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Democratic Engagement and Public Policy: From Conceptualization to Implementation

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Abstract

This study assesses the fit between a range of democratic engagement processes focused on science, technology and innovation policy and the policy agenda. The study identified 82 studies from 1992 to 2014, coded the processes both using the International Association of Public Participation (IAP2) spectrum, which measures the degree of involvement of publics using specific criteria, and according to which of the five stages of the policy cycle (agenda setting, design/policy formulation, decision making, implementation and evaluation) there were directed towards. The research finds that public engagement in advanced industrial democracies is diverse, involving various forms of communication and discourse, including but not limited to informing, consulting, involving, collaborating, and empowering between government, the public and stakeholders at various stages in the policy cycle. The analysis establishes that the level of public engagement is highest during the agenda setting, design and decision-making stages, relatively low during the implementation and evaluation stages of the policy-making cycle and that there is a notable lack of empowerment in all stages of the public engagement process in the policymaking.

Keywords: democratic engagement; public participation; citizen involvement; science, technology and innovation; public policy cycle; empowerment.

Introduction and Background

Over the last three decades the role of the public in decision-making and the policy process has evolved from normative recognition to the practical implementation of a range of models for public engagement. According to the Organization for Economic Cooperation and Development (OECD, 2009) ‘public engagement is a condition for effective governance’ (p. 13), as governments need to collaborate with their citizens and other stakeholders to resolve the complex domestic and global challenges that they face. Inclusive governance in policy making is usually recommended as a way of improving democratic performance. The working assumption is that these processes help mobilize unique insights and support of citizens, civil society organizations, industry and diverse stakeholders as governments seek to shape the course for new policies and improve policy outcomes. Public engagement offers governments the opportunity to better understand the needs of its citizens and provides a wider range of information and resources. Despite the hypothesized potential of public engagement mechanisms cited in the literature, an explicit causal connection between public engagement and improved democratic performance, decision-making and impact is yet to be demonstrated.

The public engagement rhetoric has become synonymous with citizen involvement in decision-making in many sectors. Engagement processes are mostly driven by increasing demand for greater public involvement and access to information, as well as the notion that engaging citizens in decision-making processes is helpful for resolving major national challenges. Changing public expectations have generated demands for improved consultation and engagement in order to reframe issues to better meet citizens’ expectations and needs (NCCHPP, 2009). Citizens and related advocacy groups seek significant and influential roles in shaping policies and decisions that affect them. They also assert they want their values and interests to be reflected in policy decisions. As individuals and groups demand more representation of their values, interests and beliefs in governing systems and related policies and decisions, a broad selection of engagement models has been developed and tested in certain policy areas, with the aim of bridging the gap between the theoretical and the empirical (Phillips, 2012).

This article explores the practical use of a range of engagement models in the science, technology and innovation policy space, over the 1992-2014 period. The article first explores the evolution of the engagement process, and then explores the various conceptualizations and models of engagement, lays out our framework for analysis, assesses the use of various engagement

models in the context of the policy cycle and concludes with a discussion of the gaps between the theory and practice of engagement.

Evolution of engagement in the policy system after 1990

The concept of democratic engagement is fairly new. A National Collaborating Centre for Healthy Public Policy (NCCCHPP, 2009) report notes that deliberative democracy has been thriving only since the 1990s, with an increasing focus on the inclusion of civil society in government decision-making processes. The emergence of deliberative models of public engagement represents a marked shift in public participation methods, as governments shift from a one-way form of communication to two-way dialogues and, sometimes, more integrated collective deliberation and decision-making.

The demand for citizen participation in the policy process has been most intense in the field of science and technology. The OECD recognized the importance of public consultation vis-à-vis technological issues in 1979 (OECD, 2009). The organization asserts that several factors make science and technology-related issues distinct from other public debates. Advances in science and technology usually evoke feelings of insecurity, as they trigger rapid change with effects that may be severe or irreversible. The novelty of a technology or innovation causes fear, uncertainty, a lack of understanding and, at times, ethical and social concerns (ibid.)

