

**The potential of Participedia as a crowdsourcing tool for comparative
analysis of democratic innovations**

John Gastil (Penn State), Robert Richards (Penn State) and Graham Smith* (Westminster)¹

* Corresponding author: Centre for the Study of Democracy, University of Westminster, 32-38
Wells Street, London, W1T 3UW. g.smith@westminster.ac.uk

**Paper prepared for the Internet Institute Conference
Crowdsourcing for Politics and Policy, University of Oxford, October 2014.**

Participedia www.participedia.net is an open global knowledge community for researchers and practitioners in the field of democratic innovation and public engagement. It represents an experiment with a new and potentially powerful way to conduct social science research: crowdsourcing data on participatory processes from researchers and practitioners from all over the world and making that data freely available for analysis. This paper reflects on the potential of Participedia to realize its aim of answering the basic research questions: what kinds of participatory processes work best, for what purposes, and under what conditions? Initially the paper reviews the data model that informs Participedia and the types of comparative analysis it might enable. An indicative analysis draws on the Participedia data to explore the relationship between aspects of institutional design (including facilitation, forms of interaction and decision methods) across a range of democratic innovations represented on the platform. The study offers important insights on institutional design, but also on the challenges of crowdsourcing reliable data from disparate communities.

**** *Alongside reading this paper, please visit www.participedia.net* ****

Research on democratic innovations – institutions specifically designed to increase and deepen citizen participation in the political process – has intensified over recent years in an attempt to keep pace with a step-change in activity amongst public authorities and civil society

¹ The analysis presented in this paper would not have been possible without funding from a Social Sciences and Humanities Research Council of Canada (SSHRC) Partnership Development Grant and the UK Economic and Social Research Council (ESRC) Connected Communities consortium *Imagine*. Our thanks to the broader Participedia community (Executive Committee, Partners and Users): without their various contributions this paper would not exist. Thanks also to comments from participants at the ECPR Joint Sessions Workshop, Salamanca, April 2014, where an earlier version of this paper was presented.

organizations across the world (Fung 2003; Gastil and Levine 2005; Smith 2009; Warren 2012). Much ink has been spilled proffering explanations for this increase in participatory politics and the extent to which it represents a significant shift in the nature of contemporary forms of governance. We are blessed with an ever-expanding range of studies of democratic innovations that begin to offer us insights into the conditions under which such institutions are established and sustained, the relationship between different design features and their effect on participants and organizers. What is particularly striking about this particular area of study has been the constructive integration of insights from both democratic theory and political science.

While recognizing the impressive steps that have been taken within our sub-discipline in a relatively short time period, there are obvious limitations to current research. One significant challenge is to move beyond case study research that continues to dominate the field. We have moved a long way from case analysis of causes célèbres, such as participatory budgeting (PB) in Porto Alegre, the British Columbia Citizens' Assembly (BCCA), and Deliberative Polling, that inspired much of the ground-breaking early academic work (particularly amongst democratic theorists). Many of the emerging case studies are more methodologically sophisticated and focus not just on apparent success stories, but also on failed (or normatively disappointing) cases. But where research has moved beyond case studies and is explicitly comparative in ambition, it is typically small/medium-N (Ryan and Smith 2012). While our understanding of democratic innovations is moving forward, our capacity to effectively systematize comparison is limited compared to other, more established areas of political science. The disadvantage takes at least two forms.

First, the unit of analysis is relatively vague when compared to more traditional institutions and practices of democratic politics, such as constitutions, elections, legislatures, courts, and public opinion. What counts as a democratic innovation or form of participatory governance? We have yet to capture, and only begun the task of categorising, the full range of designs enacted around the world; and the creativity of practitioners and activists will ensure that any categorization is highly contingent. Our first problem then is that we are still not sure what designs make up the population of democratic innovations; and this population is likely to change over time.

The second problem for systemized comparative analysis is that, unlike more established branches of political science, we do not have large-N databases that capture relevant variables of the practice of democratic innovations. Where political scientists focus on public participation, it tends to be on survey data of individual-level political activity, whether conventional or unconventional. Participation in democratic innovations is rarely considered in such analysis. Unlike the traditional objects of political science, no official records or statistics

on the variety and spread of democratic innovations exist. Where single research groups have collected data, they tend to be geographically and temporarily limited and for sound pragmatic reasons collapse the design of different innovations into a small number of generic types.²

Enter Participedia

Participedia (PP) www.participedia.net can be understood as an ambitious attempt to harness the potential of new technologies – and the interest and goodwill of research teams and practitioners around the world – to respond to these two data challenges. PP is an open global knowledge platform in the field of democratic innovation and public engagement that was the brainchild of two prominent democratic theorists, Archon Fung and Mark Warren.³ PP's current form is the result of a collaborative effort across a number of research institutes and civil society organizations.⁴

The motivation for PP begins with the recognition that we are simply unaware of the range of democratic experimentation across the world. The scope, diversity and complexity of activity in this ever-changing field far exceed the reach of any research team (however well-funded and multi-national) using traditional data collection methods. Any data collection and collation strategy needs to recognise that knowledge of democratic innovations is highly dispersed, across different communities of practice who have organised, sponsored, evaluated or participated in such processes. These (at times overlapping) communities include university researchers and students, public authority and civil society practitioners, activists and citizens.

Initially based on MediaWiki software (from 2009), PP migrated to Drupal, an open-source content management platform in late 2011. PP's main content is articles on *cases* of participatory governance, such as the BCCA and PB in Porto Alegre. PP also houses two other types of contribution: *methods* (e.g., participatory budgeting, Deliberative Polling) and *organizations* (e.g., Involve, Deliberative Democracy Consortium (DDC)).

User-generated articles on cases have two main components.⁵ The first is a text description. Contributors are free to structure information in whatever way they see fit, although the data entry form provides a suggested structure as a prompt for key elements of design and to ease

² An impressive example is the work of the research teams led by Joan Font that have collected data on local participation exercises in regions of Spain (Font et al 2014; Font and Smith 2014). See <http://cherrypickingproject.wordpress.com>.

³ This explanation of the history and structure of PP draws and expands on Fung and Warren (2011).

⁴ See <http://www.participedia.net/content/team>

⁵ Methods articles also have the same structure, although less work has been undertaken to clean and restructure the fixed data fields.

comparison and analysis of entries. Suggested categories are: purpose; history; originating entities and funding; participant selection; deliberation, decisions and public interaction; influence, outcomes and effects; analysis and lessons learned; secondary sources; external links; notes.

The second element of each case article is a set of structured data. PP requests data across a range of fields including: geo-coded location; dates of operation; policy area; geographical scope; number of participants; methods of selection, participation, deliberation and decision; sponsoring organizations and costs. Many of the variables capture dimensions of design choice. It is these structured data that form the basis of the search engine on the platform, allowing users to filter and limit search results. Users are able to download a CSV file of all fixed field data for all or selected cases.⁶

Both the text description and structured data are wiki-enabled: other contributors are able to add or revise information, with previous versions available for comparison. The data collection method for PP is thus structured and decentralized: offering a mixture of soft guidance and fixed data fields, PP relies on crowdsourcing data from users dispersed around the world. As of August 2014, PP has over 1700 registered users: registration is necessary to add content (whether new or revised). PP houses 440 cases, 92 methods and 356 organisations.

