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The prospects for digital democracy

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Abstract

This paper aims to answer a basic question: is it possible to forge democratic citizenship through various online tools that are already available? To answer this question, I introduce the conception of *digital political identities*, i.e., the ways in which online environments contribute to creating, maintaining, and changing political identities. Because the well-functioning of democracy rests on citizens with the ability to make informed decisions, vote, and engage in public deliberation, this paper is looking for new and innovative online tools for participating in meaningful online deliberation, acquiring accurate information in the digital space, and making informed voting decisions. By introducing the conception of digital political identities and linking it to online tools that can improve democracy and citizen engagement, I aim to make further progress in cutting edge research on the relationship between digital technologies and democracy. In a nutshell, I am mainly concerned with proposing and defending a normative framework for the use of various online tools that could foster digital democracy.

Keywords Digital political identities, Artificial intelligence, Democracy, Online deliberation, Digital citizenship

1. Introduction

This paper aims to answer a basic question: is it possible to forge democratic citizenship through various online tools that are already available? To answer this question, I introduce the conception of *digital political identities*, i.e., the ways in which online environments contribute to creating, maintaining, and changing political identities. Because the well-functioning of democracy rests on citizens with the ability to make informed decisions, vote, and engage in public deliberation, this paper is looking for new and innovative online tools for participating in meaningful online deliberation, acquiring accurate information in the digital space, and making informed voting

decisions. By introducing the conception of digital political identities and linking it to online tools that can improve democracy and citizen engagement, I aim to make further progress in cutting edge research on the relationship between digital technologies and democracy [1, 2].

Proposals about future directions for digital democracy are rooted in theories of deliberative democracy and epistemic democracy. According to the theories of deliberative democracy, the most basic mechanism of democratic decision-making is public deliberation in which citizens can participate as free equals. Proponents of deliberative democracy thus think that democracy should be more open to public discussion in addition to voting. However, more expansive participation by citizens does not necessarily guarantee that better decisions will be made. For that reason, the theories of epistemic democracy address the conditions under which we might expect democratic decision-making processes to lead to good decisions. There is significant overlap between theories of deliberative and epistemic democracy; after all, both come to the conclusion that public deliberation is a crucial decision-making mechanism that contributes to fair and good decisions. Nevertheless, the theories of epistemic democracy consider a specific set of questions about what contributes to knowledge, truth, accuracy, and so on—the necessary elements to ensure that democratic mechanisms can yield good decisions.

In this paper I focus on tools for online deliberation and the conditions under which they could contribute to good outcomes in an epistemic sense. The paper pays special attention to the recent use of artificial intelligence (AI) tools in the context of online public consultation and deliberation. In a nutshell, I am mainly concerned with proposing and defending a normative framework for the use of various online tools that could foster digital democracy. The paper is structured as follows. Section 2 examines social science experiments with online deliberation to determine how these experiments might contribute to (more) digital democracy. Section 3 examines current applications of AI tools in democratic processes and assess possibilities for their future use. Section 4 presents an integrated approach to digital citizenship, i.e., a normative framework for meaningful democratic participation online. Section 5 concludes the paper.

2. Online Deliberation: From Normative Ideal to Practice and Back Again

When it comes to digital technologies, the most widespread democratic innovation is online deliberation. It is both a subject of study in various experiments within the social sciences and part of the practical application of digital tools for public consultation and deliberation occurring from local to global levels. At city and state levels, there are already many digital platforms that enable online consultation and deliberation [3]. Moreover, tools for online deliberation have been used in crowdsourced constitution-making (such as in Iceland and Ireland). Various forms of online deliberation have also been used at the European Union level (such as for the Conference on the Future of Europe) [4].

This section reviews experiments in online deliberation and the conceptions of digital democracy that emerged from them. In the literature on online deliberation, it is now common to differentiate between three domains of research: institutional design conducive to online public deliberation,

rules for deliberative processes, and the outcomes of deliberation itself [5, 6]. In their overview of experiments in online deliberation conducted until 2015, Fries and Eilders [5] noted that most had been devoted to the first two domains, mainly treating the items in the first as independent variables and those in the second as dependent variables. However, a more recent overview of the research field by Strandberg and Grönlund [6] shows that the focus of experiments in online deliberation has shifted to items in the third domain. In these more recent experiments the outcomes of deliberative processes are addressed mainly in relation to institutional design.

