and with industry, governments and third sector organisations that bring interdisciplinary socio-technical insights and impacts to the world's most pressing problems.

<https://www.southampton.ac.uk/research/institutes-centres/web-science-institute>

Copyright © the authors 2024

The opinions expressed in this publication are those of the authors and do not necessarily reflect the views of the University of Southampton, the Web Science Institute or its Board of Directors.



This work is licensed under a Creative Commons Attribution — Non-commercial — No Derivatives Licence. To view this licence, visit ([www.creativecommons.org/licenses/by-nc-nd/3.0/](http://www.creativecommons.org/licenses/by-nc-nd/3.0/)). For reuse or distribution, please include this copyright notice.

Web Science Institute Building 32, Highfield Campus, University of Southampton, SO17 1BJ  
[ws@oton.ac.uk](mailto:ws@oton.ac.uk) (DOI: 10.5258/SOTON/WSI-WP009)

## About the Authors

---



**Adam Meylan-Stevenson** is a PhD candidate in Politics at the University of Southampton and Senior Policy Associate with Public Policy Southampton.



**Dr Ben Hawes** is a technology policy consultant and an associate director at the Connected Places Catapult. As a civil servant, he worked on the 2017 review of Artificial Intelligence, the national Internet of Things Programme IoT.UK, the 2011 review of Intellectual Property and the Digital TV Switchover plan, among other technology policy programmes.



**Dr Matt Ryan** is Associate Professor in Governance and Public Policy and Policy Director at the Web Science Institute. Since January 2020 he has been a UKRI Future Leaders Fellow leading the Rebooting Democracy project which aims to understand which innovations in public participation restore and sustain democracy. Matt has held visiting positions at the University of Canberra, as JQYA International Fellow at Goethe University- Frankfurt, and as a Turing Fellow at the Alan Turing Institute, and was Founder of the Centre for Democratic Futures.

This research was undertaken within the Rebooting Democracy Project based at the University of Southampton and led by Dr Matt Ryan.

Adam Meylan-Stevenson's work was supported by Public Policy Southampton.

## Subject

---

This paper describes online tools to manage participatory public deliberation, including an overview of published research and a summary of interviews with experts and practitioners. Dedicated tools for democratic deliberation aim to facilitate reflection and dialogue without manipulating users, contrasting sharply with the profit-driven goals of social media platforms. Achieving the right balance between effective user engagement and ethical use of data remains a complex issue. The paper proposes that civil society organisations need access to comprehensive information about the outcomes and benefits of various tools. While achieving scalable and effective online deliberation is challenging, it is crucial to continue evolving practices and tools through ongoing research, practice, and debate to prevent any negative impact of commercial AI on democratic politics.

## Preface

---

This paper explores the use of online tools to improve democratic participation and deliberation. These tools offer new opportunities for inclusive communication and networking, specifically targeting the participation of diverse groups in decision-making processes. It summarises recent research and published reports by users of these tools and categorises the tools according to functions and objectives. It also draws on testimony and experiences recorded in interviews with some users of these tools in public sector and civil society organisations internationally.

The objective is to introduce online deliberation tools to a wider audience, including benefits, limitations and potential disadvantages, in the immediate context of research on democratic deliberation. We identify limitations of tools and of the context and markets in which online deliberation tools are currently being developed. The paper suggests that fostering a collaborative approach among technology developers and democratic practitioners, might improve opportunities for funding and continual optimisation that have been used successfully in other online application sectors.

## Contents

---

1. Introduction
2. Online tools for democratic deliberation
3. Key findings from users
4. Conclusions

## 1. Introduction

---

Online tools are already used to support and promote democracy in a wide range of ways. Work proceeds internationally across many organisations to improvement the development of and the use of online tools for democracy.

In addition to, and building on, the broad opportunities the internet offers for accessible communication and networking, more bespoke civic technology and democratic innovations are used to improve participation. These tools are often used to improve participation amongst specific groups in relation to an issue or set of issues. The tools for democratic engagement are the specific focus of this paper. The 'online tools' we explore are broadly defined to include technological equipment, hardware, software and the internet, but we also note (and note the importance of) context and settings. The paper does not cover online voting systems for casting, tallying and reporting votes, which do not otherwise manage the process of deliberation, of how people reach decisions on how to use their votes.

Online tools to support democratic deliberation are used by a variety of organisations, often in relation to a time-limited and specific decision or issue. These tools are often used in addition to other channels for political information and engagement. Broadly, the objectives of using these tools include to increase or diversify the number of people substantially engaged in a political process, to improve their access to information, and to support detailed and even-handed consideration of the questions, issues and values involved. Democratic deficits can be identified. For example, when specific groups in a society or community face barriers to being well informed, engaged or having any agency in relation to decisions that affect them. These online tools can provide supplementary channels for engagement and so improve accountability and transparency in those contexts.<sup>1</sup> The tools can also be used for specific stages in democratic processes, and so may be applied reactively where there is dissatisfaction around how previous decisions have been made and put into practice.

Iris Marion Young's work on inclusive deliberation is relevant here. Young argues that "participants in communicative democracy should listen to all modes of expression that aim to co-operate and reach a solution to collective problems."<sup>2</sup> Online tools offer new opportunities to include and support listening to different modes of expression, but users still need to work actively to include and engage diverse participants.

Young distinguishes between external and internal exclusion. External exclusion is the effect of uneven engagement, disproportionately excluding some groups in society from the deliberative process. Internal exclusion is characterised by better representation in terms of involving groups, but undervaluing and underweighting contributions which are not in the preferred style of language or not easily reducible to that. In Simone Chambers' summary of Young, "the problem here is not being left out but rather not being heard. By questioning what we consider appropriate and "reasoned"

---

<sup>1</sup> Peixoto T.C., Fox J., (2016). When does ICT-enabled citizen voice lead to government responsiveness? IDS Bulletin; 47:23–40.

<sup>2</sup> Young, I. (2002). Inclusion and Democracy. Oxford Academic.

contributions to deliberation, Young exposed a rationalist bias in much of deliberative democracy theory.”<sup>3</sup>

The experiences of users of deliberative tools related below continue to bear out Young’s observations on the management of deliberation within a political community. These experiences include differences in how online tools afford users the opportunity to identify themselves and make introductions to one another, set expectations for interaction, facilitate even-handed dialogue and structure subsequent action and communications.