In the science, technology and innovation space, public engagement seeks to involve the public in deliberations about the controversies and uncertainties around a range of emerging technologies (Chilvers et al., 2018; Lezaun et al., 2016). According to Kearnes et al. (2006), agricultural biotechnology (agbiotech) during the 1990s became a major policy issue across the globe, triggering efforts to incorporate more stakeholder and citizen voices in decisions on the potential uses of this new technology. Given the growing controversies around agbiotech, especially those related to genetically modified crops, governments in a number of advanced industrial economies began experimenting with novel methods of public engagement. Many of these engagement models used dialogue and deliberation tools in an attempt to rebuild public trust and manage the heated controversies in the sector (House of Lords Select Committee, 2000). Medlock and Einsiedel (2014) opine that these public deliberations were not meant to replace decision-making via the conventional electoral and legislative tools but should instead be viewed as complementary methods of handling political stalemate and discord over key policy issues.

The underlying problem is that technological applications often raise important social issues that rightly require political deliberation and decisions (Papaioannou, 2012). Some uses of the technology raise ethical, legal, economic, and cultural issues that are beyond the knowledge and expertise of government. Transformative technologies like biotechnology exemplify this policy challenge and prompted calls for greater public engagement and debates on the concerns raised by uptake and use of such new tools.

Medlock and Einsiedel (2014) identify three drivers for understanding the role of public engagement in the assessment of new technological innovation: increasing discontent with the limitations of linear policymaking; discontent with the limitations of science as a central base for decision-making; and the changing environment for decision-making characterized by growing social networks or movements and their demands for new forms of governance. The response to this changing context was the inclusion of more voices in policy and decision-making or democratic engagement practices.

Conceptualizing Democratic Engagement: Definition, Gaps and Conceptual Vagueness

A generally-agreed definition of democratic engagement remains elusive. However, in line with the objectives of this research, this paper adopts Health Canada's definition of citizen engagement as the 'public's involvement in determining how a society steers itself, makes decisions on major public policy issues and delivers programs for the benefit of people.'¹ This definition was adopted because it synthesizes the democratic engagement scholarship and incorporates the views of other prominent scholars in the field of modern governance (e.g. Osborne and Gaebler, 1992). Most authors agree that democratic engagement is at root about involving citizens as an important part of governance and should enable individual citizens to express their concerns around specific issues and partake in decision-making.

Several different terms have been used to describe the concept of citizen engagement in the science and technology space within the academic literature, including technology assessment, public participation, deliberative democracy, deliberative processes and technological citizenship, among others. Despite these differences in conceptualization, there is a general agreement on the

¹ <https://www.canada.ca/en/health-canada/corporate/about-health-canada/reports-publications/health-canada-policy-toolkit-public-involvement-decision-making.html>

need for new and different engagement. A major reason for the promotion of public engagement is that debates around technological developments now involve both discussions on the kind of expertise to employ and the extent to which public views should be incorporated in the decisions themselves. Frankenfeld (1992), for instance, explains that citizen/public engagement in Europe is described by the concept of technological citizenship, which he refers to as a "new social contract of complexity" (p. 459). Implicit in Frankenfeld's conception of citizen engagement is the notion that citizens possess civil, political and social rights and duties, as well as rights relative to technological development due to its effects on them as members of a polity.

The variations in the terminology used to describe public engagement amplifies the conceptual vagueness of the term. A critical review of the public engagement scholarship reveals several gaps relative to the concept. Despite the extensive literature, there is still a lack of clarity on how the concept is theorized or how it should be evaluated to determine its effectiveness. There is also no consensus on which activities should constitute democratic engagement.

Scholars hold a range of views about the impact of democratic engagement. Some proponents assert engaging the public gives institutions an opportunity to re-examine their policies and practices and to build trust and legitimacy for a specific approach or policy (e.g., Wynne, 2006). Advocates of public engagement say it boosts agreement among diverse stakeholders in the policy process, considers the public's perspectives, births a knowledgeable and engaged public and ensures that the decision-making process is transparent, legitimate and accountable. (e.g., NCCHPP, 2009). Public engagement also could boost the quality of decision-making, foster public debate and address the democratic deficit by involving citizens in decision-making on issues that affect them (e.g., Andersen and Jaeger, 1999; Delli Carpini et al., 2004). Turnbull and Aucoin (2006: 13) further argued that the democratic public engagement improves the "social capital, social trust and civic knowledge" in the policy-making process. This thread asserts that public engagement is inherently a tool for democratic governance.