To better understand these experiments, some clarity is needed on rules for institutional design and deliberative processes. Rules for institutional design usually determine whether online deliberation is synchronous or asynchronous (extended in time over several instances of deliberation), anonymous or non-anonymous, with or without a facilitator, and so on. Rules for deliberative processes typically address equality, reciprocity, civility, the exchange of reasons, and so on. After testing combinations of synchronous and asynchronous design with anonymous and non-anonymous deliberation, Strandberg and Berg [7] conclude that asynchronous deliberation can yield better epistemic results. They also find, somewhat surprisingly, that anonymous public deliberation does not necessarily have detrimental epistemic effects (although this could be the result of other process-related rules). Given their own experiments and the Deliberative Polling experiments, Strandberg and Grönlund recently pointed out that the most important outcomes of online deliberation are related to "increased knowledge among participants" and a reduction in group polarization [6, p. 372, p. 373]. So, online deliberation studies show outcomes of significant knowledge gain and positive epistemic effects in general.

Deliberative Polling is one of the most important experiments in both online and offline public deliberation [8]. The experiment consisted of public deliberation over the course of a weekend that unfolded among a group of citizens (chosen by representative random sampling) in smaller sessions and with experts in plenary sessions. The sessions were moderated by trained facilitators. At the beginning of the experiment, citizens received balanced material related to the topic of discussion. At the beginning and at the end of the experiment, participants filled out the same questionnaire. As indicated above, online deliberative polls showed positive epistemic effects mostly around knowledge gains and the acquisition of new information. These effects are well documented by the very same experiments conducted in offline settings.

To locate the proper place of online deliberation based on Deliberative Polling, James Fishkin identifies four types of online public consultation [9]. To begin, he distinguishes between nondeliberative and deliberative forms, as well as representative and unrepresentative practices, of online public consultation, all of which have their analogues in the offline world [9, p. 31]. The first type is the nondeliberative and unrepresentative form of public consultation characteristic of self-selected listener opinion polls (SLOPS). SLOPS are nondeliberative because participants express their preferences or vote without the possibility of deliberation; they are unrepresentative because participants are self-selected. The second type is the nondeliberative yet representative form of public consultation characteristic of the conventional opinion poll.

The third type is the deliberative and unrepresentative form of online discussion among self-selected participants, which Fishkin notes is particularly prone to group polarization [9, p. 33]. The

fourth and final type is the deliberative representative form of public consultation exemplified by online Deliberative Polling. Online deliberative polls, Fishkin says, "offer the promise of greater convenience and continuing dialogue" and because "new technologies allow us to experiment with improvements…eventually, we will be able to periodically take the 'pulse of democracy' in a more deliberative manner" [9, p. 29, p. 34].

In recent times, Landemore argued "for renovating our paradigm of democracy to make the most of the technological opportunities offered by the digital revolution" [10, p. 65]. She defends the conception of *open democracy* based on the principles of deliberative democracy and equal representation. In Landemore's view, open democracy means that democracy is more open to citizens, that it promotes their open-mindedness, and that it is an open-ended process [10]. One of the most pertinent features of open democracy in the present context is openness to new digital technologies. However, Landemore also holds that despite containing the element of representation, open democracy need not be representative democracy. Instead, she envisages "lottocratic" representation (by stratified random selection) and self-selection as more appropriate forms of representation for deliberative participation (note that in thinking citizens can represent other people even when self-selected, Landemore applies a broader notion of representation than Fishkin).

Both forms of representation are linked to deliberative mini-publics in which each citizen has an equal opportunity to participate. Building on the empirical research into deliberative polls and other mini-publics, Landemore argues that new digital tools could contribute to open democracy by enlarging the scale of citizen participation through the multiplicity of mini-publics. In the context of an ideal of open democracy, she describes the open mini-public as "a deliberative unit that is uniquely possible in a digital world" [10, p. 81]. Landemore believes that this is how digital technologies could contribute significantly to a more deliberative democracy in which citizens participate as free equals.