These tools have been developed within the wider context of the ongoing development of internet platforms and applications, and have drawn on learning about user experience. The Covid-19 pandemic led many practitioners to rapidly move novel deliberative political processes that previously happened mostly offline to a completely online environment. While this led to some agility and innovation, as we show, for the most part this rapid enforced change led practitioners to recreate as much as possible the same features and affordances already seen as best practices when conducting in-person deliberation. The lack of innovation sometimes happened at the expense of testing new possibilities in the online environment. This paper explores experiences of professionals and organisations that have used these tools.

## 2. Online tools for democratic deliberation

---

### Taxonomy of Tools and Techniques

There appears to be increasing interest from governments and non-governmental organisations in exploring the use of online tools for deliberation. City and local governments in particular have sought to engage residents with the level of government and service-delivery closest to them, at the same time making efficient use of scarce resources. The interest in supplementary channels for engagement may sometimes reflect concern that some issues and categories of issue are handled poorly by established local and national party-political processes. It certainly reflects concerns that some communities are relatively disengaged by the established default democratic procedures, and so are in practice under-represented or unrepresented.

There is also evident appetite for new channels to address new community challenges. One in-vogue approach used locally and nationally is the citizens’ assembly. Citizens assemblies are typically a deliberative and representative forum composed of individuals who are quasi-randomly selected from the general population. The selected group of citizens is brought together to discuss an issue with complex societal implications, often over a period of time long enough to support reflection and maturation of views. The citizens then make recommendations which are fed into policy and democratic processes. The intention is that developing the knowledge of a more descriptively representative group and supporting equitable collective deliberation will result in recommendations that the wider community will regard as legitimate and democratic. Use of assemblies can help to counter concerns that politicians and officials are out of touch, biased or disproportionately influenced by organised lobbying. Assemblies also provide an alternative approach where

---

<sup>3</sup> Chambers, S., (2007). Public Reason that Speaks to People: Iris Marion Young and the problem of internal exclusion. Simone Chambers. The Ethics Forum Volume 2, Number 1, Spring. Available at: <https://www.erudit.org/en/journals/ateliers/2007-v2-n1-ateliers03575/1044658ar.pdf>

oppositional political processes are not resolving issues because they do not engage with the complexity of the questions or the range of views and groups among the public.

Assemblies can offer more than an additional method to reach a decision. Assemblies sometimes have the effect of increasing the mutual understanding and cohesion of a community in ways that may have lasting value. In the United Kingdom, assemblies have recently been used to develop actions on local air quality improvement and climate change mitigation and adaptation. These are contentious issues, and assemblies can help to legitimise decisions, but may also help to reduce tensions and prepare the community for similar questions in the future.

Another increasingly popular democratic innovation is ‘participatory budgeting’, a democratic process by which community members collectively and directly decide how to allocate a proportion of public funding. This enables a community directly to express and realise their priorities for local projects and initiatives. Individual members may disagree with the distribution of resources that is decided upon, but at least they know the result is reached by an equal weighting of the preferences of each, rather than by the decision of a mediating politician or official. Citizens assemblies and participatory budgeting can be used in combination.

There are additional digital tools for supporting deliberative, representative and electoral processes. Voter Advice Applications (VAA)s can allow voters to answer questions about, or rank the policies of different candidates before being told which candidates holds which position. This can help voters understand which candidates better reflect their preferences and allow for more informed deliberation among voters about how candidates and policies reflect their needs.

### **Purpose-built tools for democratic engagement**

In the rest of this paper, we discuss findings from interviews with representatives of organisations that have used online deliberation tools. Interviewees were a set of officials from national, local and international governments, consultants and leaders from the nonprofit and private sector, representing a diverse range of experiences in this field. They were selected based on a mix of recommendations of the Rebooting Democracy project advisors and the use of subsequent snowballing techniques. Responses are reported anonymously. Transcripts and data will later be made available on scientific publication of peer-reviewed work in accordance with policies. There are more details on the interviews below.

In this section, we provide a simple taxonomy of some of the tools that interviewees reported they had harnessed to improve democratic engagement. This allows us to start by outlining some tools that are being used regularly by practitioners of democracy and civic technology. Based on the interview data, we categorise these tools into four groups:

- purpose-built tools for facilitating democratic engagement
- general-purpose tools applied to democratic engagement
- tools for representative sampling
- techniques and tools for grouping and interpreting responses.



For further reference, the People Powered Global Hub for Participatory Democracy maintains an online guide to digital participation platforms.<sup>4</sup>

By way of example, we describe some of the principle techniques and tools for grouping and interpreting responses from participants in democratic deliberation under each heading.

### **Purpose-built tools for facilitating democratic engagement**

Purpose-built tools are tools designed primarily for innovating or enhancing democratic processes. The tools may be designed to achieve greater collective intelligence around an issue or debate. The tools may also provide functions for facilitators to engage participants in longer-term processes over the course of a year or more, sometimes by mixing offline and online deliberations. These are two examples.

Decidim: Decidim is an online participation software platform that supports collective decision-making processes, including participatory budgeting, petitions, open calls for input and other consultations. In the platform's own words, it is:

"A digital citizen-participation platform for a democratic city, made openly and collaboratively using free software. It is a public commons infrastructure... It is a platform designed for coordinating citizen-participation processes and spaces, aimed at extending and facilitating access to citizen participation, opening new spaces for deliberation and collaboration in co-designing and co-producing public policies and new spaces for direct participation and democracy, thereby enabling disintermediation and cooperation between citizens, institutions and organisations of civil society."<sup>5</sup>

One interviewee discussed the benefits of Decidim at length, valuing it in particular because it limited collection of data on participants, serving that user's priority objective of respecting individual privacy.

BiPart: BiPart is an online platform that "deals with the research, design and implementation of participatory budgeting and democratic innovations through deliberative tools and digital civic technologies."<sup>6</sup> BiPart manages communal decision-making through enabling individuals to share, deliberate, and comment on proposals, and progress to conclusions.

### **General-purpose tools applied to democratic engagement**

The general-purpose tools discussed here will be familiar to many readers. These are tools whose primary purpose might be public and private communication, or advertising. These tools are widely used in political discussion because their features can enhance political processes. Much democratic deliberation happens using tools not expressly built for democratic engagement.

Zoom: The videoconferencing application Zoom was the most common tool used by our interviewees. Interviewees reported that the Covid-19 pandemic was a driving factor in the initial adoption of Zoom. With in-person engagements no longer feasible, Zoom provided a viable

---

<sup>4</sup> People Powered. (2024). Digital Participation Resources. Available at: <https://www.peoplepowered.org/digital-participation-platforms>

<sup>5</sup> Decidim. (2024). About page. Available at: <https://docs.decidim.org/en/develop/understand/about.html>

<sup>6</sup> BiPart. (2024). Home page. Available at: <https://www.bipart.it/intro>

alternative for hosting virtual meetings, ensuring democratic processes could continue amidst the crisis. Zoom was often chosen as participants are familiar with the tool and would find it relatively simple to use. One interviewee reported Zoom's integrated voting tool feature is useful as it enables the prioritisation of ideas and proposals.