PP is well placed to respond to the two challenges for systematic comparative research on democratic innovations that we articulated in the introduction to this essay. First, its data collection strategy means that many of the cases on the platform are not well known and have not been the subject of sustained academic analysis. Members of the Executive Committee of PP that represents some of the most well-established academics and practitioners in the field continue to be surprised by the appearance of cases of participatory governance of which they were previously unaware. This is without doubt one of the main virtues of the platform: for both academics and practitioners, contributions to PP have the potential to extend our imagination as to what is possible in participatory governance. PP is already disrupting established attempts to categorize the class of democratic innovations. It certainly offers variety when it comes to case selection for more in-depth studies. The majority of the contributions remain from North America and Europe (an unfortunate side-effect of the location of the most active research groups on the platform): as contributions are generated from further afield, additional cases that destabilize common assumptions about democratic innovations will doubtless emerge.

Second, the data captured in the articles provides the basis for systematic comparative analysis

⁶ <http://www.participedia.net/en/research>

of democratic innovations: both within type (e.g., participatory budgeting, mini-publics) and across types. The platform allows for systematic content analysis of text descriptions and/or statistical analysis of the datasets generated from the structured data fields.

An indicative analysis of PP data: interrogating deliberative attributes

Most of the efforts of the PP collective have been focused on developing the usability of the platform and populating cases. In 2013, members of the UK team – Matthew Ryan (Southampton) and Graham Smith (Westminster) – working with the Drupal developers Affinity Bridge in Canada improved the download functionality and reliability for the fixed field data for cases. At this point, Robert Richards and John Gastil (both Penn State) undertook preliminary analysis, both to provide feedback to the PP team about the quality of the data and, with Smith, to explore how the data might be used for research into participatory democracy and deliberative engagement.

The indicative analysis aims to use the PP database to explore the development and impact of democratic innovations, with particular focus on deliberative processes. Deliberative democracy has emerged as the dominant mode of analysis in contemporary democratic theory and experiments with associated practices – for example, citizens’ juries, deliberative polls, study circles, town meetings, etc. – have been extensive (Gastil and Levine 2005). In this paper, we are interested in exploring the relationship between design attributes (such as selection mechanism, form of interaction, facilitation and decision methods) as well as associations between these design variables and outcomes, in particular the impact on the policy process. One of the key objectives is to ascertain whether data from cases can generate suitable variables for systematic analysis of the relationship between the attributes of deliberative public events and projects housed on PP. For example, can PP provide insights into the extent to which deliberative exercises have had an impact on the political process?

The analysis draws its inspiration from the variables described in Gastil, Katie Knobloch and Meghan Kelly’s essay ‘Evaluating Deliberative Public Events and Projects’ (2012) where the authors generate a synthetic approach to evaluation. Their analytical framework focuses on four basic principles that the authors argue are of interest to both academics and practitioners:

To call themselves deliberative civic engagement projects... such efforts either do, or should, share concern with... basic procedural principles: (1) maintaining design integrity; and (2) producing sound deliberation and judgment. In addition, projects can be assessed in terms of the outcomes they engender. Here, more variation occurs between different program objectives, but nearly all projects seek to generate (3)

influential conclusions and/or actions. For some processes, it will be enough for deliberation to yield recommendations that carry influence, whereas other programs will emphasize taking direct action, whereby citizens not only talk, but *work* together to exert their influence. Finally, the greatest variation in purposes comes from the wide range of (4) long-term effects on public life that deliberative engagement processes hope to realize. (Gastil, Knobloch and Kelly 2012: 209-10)

From a codebook (Richards and Gastil 2013) based on the Gastil et al framework, 29 variables are generated from articles: a mixture of fixed-field data (indicated in Table 1 below with an asterisk) associated with cases and content analysis of the text description. The variables based on text descriptions are five-point Likert-type scales with mid-point of 3 and poles of “strongly disagree” and “strongly agree.” The content analysis was performed by a single coder and inter-coder reliability was not measured.⁷ Two index variables were also created – see Table 1 below and Appendix A for a description of each variable.

Initially, the characteristics of the PP dataset (at the point in time of the analysis, $N = 304$) are analysed in relation to three fixed-field variables that have (at least theoretically) a potential effect on deliberative quality:

- facilitation (presence/absence)
- form of interaction (active/passive/combined – active methods are defined as either ‘discussion, dialogue or deliberation’ or ‘negotiate or bargain’)
- decision method (voting/non-voting/multiple/no decision)

The four matrices (Appendix D) offer a high-level characterization of the cases in PP. The first matrix, dealing with facilitation and whether the mode of interaction is relatively active or passive, shows that half of the cases in PP involve both facilitation and active interaction modes, such as deliberation, dialogue, and negotiation. The next most common category (16% of all cases) involves active interaction without facilitation. The second matrix, which assesses facilitation and decision method, shows that one quarter of PP cases combine facilitation with a non-voting decision-making process—such as taking the sense of the room—while 17 percent combine facilitation with voting, and the same share combine facilitation with ‘No Decision’ (where the latter is a variable constructed from fixed-field data including techniques such as

⁷ Content analysis was performed using Neuendorf’s (2002: 53-54) ‘descriptive’ method. The unit of analysis was an individual case on PP. For each case, a three-step procedure was used. First the coder analyzed the fixed field data for the case, and coded the variables *Interaction Type*, *Facilitation* and *Decision Method*. Second, the coder read the text of the case. Third, the coder coded each variable in the codebook (Richards and Gastil 2013).

opinion polling and the collection of panelists' comments, as in Deliberative Polls). In the third matrix, which crosses interaction mode with decision method, the most common category of PP case is active interaction combined with a non-voting decision method (making up 25% of all cases), followed by voting method with active interaction (18% of all cases) and active interaction plus 'No Decision' (14% of all cases). The fourth matrix, which crosses all three attributes—facilitation, interaction mode, and decision method—shows that the three most common categories of PP cases all combine facilitation with active interaction, and then add a non-voting decision method (19% of all cases), voting (13%), or 'No Decision' (12%).

Not unexpectedly given the diversity of institutional forms classified as democratic innovations, the characteristics of the PP dataset indicate that only a proportion of the cases exhibit deliberative attributes (as defined by presence of facilitation and/or active interaction). A purposive sample of 81 cases was selected for the PP dataset for further analysis, with the goal of ensuring inclusion of cases in a rough proportion to the percentages displayed in each cell of the matrices. Time and resource constraints meant that at this point analysis of further cases was not possible.

