Human-centered Democratic Innovations with Digital and Participatory Elements

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ABSTRACT

This paper discusses digital and/or participatory elements that could be used in decision-making processes, such as a participatory budgeting process. It contributes to the discussion about innovations in democracy. Placing humans at the center of governance, we argue that innovative elements should be evaluated by addressing the topic from the perspective of what is "good" for human beings? The process is good for them if it achieves goals like legitimacy and connection. We identify design of decision-making, participatory elements, and the value of personal interaction as levers. Regarding design of decision making, we discuss voting mechanisms, the combination of different decisions, and interdependent decisions in terms of each voter's choice optimality. In terms of participation, we see potential for blocked situations, for self-organized or requested (opt-in) participation, and for urgent or uncertain situations. Third, we emphasize the value of coming together in reality, and suggest thinking about combining digital and physical elements in a useful way. Technical aspects, power, and the existing institutional setting are identified as restrictions, and research into the effects of all these elements on the dependent variables, such as legitimacy and connection, is needed.

CCS CONCEPTS

• **Digital innovation**; • **Participatory budgeting**; • **Decision-making**;

KEYWORDS

Legitimacy, Connection, Self-organization, Human-centered

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1 INTRODUCTION

We are living in a time of highly interdependent economies and societies. To govern is not an easy task in such an increasingly complex world. Our paper discusses technological elements that can be implemented in a democratic process to help cope with this complexity and adapt systems accordingly. In this way, we contribute to the literature on digital democracy[1] and adopt a realistic or institutional approach, as we are looking at further developing existing structures and processes [40]. Most of the literature on digital democracy is supply-oriented [39]. By looking at how to vote or how to enable citizens to self-organize, our propositions are demand-oriented. In addition, the paper contributes to the discussion about innovations in democracy [45].

In more detail, this paper discusses digital and/or participatory elements that could be used in decision-making processes such as a participatory budgeting process. Placing humans at the center of governance, we argue that innovative elements should be evaluated by addressing the topic from the perspective of what is "good" for human beings? The process is good for them if it achieves goals like legitimacy and connection, meaning connection between citizens but also between citizens and (local) government.

Robert Dahl [8] assumes that a key characteristic of democracy is "the continuing responsiveness of the government to the preferences of its citizens, considered as political equals". Empirical research shows that Dahl's [8] assumption of political equality, meaning that governments respond to the preferences of citizens, is flawed. The preferences and views of poor people have little, if any, impact on social spending [4]. This creates a legitimacy problem. In fact, many affluent democracies are suffering "profound challenges related to the legitimacy of institutions" [6]. Democratic innovation can address this problem. In addition, we identify connection as another relevant goal to achieve through democratic innovation. With connection, we address the cohesiveness of a community. It is a human need to feel connected to each other, but this cannot be taken for granted. Not only in the United States, but also in countries like Switzerland [7], we see (increased) polarization of society. Furthermore, in order to solve current relevant problems like climate change, migration, and others, we need collective action, even more so in times of individualization. Connection seems to be a prerequisite for such collective action. Finally, participation also necessitates attention, and attention requires that a resident or citizen cares about a decision. Lupia [25] offers evidence that people are more likely to pay attention if they can identify the potential effects of a decision on places about which they have strong feelings. Thus, if people feel connected with their local area, neighborhood or municipality, they are more likely to care about the decisions taking place there, and thus more likely to participate democratically.

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[1] We consider digital democracy to extend the earlier concepts of e-democracy through new elements of self-organization, collective intelligence, and empowerment.

In the following, we introduce the goals of legitimacy and connection (to enable collective action) in democratic institutions. We delineate legitimacy through three macro dimensions (input, throughput, and output legitimacy), as well as two individual dimensions (political involvement and political assurance). We delineate connection through various facets, principally those traditionally measured by relevant surveys. Then we propose innovative elements that can contribute to reaching those goals (decision-making design, participation, physical space), with individual technological solutions (from e-democracy and beyond) provided as examples. We end with restrictions and a discussion.