Another school of thought questions the conceptualization of public engagement as a solution to democratic deficits within national governments. Authors like Mohr (2008) and Stirling (2008) argue that deliberative processes or public dialogue could actually work to prevent the emergence of alternative views or conceal the divergent views that usually characterize a specific issue, especially when the process has a major focus on consensus. Implicit in this stance, is the depiction of democratic engagement as a solution in search of a problem. Jones (2011) opines that

the role and purpose of democratic engagement is unclear, triggering his concern that engagement exercises may not actually influence decisions, but instead may simply be used to generate a sense of legitimacy for decisions that are already made. The author posits that the problems which democratic engagement purports to solve are sometimes overlooked in the construction of the processes. Jones questions the impact of democratic engagement on policy or the difference the concept has made. Phillips (2012) contends that while there has been an increase in the number of countries striving to operate on democratic principles in the last few decades, their performance has failed to meet the growing expectations of both individuals and groups in society. While democratic governments aspire to be more open, responsive and reflexive as they address complex policy issues, there is a lack of clarity of the specific problem(s) democratic engagement is designed to resolve and little or no evidence that the processes actually achieve the desired goals. Phillips concluded his discussion by asking: ‘if democratic engagement is the answer, then what is the question?’ (p. 47). Scheufele (2011) responds with the assertion that democratic engagement mechanisms appear to have failed to accomplish the purpose for which they were created, pointing to the considerable variations between empirical realities and normative hopes.

The effect of public engagement on policy decision outcomes is an open question. Medlock and Einsiedel (2014) found scant evidence of any direct impact of consensus conferences on agbiotech policy decisions in their assessment. They specifically looked at the use of consensus conferences and noted that the events were either held *after* key policy decisions had been made, or were not directly linked to policy deliberations and decisions in countries like Japan, the UK, Canada and Australia. Castle (2014) cautioned that it may be impossible to know how the outputs and results of public engagement mechanisms are actually employed by governments because they are usually interested in preserving their legitimacy as decision-making authorities. This is especially true in parliamentary and cabinet government systems, where decisions are collegially made and defended.

Research Objectives and Strategy

The rest of this paper critically assesses the implementation of various democratic engagement mechanisms in terms of their alignment with key stages with the decision-making and policy process. In spite of the vast literature on what democratic engagement entails and the

plethora of deliberative mechanisms, there is little empirical evidence of its uptake and use in the policy system or assessment of if, or how, it resolves democratic challenges or how it affects decision outcomes. The democracy versus engagement conundrum requires further assessment. For instance, a public engagement process that employs the citizens' jury model involving 15 to 25 lay citizens engaged in a rigorous learning process on a specific issue, though engaging, may be heavily engaged but may not necessarily constitute a democratic representation of the public.

This study first draws on the contemporary academic scholarship on democratic engagement in over fifteen countries in order to develop a set of broad indicators for assessing its implementation across the five policy stages of agenda setting, design/policy formulation, decision-making, implementation and evaluation. Secondly, it evaluates the practical implementation of the main democratic engagement models using the International Association of Public Participation (IPA2) public participation spectrum to encode and assess that nature of the process. The central goal is to assess the variations that exist between the theorization of public engagement and its practical application.

Unpacking Democratic Engagement Mechanisms

The fundamental idea of democratic public engagement is to include citizens in the different stages of the policy-making process to deliver a more participatory, accountable, and collaborative policy outcome. The goal of this analysis is to assess the progress towards that goal and to inform policy makers of the state of the art in engagement processes in policy-making.