Table 1 *Descriptive Statistics*

Variable	Obs.	Mean	Std. Dev.	Min.	Max.
Active Interaction*	81	0.67	0.47	0	1
Mixed Interaction*	81	0.14	0.34	0	1
Discussion, Dialogue, or Deliberation*	81	0.77	0.43	0	1
Decision Method: Voting*	81	0.37	0.49	0	1
Decision Method: Non-Voting*	81	0.37	0.49	0	1
No Decision Made*	81	0.20	0.40	0	1
Experts Had Relevant Knowledge	29	3.69	1.07	0	5
Opportunity for Developing New Solutions	31	3.10	0.47	2	4
Time Provided to Consider Pros and Cons	26	3.15	0.46	2	4
Facilitation*	81	0.63	0.49	0	1
Trained Facilitators	39	3.79	0.70	3	5

Limitation of Debate	41	3.90	0.30	3	4
Intended Purpose: Consultation*	81	0.42	0.50	0	1
Intended Purpose: Co-governance*	81	0.26	0.44	0	1
Intended Purpose: Make Public Decisions*	81	0.09	0.28	0	1
Intended Purpose: Exercise Some Power of Decision*	81	0.35	0.48	0	1
Intended Purpose: Direct Delivery of Public Services*	81	0.03	0.16	0	1
Intended Purpose: Raise Public Awareness*	81	0.31	0.47	0	1
Intended Purpose: Community Building*	81	0.10	0.30	0	1
Intended Purpose: Develop Individual Capacities*	81	0.04	0.19	0	1
Intended Purpose: Other*	81	0.03	0.16	0	1
Random Sample*	76	0.29	0.46	0	1
Stratified Sample	66	1.39	1.75	0	5
Representative Sample	51	3.10	0.70	2	5
Sufficient Time to Make Decision	28	2.00	1.44	0	4
Index: Democratic Attributes	51	3.88	0.37	3	4.5
Index: Analytic Attributes	54	3.33	0.53	1.33	4.33
Full Spectrum of Solutions Considered	42	3.26	0.45	3	4
Influence on Policy	60	3.63	0.80	2	5

Note. $N = 81$. The unit of analysis is an individual case on *Participedia*. Some variables have fewer than 81 observations due to missing data. See text for details.

* indicates variable based on fixed-field data from *Participedia* dataset. Other variables created through content analysis of case text description.

Design attributes

The majority of variables generated from the PP data can broadly be conceived as attributes of the design of democratic innovations: they focus on aspects of the selection mechanism of participants; the form of interaction between participants; the way in which participants come to a decision or recommendation; and the intended purpose of the initiative.

Correlations between the various variables indicate that the PP data confirm expectations about the design of democratic innovations (Appendix B, Table 2).⁸ For example, if we focus on the variable *Discussion, dialogue or deliberation* as a characteristic of an initiative we find *positive* associations with three variables related to the selection of participants that capture diversity and inclusiveness and/or ensure presence of particular groups: *Random, Stratified* and *Representative Sample*. This resonates with the literature on deliberative democracy (theory and practice) that places strong emphasis on the importance of realizing political equality.

Similarly we find *positive* associations between *Discussion, dialogue or deliberation* and with variables that tell us something about the quality of democratic talk in these events: *Facilitation, Sufficient time to make decision* and *Limits on debate in favor of other forms of interaction*. The first two variables are relatively self-explanatory; the third indicates that the procedures of the event provide for ‘non-debate’ forms of communication; potentially less confrontational modes of engagement that include (for example) discussion, use of focus groups, submission of questions to experts and politicians and individual interviews. In many circumstances, interaction means more than a traditional conception of debate.

It is no surprise that similar patterns are found for *Facilitation* for the same selection criteria and design characteristics. Realizing *Limitations on debate* arguably requires active intervention to promote different forms of engagement between participants. Facilitation is also positively associated with the observed/reported conduct variable *Full Spectrum of Solutions Considered* that we consider to be a measure of the quality of deliberation.

While these relationships between design variables are very much as deliberative theorists and practitioners might expect, two sets of associations generate particularly interesting insights. Both at a theoretical and practical level, the relationship between deliberation as process and decision methods used in engagement exercises is contested. For example, there is some theoretical concern that mechanisms of collective choice may generate opinion polarization.

⁸ The table of correlations between the 29 variables is too large to present in this paper. We present only the correlations for *Discussion, Dialogue or Deliberation* and *Facilitation* in Appendix B, Table 2. For a copy of the full correlation table, please contact the authors.

According to proponents, this tendency is avoided in deliberative polling by simply collecting and collating individual opinions through surveys (Sunstein 2000; Smith 2009: 99-100). In practice, it appears that this is not a concern shared by practitioners crafting deliberative designs. The presence of discussion, dialogue or deliberation is *negatively* associated with inconclusive conclusion methods captured by *No Decision Made*, where the latter is a variable constructed from fixed-field data including techniques such as opinion polling and the collection of panelists' comments (without the requirement of coming to agreement).

The second association is a positive one between *Discussion, dialogue or deliberation* and the *Intended purpose: consultation* variable. This indicates that deliberative processes are being designed to inform decision makers of the perspectives of participants, rather than giving them decision making powers. This issue is one that we can explore in more depth by analyzing the dependent variable *Influence on policy* that was generated through the content analysis of case descriptions.

Impact on policy

While there may be many reasons to run a deliberative exercise, including empowerment of participants, community building and public awareness, for many democratic theorists a particular interest is in the extent to which such processes have an effect on political decisions. Analysis of variance (ANOVA) was performed to explore the influence of the four matrices we used to develop this analysis (Appendix D) – and their components – on the dependent variable *Influence on Policy* (and on each of the variables measuring aspects of design). No analyses had sufficient statistical power to detect significant results (Cohen, 1988). Our expectation is that as the sample size increases, significant associations may become perceptible.

Regression models were then run focused on the interaction of the design variables in Table 1 with *Influence on Policy*. We report on regression models where statistically significant associations are present (Tables 3 through 7 in Appendix C). We find strong positive statistical association with *Intended Purpose: Co-governance* (sharing power) (Table 3) and *Intended Purpose: Exercise Some Power of Decision* (combination of co-governance and make final decision) (Table 4), with the significant influence of the latter due entirely to the former. That cases having these intended purposes manifested an influence on policy is consistent with expectations (or it may indicate that the case authors coded the intended purpose on the basis of the outcome).

Three other variables in our sample reached statistical significance in explaining influence on policy. *Intended Purpose: Raising Public Awareness* is *negatively* associated with influence on

policy (Appendix C, Table 5). Moreover, representativeness of the sample (a variable developed through content analysis of cases) is *negatively* associated with the influence of a democratic innovation on policy (Appendix C, Table 6). In other words where policy effect is found, participants tend not to be adequately representative of the stakeholders. A related result appears in the *negative* association between stratification – a technique aimed at rendering samples representative – and influence on policy (Appendix C, Table 7). These findings are clearly in tension with the ‘all-affected principle’ that guides many deliberative democrats.

What appears as a marginalization of deliberative exercises from policy effect is reinforced if we return to the correlations between design variables (Appendix B, Table 2). Here we find that the variables *Intended Purpose: Co-governance* and *Intended Purpose: Exercise Some Power of Decision* are not significantly associated with either *Discussion, dialogue or deliberation* (Appendix B, Table 2) or *Active interaction*.⁹ While *Discussion, dialogue or deliberation* is positively associated with *Intended Purpose: Consultation* (Appendix B, Table 2), this does not seem to lead to any noticeable policy effect.¹⁰ The deliberative design of public engagement and policy influence appear to be orthogonal to each other – a potentially gloomy finding for deliberative theorists, practitioners and activists.

Further reinforcement (if needed) of the marginalization of deliberative processes from political power comes from correlations of the variables *Intended Purpose: Co-governance*, *Intended Purpose: Make Public Decisions*, and *Intended Purpose: Exercise Some Power of Decision*, which are all positively and significantly associated with the *Decision Method: Voting* variable.¹¹ Putting this finding alongside the lack of policy effect of deliberative designs suggests that (at least for the cases in this sample), public authorities appear to have a preference for plebiscite-like methods when their aim is to empower citizens to share or take power in policy decisions.