Word Clouds for Sentiment Analysis: There are many word cloud tools available online, some of them free. These are used for visualising key issues, conducting simple sentiment analysis and identifying the most frequently discussed topics and themes during deliberation. Interviewees reported that participants and facilitators benefitted from this clear and engaging representation of discussed topics.

Real-time voting tools: Real-time voting tools like Mentimeter, Survey Monkey, and All Our Ideas enable quick and efficient data collection, allowing facilitators to gather conclusions and prioritise recommendations transparently.

Google's Jamboard: One interviewee stated that Google's Jamboard website, which operates like a whiteboard, was used for simultaneous collaboration. Google has since announced it is discontinuing this service.

Social media: Social media platforms including Facebook, Twitter, Discord, and Instagram are used for collecting information and encouraging participation. Several interviewees reported advantages in the familiarity of the platforms for participants: going to where "people already are" and conducting engagement on the social media platforms people already use. An interviewee from a local council stated that when sharing a Facebook post with a link to a council survey, people would frequently leave their views in the comment section on Facebook, rather than participate in the survey itself. This is one example of the complexity of conducting democratic engagement and governance alongside conventional uses of general purpose tools.

Interviewees from a think tank and one from a London council reported analysing social media data to identify trends and challenges in public discourse. At a larger scale, machine learning techniques are used for mass language analysis of online spaces including Twitter, especially before changes in access to its application programming interface, providing large-scale information that can inform policymaking.

Text Messaging: One interviewee stated that text messaging had proved a useful tool to deliver content and information to young people and their parents through campaigns in the US like "Text, Talk, Act" for mental health awareness. Another reported use for text messaging is to ask respondents for an "instant snapshot" of information. A text message asks people immediately to fill out a Likert scale (reporting satisfaction on a numerical scale) or to provide qualitative data, with the aim of gaining an immediate and unmediated assessment of sentiment or responses on specific questions.

Translation and transcription tools: Some interviewees highlighted the need for accessibility. Automatic online translation tools, earpieces with an interpreter speaking, and transcription tools are all used for enabling inclusion in politics.

Live-streaming video: The Scottish Parliament used Public Eye, a company that installed cameras throughout the meeting room of a hybrid event. The purpose of the cameras was to allow people participating online to feel like they were in the room. The use of cameras aimed to facilitate inclusivity by creating a greater sense of presence for online participants. Further uses of human-

computer interaction tools and opportunities for deliberation in the Metaverse or similar technologies have been proposed.

Google Docs: One interviewee used Google Docs to answer the practical and technical questions of participants in real-time, as it allows for simultaneous editing.

### **Tools for representative sampling**

Choosing who takes part in decisions, or at least who is invited, is a core concern for democratic decision-making, especially with the increasing popularity of elements of lottery in participant selection. It is not surprising, therefore, that a set of tools have been built specifically aimed at improving this element of democratic design.

Geodemographic modeling tools: Geodemographics is the study of people in the context of where they live, bringing together demography, geography and sociology. The tools enable analysis of the characteristics of populations in areas, and similarities and differences between populations in different areas. By profiling individuals, governments and organizations can tailor engagement efforts to reach diverse and appropriate groups and obtain more comprehensive or relevant feedback. One interviewee used geodemographic modelling tools to improve the representativeness of a consultation process.

Algorithms for sampling: Two of our interviewees specialise in creating algorithms that conduct stratified random sampling, with the goal of achieving appropriate samples in a fair way.

### **Techniques and tools for grouping and interpreting responses**

Argument mining: Argument mining detects all the arguments in a text and their relationships with their preceding and following arguments. Mochales and Moens set out its key characteristics and objectives. They write that “the aim of argumentation mining is to automatically detect the argumentation of a document, i.e., detection of all the arguments involved in the argumentation process, their individual or local structure (rhetorical or argumentative relationships between their propositions), and the interactions between them (the global argumentation structure).”<sup>7</sup>

Argument mining can determine not only what positions people are adopting but also why they hold the opinions they do. The tool achieves this by presenting the structure of the participants’ arguments. Learning why people hold opinions allows analysts to make inferences about their intentions and understanding of the world, offering ways to engage better with their concerns and needs, and potentially also to influence their opinions more effectively.

Argument mining can summarise and synthesise comments in massive crowd exercises, processing large amounts of unstructured text into arguments and reduce the costs for facilitators.<sup>8</sup> Perhaps even more than the other tools we describe, argument mining is in the development stage. At the moment, its use is still mostly confined to a smaller number of expert domains, rather than being used widely in public discourse analysis.

---

<sup>7</sup> Mochales, R. and Moens, M., (2011). Argumentation Mining. *Artificial Intelligence and Law*, 19(1), pp. 1-22.

<sup>8</sup> Simon, J., Bass, T. and Boelman, V., (2017). *Digital Democracy: The tools transforming political engagement*. Nesta. Available at: [https://media.nesta.org.uk/documents/digital\\_democracy.pdf](https://media.nesta.org.uk/documents/digital_democracy.pdf)

Lawrence and Reed note that “argument mining remains profoundly challenging, and traditional methods on their own seem to need to be complemented by stronger, knowledge-driven analysis and processing. However, the pieces required to successfully automate the process of turning unstructured data into structured argument are starting to take shape.”<sup>9</sup>

Argument mapping: Argument mapping is a means of representing the logical structure of arguments to explicitly and concisely represent reasoning. The resultant argument maps can be structured as text or mind maps. The benefit of using argument mapping for facilitators of political dialogue is that the tool helps to establish a relationship between claims, evidence, and counterarguments. An argument map could be the output of mass public participation prior to a decision-making assembly, or a map can be constructed by the participants and facilitators as the assembly progresses. There may also be a pedagogical benefit of argument mapping for the participants. It could allow them to see whether their beliefs are consistent and help them achieve consistency if not.<sup>10</sup>

Sentiment analysis: Sentiment analysis is a tool that attempts to detect sentiment in large databases of text. The results might include positive, negative, and neutral opinions or the occurrence of keywords, concepts, or themes. Analysing the sentiment of a large number of citizens’ responses to a question can streamline the process of analysing the data. Additional insights can be extracted, including estimates of the originality of a statement based on the frequency of rarely used words.