2 GOALS: LEGITIMACY AND CONNECTION

2.1 Legitimacy of a political decision

Citizens need to believe that government is valid and thus to be respected in its actions. Weber [52] defines legitimacy as the belief of the governed that an authority is right and proper and ought to be obeyed. Accordingly, the belief of legitimacy ("Legitimitätsglaube") is central to authority. Scharpf [41] differentiates between input and output legitimacy. Input legitimacy refers to the opportunities for citizens to participate in political processes and the procedures introducing their preferences to the political system such as voting processes, mechanisms that make sure citizens are heard by government, and factors that create well informed citizens with the interest and capacity to hold politicians accountable for their actions (like a high per person rate of readership of daily news). Output legitimacy is contingent on the substantive outputs of governing authorities and how they promote common welfare. Later, Schmidt [42] added throughput legitimacy, referring to the quality of the mechanism between input and output. In fact, Marien and Kern [28] emphasize that involving citizens (fairly) is a good way to make contested decisions. However, it is not sufficient to increase political support for government. For this, citizens also care about the outcomes of decision-making processes.

We address input, procedural and output legitimacy via subjective legitimacy beliefs. Various established indicators are found in literature. For instance, for input legitimacy one can ask "how much influence did you have on the decision about XY?" [28]. Fairness assessments of the decision-making arrangement can serve as indicator for throughput legitimacy, measured via the "belief that authorities, institutions, and social arrangements are appropriate, proper and just" [50]. These assessments indeed affect people's willingness to accept their decisions and rules [12, 50, 51, 55]. More specifically, one can measure procedural fairness assessments by two items [11]: "How fair do you think matters were when the decision was taken?", and "How fairly do you think you were treated when the decision was taken?" With minor variations in wording, these are standard indicators in procedural fairness research [44]. For responses, one can rely on a seven-point Likert scale with the designated endpoints "not fair at all" and "very fair". For output legitimacy, one can use the item "How satisfied are you with the outcome of the decision"? Marien and Kern [28] showed that outcome satisfaction can increase political support, too.

Input, throughput and output legitimacy concern the system (macro) performance. Weatherford [51] has argued that legitimacy is dependent also on underlying individual characteristics like political involvement and interpersonal assurance. Interpersonal trust in others is part of the second dimension (interpersonal assurance), and this aspect has become important. "In our complex lives, we have many relationships that are about relatively specific things. [. . .] How do we regulate our relations in such networks? Basically, we develop trust relations with those with whom we deal reciprocally." [17]. Trust was needed in earlier times too, however, we could back it up by shared communal norms and their enforcement by the community [17]. This is not the case anymore. In our complex lives, we rely on many relationships with little overlap in membership [17]. We therefore need third parties, in particular institutions that can substitute for the missing overlap, i. e., provide common ground. Furthermore, one can argue that the stability of governments depends on the trust of a certain number of citizens [17].

In this way, we end up with five dimensions (the four dimensions proposed by Weatherford [51] plus outcome legitimacy): Political involvement (like political interest, subjective political competence), interpersonal assurance (like interpersonal trust, personal efficacy), input legitimacy (=representational procedures), and throughput (=government performance) and output legitimacy. Weatherford [51] relied on available survey indicators. It seems not to matter exactly which indicators are used – to some extent they are interchangeable. How the five dimensions relate to each other is an empirical and open question. It is possible that we find different patterns in different contexts. Empirical studies are needed to investigate this [53].

2.2 Connection of those affected by the decision

For a society to hold together, members need to feel part of a community. There are established instruments to measure this. The validated brief sense of community scale (BSCS) [34] consists of four dimensions – needs fulfillment (NF), group membership (MB), influence (IN), shared emotional connection (EC) – and uses these indicators (for the Swiss context, one can use the German word for municipality instead of neighborhood): "I can get what I need in this neighborhood" (NF), "this neighborhood helps me fulfill my needs" (NF), "I feel like a member of this neighborhood" (MB), "I belong in this neighborhood" (MB), "I have a say about what goes on in my neighborhood" (IN), "people in this neighborhood are good at influencing each another" (IN), "I feel connected to this neighborhood" (EC), and "I have a good bond with others in this neighborhood" (EC). To measure whether citizens link political actions to their lives [31], we suggest using indicators like "What is decided politically in my neighborhood is relevant to me", and "What is decided politically in my neighborhood is related to my life". For sense of belonging, the valued involvement is important (in addition to fitting with a group which is already part of the BSCS) [16]. Valued involvement can be measured via items of the psychological state of sense of belonging indicators (SOBI-P) such as "I do not feel valuable", "I observe rather than participate in life", "I have no place in this world", or "What I offer is valued". The SOBI-P (psychological state scale) is an 18-item scale that is part of the sense of belonging instrument (SOBI), a self-report instrument consisting of two separately scored scales, SOBI-P (psychological

state) and SOBI-A (antecedents). SOBI-P measures the valued involvement or identity/fit with a community. SOBI-A reflects an individual's motivation for sense of belonging and is therefore left out for measuring connection. Empirical research is needed to show which indicators and dimensions are crucial in a political context and how they relate to each other.