On the usefulness of data

These indicative results on a sub-sample of the PP population of cases demonstrate that the fixed-field data have value for quantitative analysis, and that the text descriptions of cases can yield useful data for content analysis. PP fixed-field data can be used as variables in their own

⁹ Correlation of *Intended Purpose: Co-governance* and *Active Interaction*: $r = 0.12$ (n.s.). Correlation of *Intended Purpose: Exercise Some Power of Decision* and *Active Interaction*: $r = 0.018$ (n.s.).

¹⁰ When *Influence on Policy* is regressed on *Discussion, dialogue or deliberation*, estimated regression coefficient = -0.106 (n.s.). When *Influence on Policy* is regressed on *Intended Purpose: Consultation*, estimated regression coefficient = -0.091 (n.s.).

¹¹ Correlation of *Intended Purpose: Co-governance* and *Decision Method: Voting*: $r = 0.246$, $p < .05$. Correlation of *Intended Purpose: Make Public Decisions* and *Decision Method: Voting*: $r = 0.31$, $p < .01$. Correlation of *Intended Purpose: Exercise Some Power of Decision* and *Decision Method: Voting*: $r = 0.41$, $p < .01$.

right, can furnish the basis for constructed variables (such as the *Active* and *Mixed Interaction* variables used in this study), and can shed light on other fixed-field variables as well as variables developed through content analysis of the text descriptions of PP cases.

Analysis reveals substantial multicollinearity among certain design variables – namely *Opportunity for Developing New Solutions*, *Time Provided to Consider Pros and Cons*, *Use of Trained Facilitators*, *Limitation of Debate*, and *Sufficient Time to Make Decision* – as well as between those variables and the observed/reported conduct variable *Full Spectrum of Solutions Considered*. This multicollinearity may stem in part from the variables measuring the same phenomenon, and in part from shortcomings in the coding scheme of the text description for articles that led to frequent use of the code ‘neither agree nor disagree’ to designate ambivalence regarding the variables. To address this multicollinearity, there is scope to combine individual inter-related variables into index variables that can illuminate broader components of the deliberative process.

We are currently experimenting with two index variables constructed from the design variables based on the Gastil et al (2012) framework. The first focuses on the analytic attributes of the deliberative process:

To count as an instance of ‘democratic deliberation’, a project must meet a high standard for the quality of deliberative talk in which its participants and other actors engage... a deliberative meeting involves a rigorous information base, explicit polarization of key values, an identification of alternative solutions (sometimes preconfigured beforehand, but often still subject to amendment), and careful weighing of the pros and cons. (Gastil et al 2012: 211)

The second index variable focuses on the democratic (social) attributes of the process:

Exclusive focus on problem-solution analysis, per se, would make our conception of deliberation overly rationalistic and ignore the social aspect of deliberation. One might say that the social component of deliberation is what makes it *democratic* deliberation. Requirements of equal opportunity, mutual comprehension and consideration and respect attempt to mitigate the marginalizing effects of traditional power dynamics and make the clear the implicit emphasis on inclusion and diversity in deliberation. (Gastil et al 2012: 211)

We have been through a number of iterations of these two index variables (current iterations are in Appendix A) and here the challenge is one familiar to political scientists more generally:

what theoretically we would like to include in our analysis is not always easy to measure! The PP fixed data variables do not always map well to the desired evaluative framework; neither is it easy to draw these evaluative criteria from a content analysis of the narrative case descriptions.

With a larger sample, the possibility of discovering statistically significant associations between variables through analysis of variance (where currently there are none) and regression models will increase. Also, an increase in N will allow for the creation and analysis of improved index variables. A class of 19 students taking the advanced undergraduate class on 'Democratic Deliberation' with John Gastil at Penn State University in the Spring Semester 2014 have coded 10 further cases each: with 2 coders per case, the analysis will soon be extended to include a further 95 cases.

Challenges for PP

PP faces a number of challenges in relation to data collection that will affect its potential to enable systematic comparative analysis of democratic innovations – and arguably the platform's long-term sustainability. The PP collective is very open to any ideas on how to respond to any of these challenges – and any resources to make them happen...

Data quality

Data quality can be affected in a number of ways. As PP is a crowdsourcing venture, the quality of the initial data uploaded on a case rests on the knowledge and understanding of the particular author. PP does not request information on the capacity in which the author is able to make judgements on the characteristics of the case. (Perhaps it should?) The initial development model of PP is a wiki, but currently there is relatively little re-editing of cases, beyond staff and students employed by the research groups that make up the PP collective. In 2012/13, for example, the Ash Center employed a group of Harvard Kennedy School students to edit cases with missing data (textual and fixed-field). We have discussed the possibility of highlighting cases that have been 'peer reviewed', but given the lack of available resources, this is currently not a feasible option and would require the development and servicing of a broader editorial board.

The second area that affects data quality is the nature of the data request by PP. Most obvious is the clarity of some of the explanations of the fixed data requests. For example, an author may not be clear about the distinction between 'random selection' and 'targeted recruitment'. This is a relatively simple action (although has associated development costs). A more

challenging problem relates to the 'unit of analysis'. Democratic innovations are complex affairs and many combine different engagement mechanisms (in parallel or sequence) and change over time. How to capture this dynamism – and ensure that 'cases' are comparable units?

Finally, while much work has gone into improving the data quality for cases, little attention has been given to methods. This is a crucial element of the PP project: categorising the different approaches to participatory governance. Currently as cases are added, users are self-identifying methods. At some point these need to be collated and possibly re-classified.

Outcome data

In the indicative analysis of the deliberative attributes of democratic innovations, we generated the dependent variable *Influence on policy* through content analysis of the text description of each case. A second dependent variable, *Full spectrum of solutions considered* was also coded through content analysis, although not reported to a great extent in the analysis.¹² The fixed-field data primarily relate to design characteristics of the participatory process, which in their 2011 article on PP, Fung and Warren refer to as relatively *objective* data. These they compare to more *subjective* data:

Subjective data are comprised of contributors' judgements about which reasonable people might differ. Examples include judgements about the normative purposes of a process, their relative importance, and the extent to which they were achieved. Or judgements about the extent to which participants represented affected populations. Other such judgements will include dimensions of issues – say, the degree to which opinion is polarized, the complexity of the issue, or other such qualities. (Fung and Warren 2011: 357)

Their suggested solution to the relative lack of such data related to cases is the addition of expert surveys that will be available when contributions are made to an article, or can be actively solicited. By also collecting information on who has assessed the case, survey results can be weighted by those undertaking analysis. The survey is in the very early stages of development, with tests underway to ascertain the value and reliability of data collected in this manner.

Crowdsourcing strategy

¹² The correlations displayed fewer significant associations: with *Active Interaction* ($r = 0.306, p < .05$), *Mixed Interaction* ($r = -0.266, p < .1$), and *Facilitation* ($r = 0.282, p < .1$) only.