There are many pathways and mechanisms that characterize public engagement in the decision- and policy-making process. The number of engagement mechanisms is ostensibly large, with diverse types of meetings, workshops, conferences, and other fora, displaying many common elements and interchangeable labels (Phillips, 2012). Rowe and Frewer (2000) propose an array of public engagement models including: referenda, public hearings, public opinion surveys, negotiated rule making, consensus conferences, citizen juries or panels, citizen advisory committees, and focus groups. Phillips (2012) includes an additional model, the expert advisory group, describing it 'as a proxy for public input' (p. 55). These nine methods will be briefly explored in this section.

The first model explored in the Rowe and Frewer typology are referenda. Referenda most often involve national or local population members or a substantial proportion of these two groups. They often comprise a choice of one or two alternatives, with equal levels of influence for all participants and a final outcome which is irrevocable. Plebiscites are less formal, often only providing a sounding on public attitudes. Both processes are highly structured and there is no room for any supplementary feedback or for choosing other than the prescribed options. Public hearings, public opinion surveys and negotiated rule-making, make up the second, third and fourth models respectively. Rowe and Frewer (2000) describe public hearings as a one-way communication characterized by presentations and testimonies, with little debate among stakeholders or between the stakeholders and the government agency that commissions or empanels the process. Although the public may express their opinions, they have no explicit pathway to feed them in and influence on the recommendations and decisions. Meanwhile, public opinion surveys are information-gathering tools that usually involve large population samples or specific segments of interest. Surveys are often administered through written questionnaires or by telephone with a selection of questions, so that the scope of input from respondents is narrowed and defined. The negotiated rulemaking model, for its part, consists of a handful of representatives from stakeholder groups, which may include public representatives, and often requires general agreement on a specific question. Recommendations from this model usually feed into government deliberations and often affects policy.

The consensus conference is another model that has been used to directly engage citizens in decision-making. At the core of this model is a group of 12-15 citizens without any required prior knowledge on the topic (Einsiedel et al., 2001), selected to represent the general population (Rowe and Frewer, 2000). After pinpointing major issue areas and grilling experts, the citizen panel arrives at a consensus, with the conclusions on principal issues presented to the public either via report or press conference. With the citizens' jury model, approximately 12 to 20 members of the public are chosen by stakeholders to represent the local population. Unlike the consensus conference, citizens' jury meetings are not open to the general public. The citizen panel grills the experts and meeting outcomes are communicated in a report or through press conference.

For the citizen/public advisory committee, small groups representing the opinions and views of various groups or communities are selected to examine crucial issues and interact with industry and government representatives. Lastly, the focus group model comprises a small group

of five to twelve selected representatives of the public for a conversation on a general topic, with video or tape recording. There is little input or guidance from the facilitator who assesses the opinions and attitudes of the discussants (ibid.)

In contrast to Rowe and Frewer's taxonomy of democratic engagement, Arnstein's typology is illustrated using a ladder pattern, with each rung matching the extent of citizens' power in influencing the final result in decision-making. Her categorization of participation identifies three main categories (citizen power, tokenism, non-participation) and eight different levels. Arnstein (1969, p. 415) opines that 'citizen participation is a categorical term for citizen power', but also notes the difference between engaging in a valueless participation exercise and being powerful enough to influence the outcome of the process. Her typology involves eight different levels of participation that focus on control, with manipulation at the lowest level and citizen control as the highest. The two bottom rungs, manipulation and therapy denote levels of non-participation that are engineered to replace genuine participation. Rungs three and four representing informing and consulting respectively are placed in the level of tokenism by the author, because although these categories allow citizens voices to be heard, there is no assurance that their views will be reflected in the end result. At the next rung, which Arnstein refers to as placation, citizens may offer advice, but the ultimate decision lies with the power holders. Rung 6 represents partnership and is described by Arnstein as involving some form of negotiation and engagement between citizens and state representatives. At the topmost rungs, delegated power and citizen control, citizens are in absolute control of decision-making according to this typology. The ladder of participation typology is not without criticisms. Carpentier (2016) posits that the model wrongly suggests the existence of easy borders between the various separated positions. Moreover, the multi-dimensional nature of participatory processes also makes them hard to be represented by Arnstein's ladder-based illustration.