Polis: “Polis is a real-time system for gathering, analyzing and understanding what large groups of people think in their own words, enabled by advanced statistics and machine learning.”<sup>11</sup> Polis is an open-source platform, in which participants make statements which are then shared within the group, to elicit responses. These are gathered algorithmically into groups, and consensus statements are generated and then refined, potentially towards actionable conclusions. It builds upon the foundations provided by online surveys and moves to generate collective intelligence. Polis can also provide statistical analysis on the survey data it gathers and collect demographic information about participants. This analytical capability provides decision-makers with valuable insights into the preferences and characteristics of their constituents.

Polis was the most popular tool for deliberation amongst the interviewees. At least six of our interviewees use Polis, including those who work for London councils and a leading national think-tank.

Several interviewees praised Polis for its effectiveness in capturing, analysing, and understanding diverse opinions in real time from large groups of participants. One interviewee stated that Polis is useful for agenda setting and allows participants to suggest and shape the topics for discussion. Another said the value of Polis is in helping participants to recognise common ground.

---

<sup>9</sup> Lawrence, J. and Reed, C., (2019). Argument Mining: A Survey. *Computational Linguistics*, 45(4), pp. 765-818.

<sup>10</sup> Davies, M., Barnett, A. and van Gelder, T., (2021). Using Computer-aided Argument Mapping to Teach Reasoning. In: J. Blair, ed., *Studies in Critical Thinking*, 2nd ed. University of Windsor.

Parsons, A., (2019). Digital Tools for Citizens' Assemblies. [online] mySociety. Available at: <https://research.mysociety.org/publications/digital-tools-citizens-assemblies>.

<sup>11</sup> Polis. (2024). Home page. Available at: <https://pol.is/home>

## Why use online tools for democratic deliberation?

Interviewees value the removal or reduction of constraints involved in bringing people together in person.

Online tools can conduct events both synchronously and asynchronously. Synchronous methods involving online events at fixed times offer the potential to be more open and inclusive than synchronous events that require in-person attendance. For example, people with mobility issues may find it easier to attend an online event. The downside of synchronous online events is that they can be more open to some groups but exclude others. For instance, a synchronous online event hosted during working hours is more likely to include retired people but exclude individuals who work regular hours. The development of online tools that allow asynchronous methods can allow people to participate at different times, and so enable more people to participate, and a wider set of people in terms of lifestyles and daily commitments. As long as participants can engage at some time, around work, childcare and other responsibilities, they can be included.

Asynchronous events can also allow different levels of participation, with participants able to engage in different parts of the process if they do not have the time to engage in the whole.<sup>12</sup> Multiple participants can consider questions and materials, form questions, submit ideas and proposals for discussion. The whole process can be built up of phases that support different types and degrees of engagement.

Online tools can remove geographical barriers. Removing geographical barriers enables engagement with individuals in different areas and can remove costs for participants by not requiring them to travel. This benefit is greater for people with mobility constraints, again potentially excluding fewer groups and improving overall representativeness.<sup>13</sup>

The Covid-19 pandemic caused many organisations to discover the possibilities of online engagement with their publics. Many found that some perceived disadvantages were overstated or could be overcome. Online channels can be used to advertise widely for the recruitment of participants. However, the pandemic led to a greater realisation that relying on online tools to do recruitment and conduct engagement excludes individuals and groups without internet access. Online recruitment should be supplemented with offline processes to ensure the democratic innovation engages as representative a sample of community as is feasible.<sup>14</sup>

Users of online tools can make choices about how to manage community interactions. Unlike in-person democratic innovations, events held online can allow the organisers to decide whether to enable the participants to be anonymous. This decision ought to be made with careful consideration

---

<sup>12</sup> Cortesi, S., Hasse, A. and Gasser, U., (2021). Youth Participation in a Digital World: Designing and Implementing Spaces, Programs, and Methodologies. Spotlight Series. Youth and Media, Berkman Klein Center for Internet & Society. <https://cyber.harvard.edu/publication/2021/youth-participation-in-a-digital-world>.

<sup>13</sup> Pogrebinschi, T., (2021). Thirty Years of Democratic Innovations in Latin America. Berlin: WZB Berlin Social Science Center. <http://hdl.handle.net/10419/235143>.

<sup>14</sup> Redman, K. and Cramers, M., (2020). Designing an online public deliberation. The Democratic Society and The newDemocracy Foundation.

Beacon, R., (2021). Why Local Government is the Best Laboratory of Innovation for Digital Democracy. Institute for Global Change. <https://institute.global/policy/why-local-government-best-laboratory-innovation-digital-democracy>.

of the subject matter of the discussion and whether this will affect the quality of input and deliberation, but there are clearly subjects and contexts where anonymity will support greater and more diverse participation.<sup>15</sup>

One of the challenges of a democratic engagement process is how to present findings and resulting outcomes back with participants and with wider stakeholder communities. Online channels can disseminate results fast, far, and cheaply. This can increase the accountability of the authority to ensure that the conclusions of the event are taken seriously. This is comparatively under-addressed by research: there has been relatively less salient research on the sharing of outcomes, than there has been on modes of selection of participants and facilitation of deliberation.

Online tools can increase inclusion in other ways, for instance by automatically translating text for non-native speakers, or by assisting individuals with specific communication needs.<sup>16</sup>

### **Deliberation tools – optimism and pessimism**

The principal benefit sought by users of these tools is to increase inclusion in several senses: by increasing the number and diversity of participants and views elicited, and to improve understanding of what people mean by their contributions. The hope is that the tools can discover and present the meaning of people's views, particularly those which may have been relatively excluded or overlooked in the past.

Our work suggests that we can loosely characterise views on using technology in democratic engagement as 'constrained pessimists' and 'critical optimists.' The term 'constrained pessimists' might represent those who oppose using technology for democratic participation because they believe it will either fail or even harm the process. Their resistance to using technology encompasses too many claims to fully explore here. A common concern about using technology for democratic participation is that it will fail to engage all citizens and instead just further concentrate power into the hands of a small minority or at best continue to over-represent those who are already politically engaged, with biases towards e.g. white, affluent, older and educated men.<sup>17</sup>

The constrained pessimist may take the view that any use of data-driven prediction tools to map arguments and sentiments is necessarily biased and selective rather than fully representative, if it relies on data from existing processes that "implies a set of moral principles about what the public sphere should look like in a democracy".<sup>18</sup>

---

<sup>15</sup> Przybylska, A., (2021). Model Solutions and Pragmatism in Developing ICT for Public Consultations. *Journal of Deliberative Democracy*, 17(1).