While Landemore's proposal is grounded in the theory of deliberative democracy, Poblet et al. [2] develop the idea of digital democracy in the direction of epistemic democracy (although their preferred conception is also rooted in deliberative democracy). Their main argument is that much of the information, digital tools, and civic technologies already available in the digital space are dispersed and disconnected. As a remedy for such fragmentation of data and digital tools, they propose the conception of *linked democracy* to empower citizen participation. For them, "linked democracy is about turning this plurality into a participatory ecosystem where data, information, and knowledge are connected and shared" [2, p. 28].

The conception of linked democracy centers on linked open data, linked platforms, and linked ecosystems. Although Poblet et al. recognize many contributions toward open data that are relevant to democratic decision-making, they emphasize the need to make these data interconnected and ready for use at scale. Furthermore, it is not just that data should be somehow connected; rather, connections should be forged between various digital tools and platforms for civic engagement within a digital ecosystem.

While Poblet et al. consider the use of various digital tools at local and state levels as examples of linked ecosystems, I find it consistent with their view to also consider the linked ecosystem at a global level. I also believe that recent developments in AI tools can contribute significantly to each of the dimensions of linked democracy.

3. AI Tools for Digital Democracy

The most recent innovation in digital democracy involves fostering online public consultation and deliberation through generative AI tools. AI-empowered public consultation and deliberation opens up new frontiers for renovating democracy, but the use of such tools also brings about new risks in democratic societies. Landemore warns that "deploying AI in democracy has its risks—like data bias, privacy concerns, potential for surveillance, and legal challenges"—but she also points out that "despite its limitations and risks, AI has the potential to bring about a better, more inclusive version of democracy, one that would in turn equip governments with the legitimacy and knowledge to oversee AI development" [11, p. 14]. More specifically, "AI has the potential to usher in a more inclusive, participatory, and deliberative form of democracy, including at the global scale" [11, p. 12]. This section explores some uses of generative AI in the context of online democracy to assess their potential to foster democratic processes. So far, some of the primary applications of generative AI in this context include summarizing the content of online public deliberation, reducing information overload, and problem-solving. Below, I address each application in turn.

Generative AI tools have proven very effective at *summarizing the content of online public consultation and deliberation*. It is important that public deliberation does not become too dispersed and citizens retain a clear understanding of the purpose of their participation and debates. Such clarity could also be helpful for integrating citizen input into policy-making and law-making processes. Thus far, generative AI tools have been used to summarize lengthy deliberation unfolding in text (e.g., comments on certain proposals on civic tech platforms) as well as video-recorded material from online deliberations.

Some of the most widely used platforms for online democratic participation, such as Your Priorities (created by the Citizens Foundation) and Go Vocal platform (formerly CitizenLab platform), recently introduced AI tools to summarize the content of online public consultation and deliberation.[1] In a recent interview, Landemore elaborates on the use of the AI tool Panoramic (created by Make.org) in the French Citizens' Convention on the End of Life [12]. The tool summarized the content of online deliberation from video materials, but Landemore notes a limit in that summary was offered only for plenary sessions involving mostly the opinions of experts. In any case, generative AI tools carry the potential to summarize content from many different

[1] For the Your Priorities platform, see: https://www.citizens.is/your-priorities-features-overview/. For the Go Vocal platform, see: https://www.govocal.com/platform-online-engagement-toolbox

deliberative processes—including discussions in smaller groups, the new frontier for their use in online deliberation.

Summation of the content of online deliberation can be seen as a way to *reduce information overload*. However, civic tech platforms also contain many inputs on various topics, proposals, and so on, that could further contribute to information overload. The notion of information overload is thus not limited to online deliberation. Arana-Catania et al. address the problem of this broader view of information overload through the use of Natural Language Processing (NLP) and machine learning tools to create an enhanced version of the Consul platform [13].[2] Although this online tool has many applications, their case study involved an enhanced version of Consul applied to the platform Decide Madrid. Using NLP tools, they showed how the enhanced version of Consul could contribute to reducing information overload by clustering and categorizing proposals, clustering different views and opinions, and summarizing comments on proposals.