Despite these public participation efforts, there is scant evidence of their roles in actually contributing to policy design and development or in improving public acceptance. Phillips (2012), shown in table 1, assessed Rowe and Frewer's nine different public engagement models against Dahl's (1998) five standards for democracy—equal and effective opportunities for participation, equal voting, equal and effective opportunities for learning about policy options and implications, membership control of the agenda, and universal suffrage.

Table 1: Assessing engagement as a contribution to democratic norms

	Equal participation	Equal voting	Learning opportunities	Membership control of agenda	Universal suffrage
Referenda	High	High	Low-medium	Low	High
Public hearings	Low-medium	Low-medium	Medium	Medium	Low
Public opinion surveys	High	High	Low	Low	Low
Negotiated rule making	Low	Low	Medium-high	High	Low
Consensus conferences	Low-medium	Low	High	Varies	varies
Citizen's jury/panel	Low-medium	Medium	High	Varies	Varies
Citizen's advisory committee	Low-medium	Low	High	Varies	Varies
Focus group	Low-medium	Low-medium	High	Varies	Varies
Expert advisory group	Low	Low	High	High	Low

Source: Phillip's (2012) categorization based on criteria offered by Dahl (1998)

Because none of these public engagement models show an explicit connection to democratic norms, it is impossible to offer specific advice to policy makers on which models to choose to solve the problem of a democratic deficit (ibid.) Phillips (2012), therefore cautions against the inclination towards a quick conclusion that democratic engagement is the solution, without clearly identifying the problem it is expected to resolve.

The International Association for Public Participation (IAP2) has usefully defined a Public Participation Spectrum that collapses these typologies into five different classifications of public involvement (IAP2 2007), using the Rowe and Frewer typology as a base. Their Spectrum of Public Participation consists of informing, consulting, involving, collaborating and empowering, with the impact on decisions increasing as one moves from informing to empowering. The five levels of public involvement briefly include:

- Inform - provide information to help the public understand the issue and all available options.
- Consult - acquire feedback from the public.

- Involve - ensure that public concerns are adequately reflected along the policy process.
- Collaborate - establish public participation at every level of the decision-making process.
- Empower - final decision-making is assigned to the public.

Table 2 offers a visual representation of this classification and assigns an ordinal ranking of 1-5 that signals the contribution to Dahl’s democratic norms as illustrated in table 1, which is then used below to encode the academic literature on the processes used in the reference period.

Table 2: Public Participation Spectrum

Type	Characteristics	Examples	Level
Inform	Provide information to understand issues and options.	Fact sheets, websites and information booths, open houses	1 --Low
Consult	Acquire public feedback. Acknowledge concerns and provide feedback on how public input influenced the decisions.	Focus groups, surveys, public meetings and comments	2 Low-Medium
Involve	Public concerns directly reflected in alternatives developed.	Workshops, deliberate polling	3 Medium
Collaborate	Public advice and recommendations are incorporated into decisions to the maximum extent possible.	Consensus building	4 Medium-High
Empower	Decision-making in the hands of the public.	Citizen’s juries, ballots delegated decisions	5 - High

Source IAP2 (2000)

Method

A comprehensive review of the international democratic engagement scholarship from 1992 to 2014 was conducted for this study. Searches by research assistants were conducted in the University of Saskatchewan library databases as well as Google Scholar, ERIC, and Scopus. Search terms included public/civic/citizen // engagement/perception/involvement AND genome/GMO /biofuels/health/ag-biotech/food/biotechnology/science. Additional searches were conducted in MD Consult-Medline on patient and citizen engagement in health care. The search was limited to English-language publications. Over 700 hits were gathered from this process, after which exclusion criteria were applied and the total reduced to approximately 300 references. An annotated bibliography was produced in which references were grouped according to jurisdiction: Canada, the European Union (divided into United Kingdom, Netherlands, and other EU), and

international, comparative, or general. At this point, a critical review of this literature was conducted by a series of student investigators, who worked to exclude references on the basis of low relevance to democratic engagement (e.g., measuring perceptions where they are not measured as part of an exercise of democratic agency on the part of the ‘perceiver’; or patient engagement in clinical practice, where this process does not result in changes to policy). All references were then imported into Endnote which provided a tool for classification. The composition of this literature review occurred simultaneously with iterative updates from subject areas connected to political studies, politics and public administration, health studies, and environmental studies, with a goal of locating more works in the field. The final result was a collection of 82 English-language citations that explicitly addressed the interface between the engagement process and the policy system.