3 INNOVATIVE ELEMENTS IN DEMOCRACY

Regarding our two relevant target figures (legitimacy and connection), we identify three central levers: design of decision-making process, participation, and the value of personal interaction.

3.1 Design of Decision-making

We see decision-making mechanisms as highly relevant in the design of decision-making. In a political decision such as a budget process, the decision is normally taken by majority vote. Consequently, the party or coalition in power dominates and often imposes their will on others. In many cases, the majority rule will benefit primarily the followers of this party or coalition, while others might be "forgotten about". Over extended periods of time, this may lead to significant societal imbalances, with the outcome being political dissatisfaction. In a sense, this approach redistributes the power to allocate money from the few to the people. The process should be guided by the question "How can we make more out of the available budget?" and focused on identifying synergy effects. For example, investments that can be used in multiple ways are more favorable than investments that have one purpose only. Similarly, investments that benefit several groups are preferable over investments that benefit one group only. Thus, we suggest research investigating the effects of different voting mechanisms. It is possible that other voting mechanisms, like multi-option ordinal (e.g., Borda count, Condorcet's rule) or multi-option preferential voting (e.g., quadratic voting), are more inclusive [9]. Taking minority perspectives on board might result in solutions that work better for more people. Existing taxonomies of decision-making systems [10] are based on the "number of options on the ballot, the number of preferences a voter may cast, the number of those preferences that are counted, and the character of the procedure used for identifying the winning option" [9]. Basically, one can distinguish 1) binary or adversarial majority vote procedure, 2) multi-option non-preferential procedure, and 3) multi-option preferential procedure. In the binary or adversarial majority vote procedure [1], the choice is binary (yes or no; option X or option Y). These votes are usually subject to a simple majority vote, but may be dependent on a weighted majority vote, and a minimum turnout or quorum may also be required (e.g., plurality, first past the post voting). In a multi-option non-preferential procedure [2], one can choose between more than two options in one or more rounds. The majority still decides, at least in the last round. It is non-preferential because one can indicate only the most preferred option. In the multi-option preferential procedure [3], more than two options are available, and the decision is non-majoritarian. Here, one indicates preferences. This can be done ordinally (ranking) or cardinally (weighting) (e.g., Borda Count, Modified Borda Count, Condorcet's rule, and quadratic voting).

In order to evaluate different voting mechanisms, one should also identify the different interest groups concerned and assess who will benefit or suffer and to what extent from each solution in terms of legitimation and connection. The advantages, disadvantages, and side effects for each group should be identified, mapped out or visualized and discussed. This can be done (at least partly) online. We hypothesize that preferential voting or quadratic voting can contribute to identifying and choosing investment packages that benefit several groups or that are balanced and create synergy effects, e.g., that work for many groups of people, and in this way can sustain or increase legitimacy and connection. First empirical insights show that multi-optional preferential voting makes voters feel more connected with their community [55].

Furthermore, when designing decision-making, we should think about situations with more than one decision, where we want to optimize the combination of decisions. Digital tools could be helpful here. Particular voting scenarios, such as k-approval participatory budgeting, require voters to capture constraints, i.e., the maximum budget. In these scenarios, voters have the option to approve for funding up to k projects that come with their cost. Different combinations of options are valid if they remain within the budget, while other approved options can exceed the available budget. In this type of voting, it is very hard for voters to express their preferences to capture value for money, i.e., combinations of projects with lower cost may have higher value for money than a single, more costly project. This limitation has a computational nature known as the Knapsack problem. In the respective Knapsack voting method [13], voters allocate the budget to different projects. In this way, they can better capture in their preferences the value for money of different combinations of projects. Knapsack voting aligns the constraints of the voters' decisions to those of the decision makers. It is shown to have desirable properties (strategy proofness) that makes it robust to strategic voting.