PP rests on a crowdsourcing model for data collection. However, a ‘build-it-and-they-will-come’ mentality will not suffice to generate and sustain crowdsourcing on the platform (although 400 plus articles without a social media campaign is pretty impressive). PP has paid relatively little attention to exploring the various motivations of potential contributors, including university researchers and students, public authority and civil society practitioners, activists and citizens who have organised, sponsored, evaluated or participated in democratic innovations. This is the first step in identifying the factors that stimulate and sustain engagement with the platform.

Researchers at the University of Westminster’s Centre for the Study of Democracy (CSD), with funding from the Economic and Social Research Council (ESRC) Connected Communities consortium *Imagine*,¹³ have undertaken focus groups and quasi-experimental research on the attitudes of practitioners towards PP and their willingness to contribute materials (Hall et al 2014). In its present form, it appears that PP is not as attractive to practitioners as it is to academics and students, and it will be relatively rare for practitioners to upload data directly. There may be ways to change the incentive structure, but at least in the short- to medium-term, the majority of contributions are likely to come from the academic community. There is a sub-set of organizers of participatory processes that are willing to contribute, but appear to require the wiki functionality to be closed for their cases. This very much goes against the spirit of PP, but may explain the reluctance of some public authority practitioners in particular to contribute.

An interesting development has been the incorporation of PP into the teaching curriculum (Penn State, Southampton, Westminster), with the authoring, editing and/or coding of cases being a required element of module assessment. This is set to expand, with further guidance to tutors on the platform. A potential development of this strategy will be to explicitly link groups of students with particular practitioner organizations or public authorities who would oversee the uploading of data on the initiatives that they have sponsored or organized.

Further developments

Other areas where PP has development plans include a bibliography/repository and data presentation/visualization. PP could become the repository for the increasing number of data sets that are being generated on aspects of participatory governance (including the one created for this paper) – where possible, linking these data sets to PP data. In the practitioner focus groups undertaken by CSD, more than once participants expressed surprise that they were not able to access papers and reports relating to the cases and methods – and participatory

¹³ <http://www.imaginecommunity.org.uk>

governance more broadly. A repository for relevant materials would be a relatively simple extension of PP – and one that would be a service to both academic and practitioner communities.

PP allows users to undertake relatively sophisticated searches using the fixed data in cases. But this is not the only way to search/visualize data. The map on the front page is extremely popular, although its functionality is currently limited. There are ways of extending the search and visualization capacities of the map – and also other forms of data graphics. As the content on PP expands, there is a real danger of data overload. We need to reach out to those with more experience in data management to consider, for example, the use of text-based algorithms to automatically structure content and experimentation with tools and approaches for users to add additional content and their own meta-data to cases stored on the platform. At present users are restricted by the architecture of the platform established by the core team.

This points to perhaps the most fundamental challenge to PP: its governance. The Executive Committee and Key Partners of PP represent some of the main research centers on democratic innovations in the US and Europe and include two of the leading US practitioner organizations: DDC and the National Coalition for Dialogue and Deliberation (NCDD). Its geographical reach is limited and there is a perception that it is rather US-focused in both content and its approach to the subject area. The core team is also currently weak in experience in social media, crowdsourcing and data visualization. But governance is not simply a question of geographical and disciplinary representation. PP is a project that focuses on democratic innovation and participatory governance, but arguably has not focused enough attention on its own democratic credentials. What should the governance model be for an initiative such as PP? Can its structured but dispersed model of data collection be realized at the level of governance? What would this mean in practice?

Concluding remarks

PP represents a significant development in our understanding of the scope and range of democratic innovations around the world. It promises to deliver insights into how to better categorize our field of study. Our indicative analysis of the deliberative attributes of participatory processes provides evidence that both the textual and fixed-field data can support large-N systematic comparative analysis. PP remains an ambitious international project and one that will only succeed if researchers and practitioners around the world support its basic mission, engage with the development of content and use the data to inform analysis and hopefully more effective democratic practice.

Bibliography

Cohen, J. (1988). *Statistical Power Analysis For the Behavioral Sciences* (2nd ed.), Hillsdale, NJ: Lawrence Erlbaum.

Font, J., della Porta, D. and Sintomer Y. (2014) *Participatory Democracy in Southern Europe: Causes, Characteristics and Consequences*, London: Roman and Littlefield.

Font, J. and Smith, G. (2014) 'From Participatory Policy Proposals to Local Policies: Explaining Diverse Trajectories', paper prepared for the 2014 ECPR Joint Sessions, Salamanca, Spain.

Fung, A. (2003), 'Survey Article: Recipes for Public Spheres: Eight institutional design choices and their consequences,' *The Journal of Political Philosophy*, Vol. II (3), pp.338-367

Fung and Warren (2011) 'The Participedia Project: An Introduction', *International Public Management Journal*, 14: 1-22.

Gastil, J., Knobloch, K., and Kelly, M. (2012). 'Evaluating deliberative public events and projects', in T. Nabatchi, J. Gastil, M. Weiksner, and M. Leighninger (eds) *Democracy in motion: Evaluating the practice and impact of deliberative civic engagement*, New York: Oxford University Press, pp. 205-230

Gastil, J. and Levine, P. (eds) (2005). *The Deliberative Democracy Handbook: Strategies for Effective Civic Engagement in the 21st Century*, San Francisco: Jossey-Bass.

Goodin, Robert E. and John S. Dryzek 2006. 'Deliberative Impact: The Macro-political Uptake of Mini-Publics', *Politics and Society* 34: 1-26

Hall, J., Jamieson, G. and Smith, G. (2014) *Report for Participedia on Practitioner Focus Groups and a Quasi-Experiment*, London: Centre for the Study of Democracy.

Neuendorf, K. A. (2002) *The Content Analysis Guidebook*, Thousand Oaks, CA: Sage.

Richards, R., and Gastil, J. (2013) *Participedia case codebook*, University Park: Pennsylvania State University Department of Communication Arts and Sciences.

Ryan, M. and Smith, G. (2012) 'Towards a comparative analysis of democratic innovations: lessons from a small-n fsQCA of participatory budgeting', *Revista Internacional de Sociología (RiS)*, 70 (Extra2): 89-120.

Smith, G. (2009) *Democratic Innovations: Designing Institutions for Citizen Participation*, Cambridge: Cambridge University Press.

Sunstein, C. R. (2000) 'Deliberative Trouble? Why Groups Go To Extremes', *Yale Law Journal* 110: 71-119.

Warren, M. E. (2009) 'Governance-Driven Democratisation,' *Critical Policy Studies*, Vol. 3 (1), pp. 3-13

Appendix A: Description of Variables

Active Interaction is a nominal, dichotomous variable, with values of 1 (meaning that the *Participedia* Interaction Type field is coded exclusively with one or both of “Discussion, Dialogue, or Deliberation” and “Negotiate & Bargain”) and 0 (meaning that the *Participedia* Interaction Type field has some other coding or codings).

Mixed Interaction is a nominal, dichotomous variable, with values of 1 (meaning that the *Participedia* Interaction Type field coding includes one or both of “Discussion, Dialogue, or Deliberation” or “Negotiate & Bargain,” AND one or more of the Interaction Types other than “Discussion, Dialogue, or Deliberation” and “Negotiate & Bargain”), and 0 (meaning that the *Participedia* Interaction Type field has some other coding or codings).