We then encoded the literature in three ways. First, we assessed it by the type of engagement per the typology from Rowe and Frewer (2005) and used that to encode the method using the International Association of Public Participation (IPA2) spectrum to reflect the degree of involvement of publics in decision-making and by extension the public policy process. Then we encoded the focus of the process used by the stage of the policy cycle targeted. The central aim of the research is to determine if the practical implementation of democratic engagement mechanisms actually met the goals outlined in the extensive literature on the concept. Are the purposes of democratic engagement being met with the participation and engagement methods used? Are citizens views appropriately incorporated into the final decision outcomes for the issues where they participated in the deliberative processes? What variations exist between the theorized public engagement and its real-life application?

The data

Table 1 shows the geographic distribution of papers origin. Most research papers are from developed countries, including the United Kingdom, Canada, the USA, Australia, and the European Union.

Table 3: Democratic engagement and public participation papers by Geography

Geography/Country	Number of Papers
United Kingdom	17
Canada	17
International	10
Theory	7
United States of America	7
Australia	5
European Union	5
Denmark	3
Austria	2
China	2
New Zealand	2
Ghana	2
Japan	1
Switzerland	1
Finland	1
Total	82

The 82 articles in our core analysis spanned 1992 to 2014, with four articles from the 1990s, 36 in the 2000s, and 43 in the 2010-2014 period. The peak year for articles in our dataset was 2013, which suggests that the academic effort to study this phenomenon was growing over the period.

Findings

The core finding of our work is that the focus of democratic engagement is heavily weighted to the front end of the policy cycle, with most processes seeking to help define the agenda, provide options for consideration and to influence the nature of the choice. Sixty-six (80%) of the papers report on engagement processed intertwined with agenda-setting, 65 (79%) of the papers examine processes directed to the design/policy formulation and 56 (68%) of the papers report on processes intended to influence decision-making. Meanwhile only 18 (22%) of the papers reported on engagement processes directed to policy implementation and 24 (29%) explored the role in terms of evaluation.

Table 4: Policy-making variables included in the analyzed papers

	Agenda Setting	Design	Decision Making	Policy Implication	Evaluation
Yes	66	65	56	18	24
NA	16	17	26	18	24

N= 82

Somewhat surprising given that all the processes are intended to advance policy, most of the efforts studied were poorly focused on the policy system (Table 5). Six of the processes focused generally on all stages of the cycle, 14 on four stages, 40 on 3 stages, 13 on two stages and only six on one stage. Three discussed various strategies without focusing on any specific stage of design/policy formulation.

Table 5: Focus of articles on stage(s) of the policy cycle

Total number of stages discussed in article	Number of articles
5	6
4	14
3	40
2	13
1	6
0	3

Table 6 illustrates the specific foci of the articles. Agenda setting, design and decision-making were generally clustered together, which makes sense. Many of these efforts were attempts to broaden the agenda and advance some specific policy changes. Somewhat surprisingly, the processes that focus on implementation and evaluation did not overlap as much as one might have anticipated given policy theory and practice. Increasingly, evaluation rubrics are developed in concert with implementation plans and then embedded and tracked during implementation. This suggests that at least for this body of work that these practices are not driving engagement.