<sup>16</sup> Davies, M., Barnett, A. and van Gelder, T., (2021). Using Computer-aided Argument Mapping to Teach Reasoning. In: J. Blair, ed., *Studies in Critical Thinking*, 2nd ed. University of Windsor.

<sup>17</sup> Explored in: Noveck, B., (2009). *Wiki Government: How Technology Can Make Government Better, Democracy Stronger, and Citizens More Powerful*. Washington DC: Brooking Institution Press. Baek, Y., Wojcieszak, M. and Delli Carpini, M., (2011); Online versus face-to-face deliberation: Who? Why? What? With what effects?. *New Media & Society*, 14(3), pp. 363-383.

<sup>18</sup> Simons, J. and Frankel, E. (2023). *Why democracy belongs in artificial intelligence*. Princeton. Available at: <https://press.princeton.edu/ideas/why-democracy-belongs-in-artificial-intelligence>

While recognising risks in using tools to map, group and represent views, it should be accepted that technology can genuinely increase democratic participation and make engagement of citizens more effective. Contrary to the constrained pessimist, the critical optimist considers that technology can support increased democratic participation. The optimism is critical (in the evaluative and analytic sense), because success depends on effective design and deployment of technology, and in particular good choices of tools for specific democratic objectives. The critical optimist recognises that any tool may fail to engage everyone equally, or, with tools that analyse language, fail to recognise or represent some language when the software does not register it as substantially meaningful.

Critical optimists should aspire to outcomes where no participant's views are systematically or unjustifiably overlooked or excluded. This is an area of active research and development, although arguably not yet matching its potential social value. For example, ARG-Tech, the Centre for Argument Technology develops "foundational theory in philosophy, linguistics and cognitive science that facilitates the development of practical AI applications. The goal is to help improve, teach, track and navigate the discussions and debates that run our governments, structure scientific research, underpin the corporate boardroom, drive legal process and frame religious beliefs."<sup>19</sup>

The US National Conference on Citizenship supports projects to build successful public-friendly digital spaces.<sup>20</sup> Participedia is a global network and crowdsourcing platform providing resources on public participation and democratic innovations for researchers, educators, practitioners, policymakers and activists.<sup>21</sup> In 2020, the OECD reported on "close to 300 representative deliberative practices to explore trends in such processes, identify different models, and analyse the trade-offs among different design choices as well as the benefits and limits of public deliberation."<sup>22</sup> The report includes Good Practice Principles for Deliberative Processes for Public Decision Making.

## Design

Below, we summarise benefits reported from using online deliberation tools and approaches to design and practice that are considered to improve outcomes. Careful design and deployment of technological tools can improve democratic participation, but both need to be recognised and funded appropriately. Ideally, at least some participants should be involved in design or selection of tools.

The first step is to ensure that tools are designed with the user in mind, much as commercial internet applications are. Participatory websites designed by governments can be vulnerable to institutional biases. There are benefits in engaging citizens directly in design and implementation, sometimes referred to as codesign or coproduction.<sup>23</sup> There may be an epistemological benefit in that these

---

<sup>19</sup> ARG-tech. (2024). Research. University of Dundee. Available at: <https://www.arg.tech/index.php/research/>

<sup>20</sup> National Conference on Citizenship. (2024). About the National Conference on Citizenship. Available at: <https://ncoc.org/>

<sup>21</sup> Participedia. (2024). About page. Available at: <https://participedia.net/about>

<sup>22</sup> OECD. (2020). Innovative Citizen Participation and New Democratic Institutions: Catching the Deliberative Wave. OECD Publishing, Paris. Available at: <https://doi.org/10.1787/339306da-en>.

<sup>23</sup> Zhang, W., Lim, G., Wang, Z. and Perrault, S., (2020). #CivicTech For And By Citizens: A Review And A Meta-Evaluation. In: CSCW. In Proceedings of annual CSCW conference workshop position papers on civic technologies: ACM.

Bertot, J., Jaeger, P. and McClure, C., (2008). Citizen-centered e-government services: Benefits, costs, and research needs. In: Proceedings of the 9th Annual International Conference on Digital Government Research. Partnerships for Public Innovation.

individuals will offer a greater range of ideas than the designers alone. There may be an additional normative benefit in that the tool may have, or at least be perceived to have, greater legitimacy if its stakeholders are involved in its production.

The process of designing and applying tools can be managed in various more and less formal ways. Social media tools can be used to receive users' input in an informal and flexible way.<sup>24</sup> However, the input ought to come from a somewhat representative sample, or the designers must consider the needs of those who did not provide input. Many tools will generally have to meet a use for the average user, but it is still vital that the needs of all possible users are considered for the tool to afford accessibility. The needs of those typically excluded from democratic participation should be especially considered. If the tool is designed or used in ways that excludes a particular group or individuals, then its legitimacy for collecting data should be questioned.

A strategy for effective design is for designers to learn and emulate successes in online consumer platforms. A mistake of previous attempts in the design of websites for democratic participation and tools is that they failed to work with the grain of what people can use or already do. Social media usage in the United Kingdom is one of the highest in the world, with 83% of the population using one or more social media sites, with Facebook the most popular platform.<sup>25</sup> Online democratic participation exercises can use social media platforms directly for citizen engagement or seek to learn from their designs when creating dedicated tools, but even new tools benefit. For example, the comment section on the New York Times website often features high-quality discussion and deliberation. Even though deliberation on Facebook varies very widely in type and quality, there is a great deal of it, which suggests the format works. By contrast, requiring people to follow unfamiliar rules and purposes on bespoke platforms is comparatively likely to present more barriers to participation.<sup>26</sup> Developers of democratic tools should learn from consumer platforms that successfully achieve good deliberation.

Social media platforms differ in design and user experience, but all successful ones have in common characteristics including enabling networks, co-creation with users, and gathering data and using it continually to develop the service and user experience. The same features can be used in online deliberation tools, but there are challenges involved. Social media platforms accumulate data about individuals in pursuit of commercial objectives that are achieved by influencing behaviour. Tools for democratic deliberation, by contrast, seek to affect behaviour to the extent of eliciting more engagement and expression of opinions, but not covertly to influence users to do things that bring commercial benefit to the platform owner or operator. These tools do not have the benefit of billions of interactions to hone the user experience, but in any case, they are not intended as machines to

---

Zulfa, A., Klievink, B., de Reuver, M. and Janssen, M., (2016). A Synthesised Stage Model for Collaborative Public Service Platforms. *International Journal of Public Administration in the Digital Age*, 3(4), pp.10-27.