Arana-Catania et al. further experimented with requiring participants to use both an enhanced and a standard version of the Decide Madrid platform. Results showed "a reduction in mean time of 40.9% when using the enhanced version" [13, p. 16]. Overall, the study concludes that by reducing information overload, "NLP and machine learning techniques…improved the effectiveness of citizen participation and collective intelligence processes in a significant way" [13, p. 16]. AI-powered functions to reduce information overload as described above are now integral to several civic tech platforms.

One promising future use of generative AI for democratic purposes emerges within the context of *problem-solving*. In 2024, Citizens Foundation launched the AI-empowered tool Policy Synth, which offers possible solutions when presented with a problem.[3] The idea behind this tool is to enable smart crowdsourcing within problem-solving processes. When given a problem statement, Policy Synth uses Large Language Models (GPT-4 and GPT-3.5) to search for the root causes of the problem and subvert them to sub-problems. The tool evolves possible solutions and offers pros and cons for each solution. Once the process of searching for solutions is complete, Policy Synth can also recommend policies.

In addition to these primary uses of generative AI, the AI tool was also partly integrated into the Stanford Online Deliberation Platform that Fishkin and colleagues recently used in their online deliberative polls. This self-moderating platform carries the promise of organizing online deliberation at scale. Studies show that the self-moderating platform can facilitate online deliberation equally as well as trained human moderators. Through comparison of the results of in-person deliberative polls (held in Japan in 2012 and 2014) and an online deliberative poll (held in Japan in 2020), Gelauff et al. conclude that "the Platform for Online Deliberation was able to facilitate a set of deliberations comparable to an in-person experience" [14]. A 2022 experiment with the Stanford Online Deliberation Platform conducted by Meta, which included 6,000

[2] For the Consul Democracy platform, see: https://consuldemocracy.org/features/

[3] For the Policy Synth toolbox, see: https://github.com/CitizensFoundation/policy-synth. The description of Policy Synth is based on the following unpublished conference paper: Bjarnason, R., Gambrell, D., Lanthier-Welch, J.: Using artificial intelligence to accelerate collective intelligence: Policy synth and smarter crowdsourcing. Final submission for ACM collective intelligence conference (2024).

participants from 32 countries, further revealed its ability to facilitate online deliberation at a global level [11]. So, one important further application of AI is *facilitating processes of online deliberation*.

The application of AI to date demonstrates the utility of AI tools for online democratic processes. However, this is not to deny the risks usually invoked (some of which were quoted at the beginning of this section) by advanced AI tools and their further applications. While most of the discussions focus on risks at the level of the individual or democratic society as a whole, the remainder of this section addresses some risks specific to online democratic participation. My main point is that as AI tools advance, their inclusion in online democratic processes should be guided by the idea of enabling individuals to forge democratic citizenship through meaningful participation.

So far, the use of generative AI tools in democratic processes and experiments has been limited owing to the current stage of their development. But as the AI technologies progress, possibilities for their application in democratic contexts will soon expand. It is thus important that the future use of such technologies does not undermine the democratic process itself. One of the main points of democratic citizenship is that through participation, citizens gain new knowledge of not only what contributes to problem-solving and good decision-making but also the entire democratic decision-making process. Still, overreliance on advanced AI tools could contribute to less engagement by citizens and consequently less knowledge about how to meaningfully participate in democratic processes.

This means that it is critical that further applications of AI tools do not undermine citizen capacity for meaningful democratic participation. Rather, they should foster it. For that reason, the next section presents *an integrated approach to digital citizenship* as a possible framework for advancements in digital democracy and the application of AI tools in online democratic settings.

4. An Integrated Approach to Digital Citizenship

The aforementioned views of open democracy and linked democracy hold that normative considerations for digital democracy should be grounded in theories of deliberative and epistemic democracy. Although I agree with this view, I argue that there is a need for an even wider perspective when considering digital political identities. In the near future, political identities will be forged entirely through early exposure to digital technologies. This means that education for digital citizenship is necessary from early on to ensure that meaningful online democratic participation is possible.

In other words, the formation and development of political identity in digital citizenship should run parallel to the formation and development of other digital political identities. The argument for this kind of education is based on reasoning analogous to Rawlsian arguments about the compatibility of a political conception of justice acceptable to all citizens and various comprehensive doctrines [15]. But rather than thinking about the principles of political conception

at the core of democratic citizenship, the focus here is on the ways in which digital citizenship and meaningful online democratic participation become possible.