Table 6: Distribution of engagement processes by stage(s) of the policy cycle

	Agenda Setting	Design	Decision making	Implementation	Evaluation
Agenda setting	66				
Design	59	65			
Decision-making	50	51	56		
Implementation	17	16	15	18	
Evaluation	17	18	16	5	24

Public Engagement and Intention of Action Analysis

We began the analysis encoding each article for the ‘intention of action’ variable of public engagement and involvement in the policy-making process. Building on the IAP2 public participation spectrum, we came up with five intentions of action: informing; consulting; involving; collaborating; and empowering. The most common intentions cited were consulting and involving, which involved a range of action to gather information (consulting) and test the merit of the input (involving). Almost three quarters of all cases assessed used tools from one or both of those levels of interaction. The next most common method was collaborating, which involved a range of purpose-built processes to engage citizens in juries and consensus conferences. One-way flow of information from government, aka informing, remained a significant method, with 44% of the articles citing it was used, albeit often paired with some more engaging process. Empowering, which involves the stage giving up power to make the ultimate decision, was only tested about 23% of the time.

Table 7: Intention of Action of the literature

Intent	Distribution within literature
Informing	44%
Consulting	73%
Involving	73%
Collaborating	62%
Empowering	23%

N=82

The characteristics of public engagement in policy-making are not always consistent or designed with equal engagement in all the stages of policy-making cycle. Keeping in mind that the level of engagement is not a series of ‘air-tight’ compartments, we can see engagement parameters are concentrated more towards the middle of the five levels of intentionality (Table 8). Mapping intentions of action against the stage of policy making in the cases studied, we find the most commonly cited engagement process directed at agenda setting was consultation, which involves a range of one-way flows of information from citizens to decision makers. As we move along the policy cycle to formation, we find a rise in two-way communications, which exhibit an intention to involve citizens more fully in articulation of the choices we might consider. Involving remains the most common approach at the decision-making stage, but there is a notable uptick in empowering, which is the highest level of engagement. Then, as we move to implementation, the level of engagement drops dramatically, so that those that considered this stage at all simply wanted to inform citizens of the choices they now face from the policy change. This flies in the face of the recent effort to shift governments from rowing to steering (more on this later). Somewhat more promising, those efforts that discussed evaluation were more engaged. Too often in the past experts have undertaken evaluations without engaging those affected by policy or programming. The literature suggests there is a bit of a move to democratize this activity.

Table 8: Cycles of policy-making variables and parameters of engagement

	Agenda Setting	Design	Decision-Making	Implementation	Evaluation	Total	
Intention of Action	Informing	18%	4%	10%	11%	1%	44%
	Consulting	29%	21%	12%	5%	6%	73%
	Involving	15%	29%	20%	2%	7%	73%
	Collaborating	15%	18%	17%	2%	10%	62%
	Empowering	4%	6%	9%	0%	4%	23%
	NA*	20%	22%	33%	79%	72%	
	N=82	100%	100%	100%	100%	100%	

Source: Author’s calculation.

Notes: The International Association of Public Participation (IPA2) spectrum describes five modes of public participation that fall on a progressive continuum of increasing influence over policy decision-making in during engagement process. * NA shows that the percentage of papers have no intention of action characteristic.