<sup>24</sup> Lee, G. and Kwak, Y., (2012). An Open Government Maturity Model for social media-based public engagement. *Government Information Quarterly*, 29(4), pp. 492-503.

<sup>25</sup> Kemp, S. (2024). Digital 2024: The United Kingdom. DataReportal. Available at: <https://datareportal.com/reports/digital-2024-united-kingdom>

<sup>26</sup> Bryer, T. and Zavattaro, S., (2011). Social Media and Public Administration. *Administrative Theory & Praxis*, 33(3), pp. 325-340.

We are Flint, (2018). UK Social Media Demographics 2018. Statista Research Department. <https://www.statista.com/statistics/611879/penetration-of-social-networks-in-the-united-kingdom-by-social-grade/>



maximise attention and susceptibility to influence. As will be considered below, growing public awareness of the accumulation of data about individual people has caused a large proportion of the disenchantment with the major internet platforms that has grown over the last decade.

Organisations using tools in good faith for democratic deliberation will want to avoid undue influencing and suspicion.

## Trust

There is now widespread concern that there are low levels of trust from citizens toward their elected representatives and that this is coupled with high levels of apathy, and disillusionment. If done well rather than badly, online engagement has the potential to increase trust, raise awareness, and reduce disillusionment, while strengthening the core norms that are required for any democracy to function. Trust still needs to be earned and maintained.<sup>27</sup>

One method through which technology can increase trust is by enabling greater transparency. Transparency is essential as people evaluate the trustworthiness of decision-making institutions based on their perception of fairness in the process used to make decisions.<sup>28</sup> By allowing citizens to obtain accurate, timely, and essential information about the activities of their government, technology can promote greater trust between citizens, their officials, and the state at large. The use of the internet to stream council meetings and democratic innovations to enable citizens to view the proceedings is one way that local governments have tried to increase their transparency. Even if many people do not regularly use these processes, the awareness that they exist, for example, by journalists reporting on the processes, can increase trust. Additionally, when innovations are hosted online, transcripts and other relevant documents can be made widely available and accessible.

Online tools can produce and present statistics, visualisations, and searchable databases to allow individuals to discover relevant information and hold institutions to account. While any of these can also be used to mislead, making key information readily available supports trust between governments and citizens.<sup>29</sup> Online channels can also help citizens communicate with officials, which can substantially contribute to their perception of the trustworthiness of an institution.<sup>30</sup> An online deliberation process can provide an additional dimension for this.

Taiwan has emerged as a leading example of how digital technology can benefit democratic participation. Digital tools are now a fundamental part of Taiwan's democracy. The internet in Taiwan

---

<sup>27</sup> Lerner, J., (2014). *Making Democracy Fun*. MIT Press.

Uberoi, E. and Johnston, N., (2021). *Political Disengagement in the UK: Who is Disengaged?*. House of Commons Library.

<sup>28</sup> Terwel, B., Harinck, F., Ellemers, N. and Daamen, D., (2010). Voice in political decision-making: The effect of group voice on perceived trustworthiness of decision makers and subsequent acceptance of decisions. *Journal of Experimental Psychology: Applied*, 16(2), pp. 173-186.

<sup>29</sup> Bertot, J., Jaeger, P. and Grimes, J., (2010). Using ICTs to create a culture of transparency: E-government and social media as openness and anti-corruption tools for societies. *Government Information Quarterly*, 27(3), pp. 264-271.

<sup>30</sup> Lupia, A. and Sin, G., (2003). Which Public Goods are Endangered?: How Evolving Communication Technologies Affect The Logic of Collective Action. *Public Choice*, 117(3-4), pp. 315-331.

is now treated as a human right.<sup>31</sup> In addition, the government has employed “civic hackers,” notably Audrey Tang, to develop tools to foster greater trust between citizens and the government. Taiwan is regarded as having made very successful choices in provision of health data during the Covid-19 pandemic, and citizen technologists collaborated on an application that provided information on where to buy facemasks.<sup>32</sup> Tang calls their belief in open government “radically trusting citizens”.<sup>33</sup>

The approach appears successful in improving engagement. Nearly half of the population of Taiwan has been active in using a platform for democratic participation called ‘Join’, and a significant amount of policy issues have already been resolved. Additionally, a platform run by citizens and maintained by the government, named v Taiwan, has influenced policy. Taiwan’s success shows that participation can plausibly increase when the public can see the results of democratic participation.

### 3. Key findings from users

---

Below is a summary of findings from interviews undertaken in 2022 and 2023 with users of digital tools for deliberation. The team interviewed deliberation practitioners, researchers, public officials, policy experts and representatives of other interested organisations about their experiences with using these tools. Interviewees reported advantages, disadvantages, challenges to effective use, and views on how to achieve good results and how the tools might be improved.

#### **Description of project and interviews**

This research was undertaken within the Rebooting Democracy Project primarily funded by UK Research and Innovation Grant ref: MR/S032711/1 based at the University of Southampton and led by Dr Matt Ryan (see [rebootingdemocracy.ac.uk](http://rebootingdemocracy.ac.uk)).

The project brings together leading contributors to the study of democratic innovation in social and computer sciences, connecting researchers with practitioners of democracy in government and society. The project objective is to develop interventions to avert crises of democracy, drawing on the best available analytical tools combined with evidence from practical experiences. It harnesses available data to provide the necessary information on developing political contexts to guide policymakers in the development and choice of instruments for democratic decision-making, aiming to reduce wasted resources in public consultation.

---

<sup>31</sup> Tang, A. (2019). Inside Taiwan’s new digital democracy. *The Economist*. <https://www.economist.com/open-future/2019/03/12/inside-taiwans-new-digital-democracy>

<sup>32</sup> Leonard, A., (2020). How Taiwan’s Unlikely Digital Minister Hacked the Pandemic. [online] *Wired*. Available at: <<https://www.wired.com/story/how-taiwans-unlikely-digital-minister-hacked-the-pandemic/>> [Accessed 1 June 2022].

<sup>33</sup> Hierlemann, D. and Roch, S., (2020). What Europe can learn from Taiwan. *Digital Democracy*. Bertelsmann Stiftung. <http://aei.pitt.edu/103223/>.

The ultimate aim of the project is to use advances in traditional and new forms of data analysis, to work in accordance with the best that democratic theory and political philosophy has to offer, designing measures and complementary social interventions. In conjunction with international and national experts in public engagement, we have delivered field experiments to test feasibility of designs. The project presents a multi-disciplinary research agenda developing data science that responds to and integrates the lessons of democratic theory and empirical social science.