Other more complex voting scenarios include decision-making in which the voters' choices are inter-dependent in terms of each voter's choice optimality. For instance, consider the scenario of energy consumers who need to choose a schedule for their power demand out of a finite number of discrete scheduling options. If the system goal is to decrease the total power demand, then the schedule with the minimum power consumption is the optimal one. No inter-dependencies are involved. However, if the system goal is to decrease power peaks of the total energy demand, then consumers need to coordinate their choices as each choice influences all other ones. This is because such a goal is evaluated with a non-linear cost function, such as minimizing the variance, where the optimal selection of schedules for each consumer is a combinatorial optimization problem [36]. This scenario demonstrates how influential the design of the decision-making process is in tackling the given problem.

3.2 Participation

As a second lever, we discuss participation. From a collective intelligence perspective, participation is desirable. The term "wisdom of crowds" is rooted in the finding that an average or a combination of opinions of normal people can often trump expert judgments if sufficient diversity is guaranteed [34, 54]. Influencing or manipulating the opinions of contributing people can affect the required diversity

and undermine the wisdom of crowds [24]. However, from a realistic perspective in democracy theory [2, 15, 22], we know that the capacity or willingness of people to be active or involved in politics is limited. This may be because of lack of time, interest, motivation, political education, cognitive capacity, or contextual factors. The question therefore is in which situations, or for which elements, to use participatory elements in a decision-making process such as a budgeting process. We outline three examples below: problem occurrence, allowing for and supporting self-organized participation from citizens (opt-in), and urgency and/or uncertainty.

- Problem occurrence/ blocked situations

People are motivated to participate if there is something to change, or if a problem pressure is present. For instance, in deadlocked issues, one can ask people to participate via pol.is, a digital platform that is used, for example, in Taiwan [21, 30, 48]. On this platform, you can comment, share your feelings and agree or disagree with others, but you cannot reply to comments. The platform highlights the most consensual statements – those that find support across groups – and it draws a map of the debate. In this way, the comment system helps to find consensus. If the division is too big, the issue needs to be further developed. Citizen surveys, citizens' assemblies, visits to people or offering of visiting hours at the governments' side [46], (online) petitions and deliberation, crowd-sensing, or citizen science can also help government to detect citizens' needs or identify their problems.

- Supporting citizens' self- organization and allowing for participation (opt-in)

In some situations, self-organization could be an alternative to the traditional, power-based approach: We live in a complex world, and when it comes to systems such as financial markets, the economy, or our society, one speaks of complex adaptive systems [30]. These are systems made up of many components, some of which are networked with each other. This networked character reflects an interdependency and mutual adaptation, hence the name "complex adaptive systems". The interactions in such systems are often stronger than control attempts from outside the system. This can cause side effects, feedback effects, or cascading effects. While this may cause undesirable outcomes such as market crashes or "tragedies of the commons" (e.g., the exploitation of public goods or environmental destruction), complex adaptive systems often produce desirable outcomes by means of "self-organization" [18]. This can be used for good. For example, changing the interactions (as "complexity science", "mechanism design", and connection science are trying to do) can transform congested traffic flow into free flow or exploitative behavior into cooperation. It can also turn the so-called "madness of crowds" into a "wisdom of crowds" [19, 20, 26]. Self-organization is at least partly in place via the subsidiarity principle (such as that in usage in Switzerland). Subsidiarity means that political or social issues should be dealt with at the lowest possible level. The higher level intervenes if the possibilities of the individual, a smaller group or lower hierarchical level alone are not sufficient to solve a task. Self-organization is already somewhat implemented in Switzerland via direct democracy. Citizens can formulate their own policy ideas via initiatives, and can campaign or participate in the decision-making through casting their vote. Different forms of participation are possible, depending on role, interest, time, and motivation.