Discussion, Dialogue, or Deliberation is a nominal, dichotomous variable, with values of 1 (meaning that the *Participedia* Interaction Type field coding included “Discussion, Dialogue, or Deliberation”), and 0 (meaning that the *Participedia* Interaction Type field did not include “Discussion, Dialogue, or Deliberation”).

Decision Method: Voting is a nominal, dichotomous variable, with values of 1 (meaning that only value in the *Participedia* Decision Method field is “Voting”) and 0 (meaning that the *Participedia* Decision Method field contains some other value or values).

Decision Method: Non-voting is a nominal, dichotomous variable, with values of 1 (meaning that the *Participedia* Decision Method field contains only one or both of “Sense of the room” or “Other”) and 0 (meaning that the *Participedia* Decision Method field contains some other value or values).

No Decision Made is a nominal, dichotomous variable, with values of 1 (meaning that the *Participedia* Decision Method field contains only one or both of “N/A” and “Opinion Surveys”) and 0 (meaning that the *Participedia* Decision Method field contains some other value or values).

Experts Had Relevant Knowledge is a discrete, ratio variable with values of 0 (meaning that, based on the coder’s reading of the text of the *Participedia* case, the variable is not applicable to the case), 1 (meaning that, based on a reading of the text of the *Participedia* case, the coder STRONGLY DISAGREES with the statement: “The subject-matter experts possessed knowledge or expertise relevant to the issue”), 2 (meaning that the coder DISAGREES with the previous

statement), 3 (NEITHER AGREES NOR DISAGREES with the statement), 4 (AGREES with the statement), 5 (STRONGLY AGREES with the statement).

Opportunity for Developing New Solutions is a discrete, ratio variable with values of 0 (meaning that, based on the coder's reading of the text of the *Participedia* case, the variable is not applicable to the case), 1 (meaning that, based on a reading of the text of the *Participedia* case, the coder STRONGLY DISAGREES with the statement: "Sufficient time was reserved for identifying new solutions"), 2 (meaning that the coder DISAGREES with the previous statement), 3 (NEITHER AGREES NOR DISAGREES with the statement), 4 (AGREES with the statement), 5 (STRONGLY AGREES with the statement).

Time Provided to Consider Pros and Cons is a discrete, ratio variable with values of 0 (meaning that, based on the coder's reading of the text of the *Participedia* case, the variable is not applicable to the case), 1 (meaning that, based on a reading of the text of the *Participedia* case, the coder STRONGLY DISAGREES with the statement: "Panelists were given sufficient time to evaluate the advantages and disadvantages of the proposed solutions"), 2 (meaning that the coder DISAGREES with the previous statement), 3 (NEITHER AGREES NOR DISAGREES with the statement), 4 (AGREES with the statement), 5 (STRONGLY AGREES with the statement).

Facilitation is a nominal, dichotomous variable, with values of 0 (meaning that the *Participedia* Facilitation fixed field is coded "No") and 1 (meaning that the *Participedia* Facilitation fixed field is coded "Yes").

Trained Facilitators is a discrete, ratio variable with values of 0 (meaning that, based on the coder's reading of the text of the *Participedia* case, the variable is not applicable to the case), 1 (meaning that, based on a reading of the text of the *Participedia* case, the coder STRONGLY DISAGREES with the statement: "The procedures provide for trained facilitators to moderate discussions among panelists"), 2 (meaning that the coder DISAGREES with the previous statement), 3 (NEITHER AGREES NOR DISAGREES with the statement), 4 (AGREES with the statement), 5 (STRONGLY AGREES with the statement).

Limitation of Debate is a discrete, ratio variable with values of 0 (meaning that, based on the coder's reading of the text of the *Participedia* case, the variable is not applicable to the case), 1 (meaning that, based on a reading of the text of the *Participedia* case, the coder STRONGLY DISAGREES with the statement: "The procedures sufficiently limit the debate format to allow for other forms of communication"), 2 (meaning that the coder DISAGREES with the previous statement), 3 (NEITHER AGREES NOR DISAGREES with the statement), 4 (AGREES with the statement), 5 (STRONGLY AGREES with the statement).

Intended Purpose: Consultation is a nominal, dichotomous variable with values of 1 (meaning that the *Participedia* fixed field for “Intended Purpose: Consultation” is coded “Yes”), and 0 (meaning that the *Participedia* fixed field for “Intended Purpose: Consultation” is coded “No”).

Intended Purpose: Co-governance is a nominal, dichotomous variable with values of 1 (meaning that the *Participedia* fixed field for “Intended Purpose: Co-governance” is coded “Yes”), and 0 (meaning that the *Participedia* fixed field for “Intended Purpose: Co-governance” is coded “No”).

Intended Purpose: Make Public Decisions is a nominal, dichotomous variable with values of 1 (meaning that the *Participedia* fixed field for “Intended Purpose: Make Public Decisions” is coded “Yes”), and 0 (meaning that the *Participedia* fixed field for “Intended Purpose: Make Public Decisions” is coded “No”).

Intended Purpose: Exercise Some Power of Discretion is a nominal, dichotomous variable with values of 1 (meaning that either *Intended Purpose: Co-governance* or *Intended Purpose: Make Public Decisions*, or both, have a value of 1), and 0 (meaning that both *Intended Purpose: Co-governance* and *Intended Purpose: Make Public Decisions* have a value of 0).

Intended Purpose: Direct Delivery of Public Services is a nominal, dichotomous variable with values of 1 (meaning that the *Participedia* fixed field for “Intended Purpose: Direct Delivery of Public Services” is coded “Yes”), and 0 (meaning that the *Participedia* fixed field for “Intended Purpose: Direct Delivery of Public Services” is coded “No”).

Intended Purpose: Raise Public Awareness is a nominal, dichotomous variable with values of 1 (meaning that the *Participedia* fixed field for “Intended Purpose: Raise Public Awareness” is coded “Yes”), and 0 (meaning that the *Participedia* fixed field for “Intended Purpose: Raise Public Awareness” is coded “No”).

Intended Purpose: Community Building is a nominal, dichotomous variable with values of 1 (meaning that the *Participedia* fixed field for “Intended Purpose: Community Building” is coded “Yes”), and 0 (meaning that the *Participedia* fixed field for “Intended Purpose: Community Building” is coded “No”).

Intended Purpose: Develop Individual Capacities is a nominal, dichotomous variable with values of 1 (meaning that the *Participedia* fixed field for “Intended Purpose: Develop Individual Capacities” is coded “Yes”), and 0 (meaning that the *Participedia* fixed field for “Intended Purpose: Develop Individual Capacities” is coded “No”).

Intended Purpose: Other is a nominal, dichotomous variable with values of 1 (meaning that the *Participedia* fixed field for “Intended Purpose: Other” is coded “Yes”), and 0 (meaning that the *Participedia* fixed field for “Intended Purpose: Other” is coded “No”).

Random Sample is a nominal variable with values of 0 (meaning that according to the text of the *Participedia* case the sample was not randomly selected), 1 (meaning that according to the text of the *Participedia* case the sample was randomly selected), and 2 (meaning that according to the text of the *Participedia* case two or more samples were used and at least one was randomly selected and at least one was not, or there was one sample and part of the sample was randomly selected and part of the sample was not, or the initial stage of the sample was not randomly selected but a subsequent stage was randomly selected).