In 2021 following the suggestion of a colleague Stuart Middleton, we began to undertake a set of semi-structured interviews with our partners and advisory board to understand how their attitudes to digital deliberation tools had changed with the experience of the Covid-19 pandemic. We then snowballed to include a diverse set of interviewees working in the sector. This white paper provides a first summary of key insights delivered through 23 interviews as part of this work.

Overall, many of our interviewees reported using online deliberation tools primarily for scalability of engagement and to lower barriers and costs to participation, both for organisations hosting processes and for participants. Use of these tools is generally additional to existing channels and spaces for engagement, not as a replacement for them, and often focused on a specific issue or decision. The baseline of people's engagement is often already very low, and the tools are used to engage more people and a broader range of people, increasing the plurality of voices. Online participation can elicit more responses from people, including women and ethnic minorities, who may typically speak comparatively less in democratic processes.

The potential impacts of digital divides were a key concern for organisations when using these tools. Digital exclusion is intersectional and often links to poverty and housing issues. Barriers include cost of equipment and connection, lack of devices, and for young and poorer people not having their own device or space to use it.

Organisations recognised the potential for participation in online spaces not to be representative. They aim to understand the profile of online participants, in part to know who is not included. The comparative cost-benefits of online deliberation can mean it is increasingly preferred, reinforcing digital exclusion. Some interviewees had the experience that in-person events are attended by a more representative sample of the community, with online ones being attended by privileged members. Overall, though, the majority view was that online engagement lowers barriers to participation, and even if it misses some groups, greater engagement is still valuable if those gaps are known and addressed through other means.

Unsurprisingly, different tools are seen as better for different purposes. There was demand for better guidance to support selection of tools for specific deliberative contexts and objectives. There was also demand for detailed and accessible explanation of what tools do, how they work and who has access to the data. There was a strong view that design and use need to be based on equitable democratic values, not only for narrow practical concerns of achieving agreement.

Tools that use written responses were seen as useful for collecting fuller answers from participants. Tools for crowdsourcing and idea generation were valued for representing the reality that emotions and conflict are an important part of democratic process, and for allowing participants to make mistakes and think freely.

Polis was valued for facilitating back-and-forth conversation between participants and helping them collectively to set the agenda and direction of the activity. Polis supports participants' autonomy to say what is relevant to them, rather than relying on the designer of a survey setting the terms. However, respondents found it more useful for eliciting multiple inputs rather than for in-depth qualitative discussion.

Some users employed "Momentary assessment": sending people a notification asking for an instant response on their view. This puts a low demand on participants, and gains snapshots of views, which may involve little deliberation. Mass analysis of large language data, including tweets, was also used to gain snapshots. Mentimeter was valued as an accessible tool for providing voting and ranking in real-time, which identifies clusters of opinion, arguments and viewpoints.

It was stressed that data collection must be beyond suspicion and done for a very particular purpose. In recruiting participants, it is seen as important to include those with insight but also those who will be most affected by the outcomes. Some users employed geodemographic modelling to find and engage participants. Organisations also need visibly to respond to the findings, or processes will not be considered credible and sustainable.

### **Presentation and presence**

Presentation and presence (who is seen to participate) affect engagement. As a civic space, online is not the same as offline. The majority of interviewees reported a phenomenological aspect to the experience of in-person discussion being missing when engaging online. Nearly everyone who mentioned this considered it very significant.

Several interviewees said that online deliberation lacked significant qualities compared with offline, and that these were significant to the immediate functioning of the process and to wider democratic objectives. It was noted that presence, presentation and the manner of interaction establish community as a basis for dialogue. Lack of physical presence had impacts on the experience and results. If people's experiences feel regimented, then their participation is affected.

An event hosted in an official building might deter some people or influence their behaviour, but this applies to digital spaces as well. Digital spaces remove some formalities, but still need to avoid appearing unwelcoming. The information and language should be in the active voice and be easy to understand, avoiding overloading users with detail, and not have a feel of bureaucracy. The digital tools must be clear and transparent to everyone involved. Connotations of authority and excessive formality may be relatively more off-putting for some already marginalised groups, for instance young people. User organisations need to make decisions about visual presentation and hosting. They may choose to minimise organisational branding if they fear it puts off some participants, but may also need to avoid appearing to hide an organisation's role and management of the process.

In online deliberations using video-calling, the start and finish and shifts into breakout rooms can be experienced as abrupt and perhaps as disconnecting, making it difficult to establish a personal, comfortable and social atmosphere when relative strangers meet to discuss politics. It can prove relatively more difficult to develop a fluid multi-directional conversation. Body language, shaking hands and reciprocal smiling help build relationships and collective engagement in a space, all of which are hard or impossible to achieve online. Asynchronous participation certainly has uses in informing people and giving them time to develop ideas, but there is a cost to the lack of physical presence. A specific problem experienced using Zoom was that some participants responded to the

facilitator rather than to each other. Some users found that place-based topics are better done in-person, and non-place-based topics worked well on Zoom. In-person research focused on places and local areas requires the community feeling that is best achieved through being in the same room.

Questions of presence and presentation have a long history in democratic theory, outlining the very practical aspects that who is seen and heard influences who else speaks. For best practices in democratic deliberation these are very visceral practical choices (or non-choices) that affect the quality of politics. These design choices also link to important themes about how community, equity and expression support democratic deliberation. This is an area where more analysis could result in better advice on comparing and combining offline and online channels for specific objectives, to gain the benefits and fill the gaps characteristic to both. Current design of hybrid and complementary spaces seems to reach far short of its potential.

### **The civic technology sector**

The online deliberation tool sector is not seen as mature, compared to many other online application markets, either in the performance of the tools or consensus on what works. Several interviewees reported that a wide choice of tools and marketing of them made it hard to know which platform to choose for a specific purpose. Inflated marketing claims and unfamiliar jargon in descriptions of tools were seen as likely to put off community groups and citizens who are the intended users.

There is demand for further improvement in design. Simplicity for users is generally seen as a priority. Compared to banking apps, for instance, some of the tools are seen as amateurish and difficult to use. Too many tools are built without enough focus on the user. There are unresolved accessibility issues, for instance some screen readers cannot understand check boxes. The context and recruitment of participants can lead to biases, including gender imbalances, and it is necessary to address these biases with the design. User testing is not taken seriously enough. Permanent user research is necessary for progress of the technologies, continually improving understanding of effective user interfaces.