A similar lesson can be drawn from "swarm intelligence" found in social animal species. Let us take the example of bee colonies. Some bees play the role of scouts, exploring the environment for food. When they return to the colony, they report to the other bees by means of a particular "bee dance". Based on a collective evaluation, it is then decided which are the best food sources in the neighborhood to harvest [43]. To promote collective intelligence in human decision-making, a four-step process [19] has recently been proposed. These steps are in line with insights from the most likely case for a dialogical public opinion formation process, the Swiss direct democratic decisions [15]:

- Share (= Frame Promotion): During this step, people should share the information, ideas and solution approaches collected. It is helpful to organize these inputs in the form of an argument graph, which illustrates what follows from what and what is connected to what. The purpose of this is to identify different perspectives on the problem at hand. Note that, typically, only the combination of different perspectives will give a good and differentiated picture of a complex problem. In Swiss direct democracy, political actors communicate their perspectives in different channels and over time.
- Deliberate (= Frame Edition): In this step, representatives of the different perspectives are invited to a round table. This is a deliberative process intended to find integrated solutions to the problem. Note that it will often require innovation to find integrated solutions that satisfy different perspectives and expectations. Accordingly, this process cannot be automated. Some have proposed using Massive Open Online Deliberation platforms (MOODs) for this [20]. In the digital democracy of Taiwan [47], for example, people with different opinions are matched to work out agreeable solutions. In Swiss direct democracy, the debate takes place in public and is mediated. Thus, it is a debate already scaled up. The actors active in this phase play a decisive role: Journalists balance out messages, define the range of views, and the story they want to emphasize, investigate existing claims and push their own interpretation. In fact, the media institutions set standards for the flow of communication, and we see that these standards are decisive for the quality of information. By anticipating these standards, the quality of information flow is increased [15].
- Choose (=Decision): If the deliberation process does not lead to the convergence of a great majority of people concerned by the problem at hand, one needs to choose among the integrated solutions. Rather than applying a majority voting procedure, however, there are a number of alternative voting schemes (such as "quadratic voting") [38] that lead to solutions that minimize the overall pain or maximize the overall gain of the solution. In Swiss direct democracy, citizens decide whether to participate, get informed (more or less) and decide about the issue at stake.

In both settings (subsidiarity and Swiss direct democratic campaigns), citizens or the local organizational level can rely on the work of the (higher) administration or on the preparation and

mediating work of politicians, journalists, and institutions. Different levels of participation and roles are possible in this way. The debates of Swiss national referendums in the news media are dialogical to a good extent and arguments are used and important for the choice in general. However, in Swiss direct democracy, people do not always want to take part, with the average participation rate about 45%. If citizens do participate, not all of them become deeply informed. Some people also take short cuts, like adopting the position of their closest party [1, 44]5. Since it is routinized action, citizens can interpret signals and know to a good extent when to become attentive and when they can allow themselves more abbreviated information processing. In fact, direct-democratic decisions are well accepted, and produce legitimacy and connection. The process works relatively well, with the exception that global and long-term perspectives have been less present in the public debate [15]. Self-organization can possibly be implemented in many different variations in decision-making. We need to investigate how self-organization in other contexts or situations can be supported or coordinated, so that it will benefit society, i.e., increase legitimacy and/or connection. For instance, we need to know in what way the local government can best support self-organization and self-organized groups in the budgeting process. The question is also at what level self-organization should be implemented, how to implement Ostrom's design principle of stable local common pool resource management [33], and what motivates people to participate. Furthermore, in times of globalization and digitalization, complex and technical aspects play a central role and might challenge or overstrain policy makers. How can those issues be broadly discussed and how can the general population be motivated to keep up and become lifelong learners?

As part of such a solution, or as an additional option, participation could be modelled as opt-in (i.e., demanded by citizens). We learn from Switzerland, too, that the mere possibility that people could participate influences the process and results in openness to negotiations. In other words, the thread at the elite level of people involvement (via a Referendum or Initiative) helps to find compromise [23]. Opt-in means that a certain number of people can demand the opening of the process. Furthermore, as a side effect, digital elements can help people to get organized. A geolocated app could help to bring together people who have the same interest or preference, to get organized and to collectively demand the opening of the process. Via digital means, citizens can access interesting information and communicate with each other even if they belong to different (minority) groups. They can run their own initiatives and orchestrate participation movements at large scale, which would not be feasible otherwise. Second, personal involvement can increase legitimacy. "Perhaps surprisingly, the results clearly favour one idea over the others: throughout the analyses we find that personal involvement through direct voting increases legitimacy beliefs substantially" [11]. Specialists on a topic or people becoming active should be strengthened enough to raise an alarm and to trigger a participative element.