For this reason, I defend *an integrated approach to digital citizenship* that consists of two components: *democratic participation* and *education*. While the democratic participation component includes many of the insights from open and linked democracy, I argue that the educational component should also be taken into account when thinking about the prospects for digital democracy. Democratic participation is crucially important to my integrated approach to digital citizenship. It consists of three elements: 1) participating in meaningful online deliberation, 2) acquiring accurate information in the digital space, and 3) making informed (online) voting decisions. My approach integrates the perspectives of deliberative democracy, epistemic democracy, and theories of voting. At the same time, it is also integrative in the sense that all democratic participation elements are included in the educational component.

Much of this paper has focused on online deliberation. However, access to accurate information is both necessary for meaningful online deliberation and important for informed voting decisions. While digital technologies could contribute to this task, online environments are nonetheless conducive to the spread of misinformation and disinformation that could undermine democratic processes [16, 17]. Watson et al. [18] recently argued for the recognition of epistemic rights as human rights to prevent the harms caused by the spread of misinformation.

The research in the social sciences have already identified many possible tools for acquiring accurate information online and reducing the effects of misinformation. Some of these are already in use on online platforms. Rather than comprehensively reviewing online tools, then, I shall focus on the general unifying framework offered by Lorenz-Spreen et al. [19] that integrates various insights from psychology and experimental economics. To wit, their approach includes various nudging and boosting online tools that can help individuals cope with misinformation and search for accurate information in a digital space. The primary difference between nudging and boosting techniques is that the former focuses on choice architecture and the arrangement of online environments to become more attuned to epistemic cues, while the latter focuses on building individual capacities to search (in a self-directed way) for epistemic cues that promote truth online.

To illustrate, nudging tools could involve warnings when information is based on unidentifiable sources or sources that are insufficiently accurate, educative nudges to search for references and multiple sources on the subject of an online article, or the creation of friction to check whether information is accurate before it is shared with other people [19, p. 1106]. Examples of boosting techniques include visualizations of the whole information cascade (including its source and history of sharing), pop-up fast-and-frugal decision trees that help individuals to determine the reliability of a source of information, and the possibility for users to completely customize their news feed [19, p. 1106]. What these all show is that nudging and boosting techniques for promoting truth online should be directed toward both online content and information sources.

Online voting is replete with a distinctive set of problems, which is why the word “online” is bracketed in the third element of the democratic participation component of the integrated approach to digital citizenship. In the short term, voting will mostly remain an offline decision-

making procedure. One of the major problems with online voting is that it is still not considered sufficiently secure for use in general elections. But even if online voting is not used solely for that purpose in the near future, it is worth noting that the digital democracy tools discussed thus far became significant to informed voting decisions in offline settings. In the medium and long term, they will be even more important as progress is made to address security issues in online voting. One of the advantages of my integrated approach to digital citizenship is that education about online voting could enable citizens to routinely vote online once this decision-making mechanism is secure enough for broader implementation.

5. Conclusion

In this paper, I considered various tools that are already available that could help to forge digital citizenship and foster digital democracy. I focused on very recent tools that apply generative AI within processes of online public consultation and deliberation. With these tools and their future development in mind, I proposed an integrated approach to digital citizenship as a normative framework when thinking about the prospects for digital democracy.

My argument for an integrated approach to digital citizenship unfolded in two stages. First, I introduced the concept of digital political identities and argued that online environments should contribute to forging digital citizenship through democratic participation and education. Second, I argued that an integrated approach to digital citizenship should include digital tools for participating in meaningful online deliberation, accessing accurate information in the digital space, and making informed voting decisions (including online voting, once it is considered sufficiently secure). I argued that this approach is integrated not only because it includes all of these elements but also because the very same elements should be incorporated into education for digital citizenship.

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Compliance with ethical standards

Conflict of interest The author has no competing interests to declare that are relevant to the content of this article.