Stratified Sample is a discrete, ratio variable with values of 0 (meaning that, based on the coder’s reading of the text of the *Participedia* case, the variable is not applicable to the case), 1 (meaning that, based on a reading of the text of the *Participedia* case, the coder STRONGLY DISAGREES with the statement: “The sample was stratified or otherwise adjusted to make it generally representative of all of the major demographic groups in the population”), 2 (meaning that the coder DISAGREES with the previous statement), 3 (NEITHER AGREES NOR DISAGREES with the statement), 4 (AGREES with the statement), 5 (STRONGLY AGREES with the statement).

Representative Sample is a discrete, ratio variable with values of 0 (meaning that, based on the coder’s reading of the text of the *Participedia* case, the variable is not applicable to the case), 1 (meaning that, based on a reading of the text of the *Participedia* case, the coder STRONGLY DISAGREES with the statement: “The sample adequately represents individuals or groups who are stakeholders regarding the issue being deliberated”), 2 (meaning that the coder DISAGREES with the previous statement), 3 (NEITHER AGREES NOR DISAGREES with the statement), 4 (AGREES with the statement), 5 (STRONGLY AGREES with the statement).

Sufficient Time to Make Decision is a discrete, ratio variable with values of 0 (meaning that, based on the coder’s reading of the text of the *Participedia* case, the variable is not applicable to the case), 1 (meaning that, based on a reading of the text of the *Participedia* case, the coder STRONGLY DISAGREES with the statement: “Panelists received sufficient time to make their final decisions”), 2 (meaning that the coder DISAGREES with the previous statement), 3 (NEITHER AGREES NOR DISAGREES with the statement), 4 (AGREES with the statement), 5 (STRONGLY AGREES with the statement).

Index: Democratic Attributes is an index variable, consisting of the mean of *Trained Facilitators* and *Limitation of Debate*. It is a continuous, ratio variable with a minimum potential value of 0 and a maximum potential value of 5. In the current sample, the minimum value is 3 and the maximum value is 4.5.

Index: Analytic Attributes is an index variable, consisting of the mean of *Experts Had Relevant Knowledge*, *Opportunity for Developing New Solutions*, and *Time Provided to Consider Pros and Cons*. It is a continuous, ratio variable with a minimum potential value of 0 and a maximum potential value of 5. In the current sample, the minimum value is 1.33 and the maximum value is 4.33.

Full Spectrum of Solutions Considered is a discrete, ratio variable with values of 0 (meaning that, based on the coder's reading of the text of the *Participedia* case, the variable is not applicable to the case), 1 (meaning that, based on a reading of the text of the *Participedia* case, the coder STRONGLY DISAGREES with the statement: "On the whole, the panelists' discussion explored a full spectrum of solutions to the issue"), 2 (meaning that the coder DISAGREES with the previous statement), 3 (NEITHER AGREES NOR DISAGREES with the statement), 4 (AGREES with the statement), 5 (STRONGLY AGREES with the statement).

Influence on Policy is a discrete, ratio variable with values of 0 (meaning that, based on the coder's reading of the text of the *Participedia* case, the variable is not applicable to the case), 1 (meaning that, based on a reading of the text of the *Participedia* case, the coder STRONGLY DISAGREES with the statement: "The group's decision or information about the group's post-deliberation attitudes and opinions, *influenced policy*"), 2 (meaning that the coder DISAGREES with the previous statement), 3 (NEITHER AGREES NOR DISAGREES with the statement), 4 (AGREES with the statement), 5 (STRONGLY AGREES with the statement).

Appendix B: Correlations

Table 2

Pairwise Correlations Between Discussion Dialogue, or Deliberation; Facilitation; and Other Variables, Regarding Cases Described in Participedia

	Discussion, Dialogue, or	
	Deliberation	Facilitation
Active Interaction	0.659***	0.380***
Mixed Interaction	0.134	-0.069
Discussion, Dialogue, or Deliberation	1.000	0.420***
Decision Method: Voting	-0.058	-0.100
Decision Method: Nonvoting	0.183	-0.047
No Decision Made	-0.238**	0.060
Experts Had Relevant Knowledge	0.173	-0.198
Opportunity for Developing New Solutions	0.123	0.009
Time Provided to Consider Pros and Cons	0.122	0.042
Facilitation	0.420***	1.000
Trained Facilitators	0.100	0.347**
Limitation of Debate	0.380**	0.380**
Intended Purpose: Consultation	0.235**	0.186*
Intended Purpose: Co-governance	0.062	0.045
Intended Purpose: Make Public Decisions	-0.141	-0.037
Intended Purpose: Exercise Some Power of Decision	-0.027	0.020
Intended Purpose: Direct Delivery of Public Services	0.088	-0.043
Intended Purpose: Raise Public Awareness	-0.072	0.014
Intended Purpose: Community Building	0.183	-0.003
Intended Purpose: Develop Individual Capacities	0.109	0.015
Intended Purpose: Other	-0.100	-0.043
Random Sample	0.235**	0.367***
Stratified Sample	0.393***	0.207*
Representative Sample	0.372***	0.340**
Sufficient Time to Make Decision	0.817***	0.270
Index: Democratic Attributes	0.049	0.314**
Index: Analytic Attributes	0.104	-0.136
Full Spectrum of Solutions Considered	0.151	0.282*
Influence on Policy	-0.056	0.094

Note. $N = 81$. Unit of analysis is a case in *Participedia*. Figures are pairwise Pearson correlation coefficients, calculated using the Stata *pwcorr* command. One asterisk indicates $p < .1$ (two-tailed). Two asterisks indicate $p < .05$ (two-tailed). Three asterisks indicate $p < .01$ (two-tailed). See text for details.

Appendix C: Regression models

OLS linear regression models were estimated, to assess the influence of the independent variables on the dependent variable, *Influence on Policy*. Five independent variables are shown to have a statistically significant influence on the dependent variable *Influence on Politics*. Two relate to *Intended Purpose* variables. The direction of association is unsurprising. We find strong positive statistical association with *Intended Purpose: Co-governance* (sharing power: Table 3) and *Intended Purpose: Exercise Some Power of Decision* (combination of co-governance and make final decision: Table 4), with the significant influence of the latter is due entirely to the former. There is a strong negative association with *Intended Purpose: Raise Public Awareness* (Table 5).

Table 3

OLS Linear Regression Model of Influence of Deliberation on Policy, Regarding Cases Described in Participedia

Variable	
Intended Purpose: Co-governance	0.614*** (0.21)
Constant	3.44*** (0.118)
R^2	0.129
$Adj. R^2$	0.114
$F_{(1, 58)}$	8.58***
RMSE	0.755

Note. $N = 60$. Number of cases was reduced from total of 81 by listwise deletion due to missing data. Cell entries are coefficient estimates; numbers in parentheses are estimated standard errors. Three asterisks indicate $p < .01$ (one-tailed). See text for details.

Table 4

OLS Linear Regression Model of Influence of Deliberation on Policy, Regarding Cases Described in Participedia

Variable	
Intended Purpose: Exercise Some Power of Decision	0.611***

	(0.197)
Constant	3.39***
	(0.125)
R^2	0.142
Adj. R^2	0.127
$F_{(1, 58)}$	9.58***
RMSE	0.749

Note. $N = 60$. Number of cases was reduced from total of 81 by listwise deletion due to missing data. Cell entries are coefficient estimates; numbers in parentheses are estimated standard errors. Three asterisks indicate $p < .01$ (one-tailed). See text for details.