- Urgency and/or Uncertainty

For urgent problems, or decisions that need to be taken under great uncertainty, we see added value of digital or participatory tools. Usually, political or participation processes are slow and require long deliberation processes. Thus, a solution could be to delegate (part of) the problem to the lower hierarchical level in order to speed up the process and to find good solutions. For instance, during the COVID-19 pandemic, the question of whether high schools can omit exams is an example of a situation where the ad hoc participation of teachers, school kids, parents, etc., could have been useful to work out a solution themselves.

3.3 Digital or Physical? The value of coming together in reality

Personal interaction has a value on its own for human beings. "Only very little, if any, of our standard vocabulary for describing and explaining human relationships fits many of our relationships on the internet" [18] or in the digital world. We should therefore combine digital and physical elements in a way that is good for human beings. An example of this is the concept of proving witnessed presence: "making decision-making subject to providing secure evidence and testifying for choices made in the physical space" [37].

Via witnessed presence, the digital and physical space of decision-making can come together creatively by turning every spot of a city into a real-time digital voting center. In this scenario, citizens can navigate to points of interest in the city that require decisions, for instance, choosing between three different interventions to decrease traffic accidents at a junction. A decision would require proving citizens' presence at the point of interest based on location services run by the Internet of Things. Other social criteria can verify the situational awareness of the citizens on the spot using QR codes, CAPTCHA questions and puzzles (CAPTCHA – a backronym for "Completely Automated Public [Turing test] to tell Computers and Humans Apart" – is a type of challenge-response test used in computing to determine whether the user is human or not). Linking verification criteria to decision-making can have an unprecedented impact on the input and/or throughput legitimacy of the decisions, given that they are evidence-based and a result of high participation activity. Moreover, data generated by witnessed presence can be used for more legitimate policy-making as data are verified by design during the decision-making and data collection processes. However, these aspects are also related to the responsibility required to participate in decision-making subject to witnessed presence. This higher responsibility related to acquiring further information on the spot and getting involved in a more complex decision-making process may discourage citizens from participating in the first place. These trade-offs require further investigation and are the subject of ongoing work.

4 RESTRICTIONS

4.1 Technical Aspects

Democratic digital innovations present several challenges in terms of privacy and anonymity as a result of voters sharing their votes with trusted authorities to be counted in the result [14]. State of the art computing approaches for privacy-preserving decentralized aggregation provide alternative approaches based on the following techniques: (i) Differential privacy and homomorphic encryption to aggregate sensitive data without revealing them [1, 3]; (ii)

Distributed communication protocols to make voting outcomes available to individuals without a trusted mediating party [35]; (iii) Distributed ledgers (blockchain) to empower trust between the nodes of the distributed network counting the voting outcome (proof of stake) [22]; (iv) Informational self-determination for smart personal voting assistants to remain accountable, transparent and free from manipulative nudging goals [36].

4.2 Power and institutional setting

If one or more of these elements should be implemented, they do not take place on a tabula rasa. There are existing power structures and an institutional framework that needs to accept or co-develop these elements. For instance, in an existing budget process, those who have power need to be open to different voting mechanisms or accept input or participation from citizens or residents. Research is needed, for instance, to identify supporting factors, the desirability of governance through technology, who (does not) have an interest in these changes and for what reasons, or in what way existing power structures are compatible with the implementation of collective intelligence. Institutional development (= development of rules and norms) can occur in different patterns [27, 49] and can be more or less transformational and coevolutionary [29, 32, 33]. It involves periods of stability and incremental change, interrupted by abrupt change due to the agenda-setting of key participants in a policy process. This pattern is called 'punctuated equilibrium' [5]. Research is needed in terms of which factors hinder or support the adoption of changes, or how network structures change with these new elements.

5 CONCLUSION

We place human beings at the center of driving democratic innovation. Thus, legitimation and connection should lead us in developing new elements in decision-making processes such as participatory budgeting. We identify design of decision-making, participatory elements, and the value of personal interaction as levers. Regarding design of decision making, we discuss voting mechanisms, the combination of different decision, as well as interdependent decisions in terms of each voter's choice optimality. Regarding participation, we see potential for blocked situations, for self-organized or requested (opt-in) participation, and for urgent or uncertain situations. Third, we emphasize the value of coming together in reality, and suggest thinking about combining digital and physical elements in a useful way. Technical aspects, power, and the existing institutional setting are identified as restrictions. Research into the effects of all these elements on the dependent variables such as legitimacy and connection is needed.

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