The sector is seen as under-funded, with limited dedicated interest either from investors in online app design or from democracy organisations. Several interviewees felt that tool developers and democratic innovators would create better tools by working more closely. However, tool developers and those who want to deliver democratic innovations often have different ideas about how and why to apply the tools, and different motivations. Currently it appears hard to learn from previous developments and mistakes, as there is not a continuing and integrated development sector for these applications. The issue here is getting the people who understand how participation works and the people who understand how to design the technology to work together more and in ways that builds expertise and improves design over time.

Typically, civic technology does not have the same virtuous circle of many online applications, where use delivers data and revenue, supporting continual improvements to usability, which drives yet more use. Tools can be improved from learning in action, but they do not accumulate data in the same way as many online applications, nor link that accumulation of data to revenue. The sector lacks the positive feedback optimisation model followed by commercial online applications including social media, search and retail. This is a civic as well as a financial question: the kind of relationship that these tools aim for is not obviously aligned with a commercial advertising data model.

Cost of staff and resources are a barrier for public sector organisations. Typically, there are insufficient resources allocated to deliberation. Budget also limits the use of tech: without hired experts use will be limited. Some respondents described particular challenges for local government. A deliberative approach and sharing decision making with communities can improve relationships, but organisations can be wary of using a platform where they give up some control and cannot moderate discussion easily. Resources are a major challenge. Deliberative tools can be expensive. Not many staff know how to use them, and if a skilled official leaves, the channel can drop out of use. It can be difficult to accurately estimate full costs of running programmes, including hosting and appropriate security.

One interviewee suggested that a single integrated tool could lower participation barriers. People would be readier to join through one account on one website. This is a reflection of the network effects that make online platforms tend to winner-takes-all market structures. When participants move to new technology, public bodies should follow. Public discussion going to where people already are is what citizens want to do. There is no benefit to being ahead of the curve with civic technologies: use should be easy rather than novel and unfamiliar, even if is innovative in terms of results. Barriers should be as low as possible to ensure wider participation amongst all groups. Signing up to participate puts people off, asking for email and password verification is a barrier. However, not having verification brings risks.

There was appetite for replicating the personal onboarding support for participants common in offline interventions in online interventions, in spite of added costs. Informal support maintains wellbeing, accessibility and interactions with facilitators.

There was also demand for better tools for managing qualitative responses. Interviewees stated that quantitative summaries are easy, but the richer responses in deliberation are qualitative. The rich responses can include often single responses or interventions, for example, by those with a diverging experience have strong persuasive or intervening power. So, there is value in tools that account for responses in words, recording richly diverse points of view. In this vein, argument mapping elicits differing views. Argument maps could be used as a prompt for participants to provide richer data, could be useful for setting a deliberative context for participants, and helpful for organisers to see ordered data. However, users saw risks in assuming data can be mapped into an argument, reinforcing the mistaken idea that participants are always rational in their deliberation, or that deliberation must follow strictly to traditional logics of rational argument to be valid. Designers and organisers tend to use rational logic and frameworks, but participants may be drawing on many experiences and articulating their needs using testimonies that may not follow rational argument structures. Too much focus on rationality can be counterproductive.

There was concern that digital tools can reinforce the tendency of many political processes to privilege the views of those who are better at communicating, enforcing reductive rationalism and the position of traditionally more powerful social groups. The tools should allow for people to speak freely and should avoid discriminating against non-native speakers. Participants should not have to be eloquent to share their views and genuinely to be heard. A focus on rational discourse has influenced digitalisation, as well as digitalisation influencing the discourse. Bearing out research on deliberation, the risk observed is often of prioritising views that are more easily categorised.

## 4. Conclusions

---

The remaining gap between the lessons of democratic theory and the practical experience with tools and their design is unfortunate. There may be more that can be learnt from social media to improve dedicated deliberation tools. Designers of tools for deliberation already seek to avoid known challenges to democracy that recur on major platforms: disinformation, poor quality debate, splintering into separate communities that do not engage with each other but rather emphasise and identify with division. At the same time, they struggle to replicate the platforms' familiarity and capacity to improve user experience.

There may also be lessons from using dedicated tools that could be taken back to social media. As our interviewees said, sometimes it makes sense to go where people already are. It may equally make sense not to rely on, for example Facebook, as its current form, as the preferred democratic deliberation space. What would need to be changed, to use Facebook, or a limited area on Facebook, well for political deliberation? Consensus on practical principles would at least improve debate about what we collectively want and need from internet platforms.

Social media connects people in certain ways. It changes behaviour, which changes the functioning of social media in a continual cycle, to deliver commercial outcomes. Some features of the dominant platform business models may be particularly problematic for designers of tools for democratic deliberation. The platforms seek to change behaviour. Deliberation tools aim to support users' reflection and discussion, and improve their dialogue with others, but not to manipulate them to a predetermined belief, and in particular not to influence them covertly for an ulterior aim.

These are very different goals from optimising for profit, user experience and efficiency. Democratic deliberation tools currently have to manage without the data accumulation model that drives platform profitability and continually developing services. Predicting people's opinions, and influencing informed by prediction, is in principle very different from helping people develop opinions.

Ideally, civic organisations that recognise a democratic deficit in relation to a public issue or decision should be able to access information that helps them understand the potential outcomes and benefits, and which tools would fit their context, needs and capacity. This would include a good understanding of how the tools can enhance democratic agency. More granular comparison of online and offline processes should improve understanding of which to prioritise, and how they can complement each other. This might include guidance on how to use each in interventions on emerging questions.

As we have noted, organisations including Participedia already promote good practice in democratic innovation and using the internet. However, as we see it, programmes to develop tools and to make use of lessons from research are currently not well supported. They also do not appear well equipped to learn from that research on online communication and interaction. This is a question of funding but also of better connection between experts and organisations working in different areas.

Achieving better online deliberation at scale or across many contexts will not be easy. As we have seen, there can be tensions between supporting engagement between people, and manipulating in favour of outcomes. It may remain difficult to simplify rules and guidelines. There may always only be tools that work best for some purposes, rather than a tool that fits every online deliberation. There appears to be work still to do to agree what it would mean to transfer to democratic deliberation the

characteristic advantages of the major internet platforms: personalisation at scale and increasing efficiency.

In the light of themes discussed here, notions of what are democratically appropriate modes of editing, influencing and transmission of opinions online need to keep evolving, supported by research, practice and debate. However, those reservations could be expressed about other aspects of democratic functioning and of democracies, over time and through social and technological change. Building and fielding good tools for democratic engagement will be a challenge. But the alternative of shrugging our shoulders and neglecting to engage the populace in democracy will be much worse.