Table 5

OLS Linear Regression Model of Influence of Deliberation on Policy, Regarding Cases Described in Participedia

Variable	
Intended Purpose: Raise	
Public Awareness	-0.489**
	(0.232)
Constant	3.76***
	(0.116)
R^2	0.071
Adj. R^2	0.055
$F_{(1, 58)}$	4.42**
RMSE	0.78

Note. $N = 60$. Number of cases was reduced from total of 81 by listwise deletion due to missing data. Cell entries are coefficient estimates; numbers in parentheses are estimated standard errors. Two asterisks indicate $p < .05$ (one-tailed). Three asterisks indicate $p < .01$ (one-tailed). See text for details.

Arguably the most interesting and intriguing association is with *Representativeness of the Sample* – a variable created to capture the inclusion of individuals or groups who are stakeholders regarding the issue under consideration. Table 6 below shows the results. *Representativeness of Sample* is shown to be negatively associated with the influence of a deliberation on policy: a one-unit increase in *Representativeness of the Sample* is associated with a 0.4-unit decrease on average in the influence of the deliberation on policy.

Representativeness of Sample accounts for a small share—approximately 8 to 10%—of the variance in *Influence on Policy*, however. Table 7 shows a related result: the use of stratification—a technique aimed at rendering samples representative—is negatively associated with policy influence: a one-unit increase in the use of stratification is associated with a 0.17 unit decrease, on average, in *Influence on Policy*, and this association accounts for approximately 12 percent of the variation in *Influence on Policy*.

Table 6

OLS Linear Regression Model of Influence of Deliberation on Policy, Regarding Cases Described in Participedia

Variable	
Representativeness of Sample	-0.406** (0.195)
Constant	4.86*** (0.634)
R^2	0.103
Adj. R^2	0.079
$F_{(1, 38)}$	4.34**
RMSE	0.866

Note. $N = 40$. Number of cases was reduced from total of 81 by listwise deletion due to missing data. Cell entries are coefficient estimates; numbers in parentheses are estimated standard errors. Two asterisks indicates $p < .05$ (one-tailed). Three asterisks indicate $p < .01$ (one-tailed). See text for details.

Table 7

OLS Linear Regression Model of Influence of Deliberation on Policy, Regarding Cases Described in Participedia

Variable	
Stratified Sample	-.167*** (0.059)
Constant	3.82*** (0.131)
R^2	0.138
Adj. R^2	0.120

$F_{(1, 50)}$	7.97***
$RMSE$	0.75

Note. $N = 52$. Number of cases was reduced from total of 81 by listwise deletion due to missing data. Cell entries are coefficient estimates; numbers in parentheses are estimated standard errors. Three asterisks indicate $p < .01$ (one-tailed). See text for details.

Appendix D. Matrices

1. Facilitation x Interaction Type

	Interaction:					
	Active ¹		Passive ²		Combined: Active & Passive ³	
	<i>N</i>	%	<i>N</i>	%	<i>N</i>	%
Facilitated: Yes	152	0.50	17	0.06	34	0.11
Facilitated: No	47	0.16	34	0.11	20	0.07

Note. *N* = 304⁹

2. Facilitation x Decision Method

	Decision Method									
	Voting ⁴		Non-Voting ⁵		Multiple ⁶		No Decision ⁷		Unknown ⁸	
	<i>N</i>	%	<i>N</i>	%	<i>N</i>	%	<i>N</i>	%	<i>N</i>	%
Facilitated: Yes	51	0.17	74	0.24	5	0.02	53	0.17	20	0.07
<u>Facilitated: No</u>	32	0.11	30	0.10	3	0.01	21	0.07	15	0.05

Note. *N* = 304

3. Interaction Type x Decision Method

	Decision Method									
	Voting ⁴		Non-Voting ⁵		Multiple ⁶		No Decision ⁷		Unknown ⁸	
	<i>N</i>	%	<i>N</i>	%	<i>N</i>	%	<i>N</i>	%	<i>N</i>	%
Interaction: Active	55	0.18	75	0.25	5	0.02	43	0.14	21	0.07
Interaction: Passive	11	0.04	12	0.04	1	0.00	18	0.06	9	0.03
<u>Interaction: Combined</u>	17	0.06	17	0.06	2	0.01	13	0.04	5	0.02

Note. *N* = 304

Detailed Matrix

4. Facilitation (2) x Interaction Type (3) x Decision Method (5)

Interaction: Active
Decision Method

	Voting ⁴		Non-Voting ⁵		Multiple ⁶		No Decision ⁷		Unknown ⁸	
	N	%	N	%	N	%	N	%	N	%
Facilitated: Yes	41	0.13	58	0.19	4	0.01	35	0.12	14	0.05
Facilitated: No	14	0.05	17	0.06	1	0.00	8	0.03	7	0.02

Note. N = 304

Interaction: Passive
Decision Method

	Voting ⁴		Non-Voting ⁵		Multiple ⁶		No Decision ⁷		Unknown ⁸	
	N	%	N	%	N	%	N	%	N	%
Facilitated: Yes	2	0.01	5	0.02	0	0.00	8	0.03	2	0.01
Facilitated: No	9	0.03	7	0.02	1	0.00	10	0.03	7	0.02

Interaction: Combined (Active & Passive)
Decision Method

	Voting ⁴		Non-Voting ⁵		Multiple ⁶		No Decision ⁷		Unknown ⁸	
	N	%	N	%	N	%	N	%	N	%
Facilitated: Yes	8	0.03	11	0.04	1	0.00	10	0.03	4	0.01
Facilitated: No	9	0.03	6	0.02	1	0.00	3	0.01	1	0.00

Notes to Matrices

- 1 A case is coded as "Active" if the *Participedia* InteractionType consists exclusively of one or both of the following: "Discussion, Dialogue, or Deliberation" and "Negotiate & Bargain"
- 2 A case is coded as "Passive" if the *Participedia* InteractionType consists exclusively of one or more of the Interaction Types other than "Discussion, Dialogue, or Deliberation" and "Negotiate & Bargain."
- 3 A case is coded as "Combined: Active & Passive" if the *Participedia* InteractionType consists of one or both of the Interaction Types "Discussion, Dialogue, or Deliberation" or "Negotiate & Bargain," AND one or more of the InteractionTypes other than "Discussion, Dialogue, or Deliberation" and "Negotiate & Bargain."
- 4 A case is coded as "Decision Method: Voting" if "Voting" is the only Decision Method included in the *Participedia* data.
- 5 A case is coded as "Decision Method: Non-Voting" if the *Participedia* Decision Method includes either "Sense of the Room" or "Other."
- 6 A case is coded as "Decision Method: Multiple" if the *Participedia* Decision Method includes two or more of "Voting," "Sense of the Room," and "Other."
- 7 A case is coded as "Decision Method: No Decision" if the *Participedia* Decision Method includes "Opinion Survey" or "NA."
- 8 A case is coded as "Decision Method: Unknown" if no *Participedia* Decision Method is indicated.
- 9 The sample consists of all case-articles in the *Participedia* database as of July 26, 2013, except that where a case is represented by two or more articles in different languages, only one of these articles -- the one for which the most fixed field data is available -- has been included.