References

1. Bernholz, L., Landemore, H., Reich, R. (eds.): Digital Technology and Democratic Theory. The University of Chicago Press, Chicago and London (2021)

2. Poblet, M., Casanovas, P., Rodríguez-Doncel, V.: Linked Democracy: Foundations, Tools, and Applications. Springer, Cham (2019)

3. Simon, J., Bass, T., Boelman, V., Mulgan, G.: Digital Democracy: The Tools Transforming Political Engagement. Nesta, London (2017)

4. European Union. Conference on the Future of Europe: Report on the Final Outcome. (2022)

5. Friess, D., Eilders, C.: A systematic review of online deliberation research. Policy and Internet **7**(3), 319–339 (2015). https://doi.org/10.1002/poi3.95

6. Strandberg, K., Grönlund, K.: Online deliberation. In: Bächtiger, A., Dryzek, J.S., Mansbridge, J., Warren, M. (eds.) The Oxford Handbook of Deliberative Democracy, pp. 366–377. Oxford University Press, Oxford (2018)

7. Strandberg, K., Berg, J.: Impact of temporality and identifiability in online deliberations on discussion quality: an experimental study, Javnost - The Public **22**(2), 164–180 (2015). https://doi.org/10.1080/13183222.2015.1041230

8. Fishkin, J.: Deliberative polling. In: Bächtiger, A., Dryzek, J.S., Mansbridge, J., Warren, M. (eds.) The Oxford Handbook of Deliberative Democracy, pp. 316-329. Oxford University Press, Oxford (2018)

9. Fishkin, J.S.: Virtual public consultation: prospects for internet deliberative democracy. In: Davies, T., Gangadharan, S.P. (eds.) Online Deliberation: Design, Research, and Practice, pp. 23–35. CSLI Publications, Stanford (2009)

10. Landemore, H.: Open democracy and digital technologies. In: Bernholz, L., Landemore, H., Reich, R. (eds.) Digital Technology and Democratic Theory, pp. 65–89. The University of Chicago Press, Chicago and London (2021)

11. Landemore, H.: Fostering more inclusive democracy with AI. Finance & Development **60**(4), 12–14 (2023)

12. Giesen, L.: "As long as citizens' conventions are black boxes, they lack legitimacy" Interview with Hélène Landemore and David Mas (Part 1). Democracy Technologies. https://democracy-technologies.org/participation/ai-citizens-convention-france/ (2024). Accessed 1. June 2024.

13. Arana-Catania, M. et al.: Citizen participation and machine learning for a better democracy. Digit. Gov.: Res. Pract. **2**(3), Article 27, 1–22 (2021). https://doi.org/10.1145/3452118

14. Gelauff, L., Nikolenko, L., Sakshuwong, S., Fishkin, J., Goel, A., Munagala, K., Siu, A.: Achieving parity with human moderators: a self-moderating platform for online deliberation. In: Boucher, S., Hallin, C.A., Paulson, L. (eds.) The Routledge Handbook of Collective Intelligence for Democracy and Governance, pp. 202–221. Routledge, New York (2023)

15. Rawls, J.: Political Liberalism, Expanded Edition. Columbia University Press, New York (2005)

16. Ecker, U., Roozenbeek, J., van der Linden, S., Tay, L.Q., Cook, J., Oreskes, N., Lewandowsky, S.: Misinformation poses a bigger threat to democracy than you might think. Nature **630**, 29–32 (2024). https://doi.org/10.1038/d41586-024-01587-3

17. Coeckelbergh, M.: Democracy, epistemic agency, and AI: political epistemology in times of artificial intelligence. AI and Ethics **3**(4), 1341–1350 (2023). https://doi.org/10.1007/s43681-022-00239-4

18. Watson, L., Horowitz, M.A., Nieminen, H., Lehtisaari, K., D'Arma, A.: Conclusion: ubiquitous need for epistemic rights and the way forward. In: Horowitz, M.A., Nieminen, H., Lehtisaari, K., D'Arma, A. (eds.) Epistemic Rights in the Era of Digital Disruption, pp. 205–219. Palgrave Macmillan, Cham (2024)

19. Lorenz-Spreen, P., Lewandowsky, S., Sunstein, C.R., Hertwig, R.: How behavioural sciences can promote truth, autonomy and democratic discourse online. Nat. Hum. Behav. **4**, 1102–1109 (2020). https://doi.org/10.1038/s41562-020-0889-7