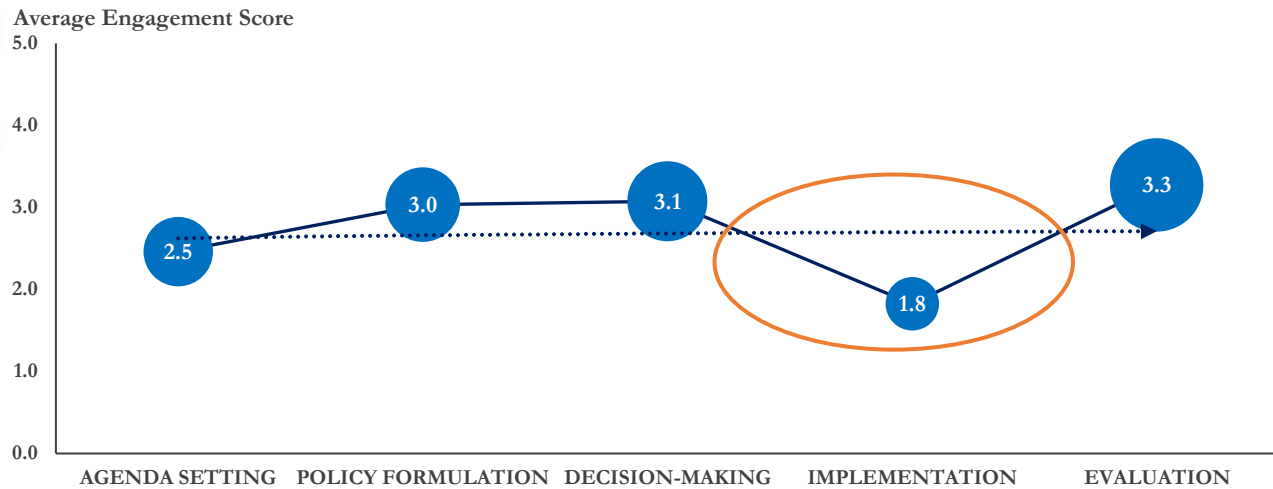
We assigned ordinal weights of one to five to the five levels of intentionality, with informing weighted as one and empowerment weighted at five. The median article focused on three stages of the policy (most often agenda setting, design and decision making were considered as a unit of analysis) and those cases tended to have the highest average engagement score. An almost equal number of studies examined two or four stages in the policy cycle but reported on moderately less engaged processes. Those exercises that either focused on a single stage of the policy cycle or the full system, were the least aggressively engaged with others, barely getting up to the second level of intentionality.

Table 8: Average engagement score based on the number of stages of the policy cycle explored

Number of stages of policy cycle discussed	Number	Average intentionality score
5	6	1.96
4	14	2.54
3	40	2.63
2	13	2.50
1	6	2.00
0	0	0
All papers	84	2.33

Putting together the above codings, we can see a more comprehensive map of public engagement at different stages of the policy-making cycle. One hypothesis we had was that intentionality and the intensity of engagement might rise as we move from agenda setting to evaluation, as citizens individually and in groups might have more to offer in the early stage of the policy cycle, where values and interests are vital to defining the agenda and the preferred or acceptable policy direction. In contrast, one might expect experts would be more valuable as we move into the post-decision phase of implementation and evaluation, as they would have backgrounds and experience in administration and the higher order tools of administration and evaluation. To some extent, we found that. Presented graphically in Figure 1, we can see that a modest upward tendency as we move along the policy cycle. The notable exception is the implementation phase, which shows an “engagement deficit” as the preferred approach mostly involves informing and consulting.

Figure: 1 Average engagement score of public participation spectrum



Notes: Public participation spectrum (International Association of Public Participation) Assessment Explained by Intention of Action

One= Informing- To inform as it Includes (Fact sheets, websites and information booths, and open houses).

Two = Consulting - To inform, collect and acknowledge feedback, and explain the effect of input -Includes (Focus groups, surveys, public meetings, and comments).

Three = Involving -To directly involve and reflect views in developed alternatives and to provide feedback - Includes (Workshops and deliberative polling).

Four = Collaborating - To ask for advice and incorporate views into decision-making directly - Including (Citizen advisory committees, consensus-building, and participatory decision-making).

Five = Empowering - To implement what is decided by the public – Including – (Citizen juries, ballots and referenda, and delegated decision-making).

The analysis of the literature using the public participation spectrum highlights the varying use of different modes of engagement, ranging from one-way to two-way and deliberative consultations. The empirical evidence collected from the policy papers from the 1992-2014 period strongly suggests that effort to advance citizen engagement was not equally distributed across the policy-making cycle and there was a certain engagement gap between what the democratic engagement theorists proposed and the interest or capacity of the policy system to deliver. One clear insight from this analysis is that there are limitations to public engagement in the policy-making process, particularly given the absence of participation in the implementation phase and the general absence of citizen empowerment in most parts of the policy system, but especially in the decision-making and implementation stages.

Conclusion

The principal goal of this study was to assess the variations that exist between the theorization of public engagement and its practical application. Although the study focuses on democratic engagement in the science, technology and innovation sector, its findings may be generalizable to the implementation of democratic engagement models in other sectors.

Public involvement has become more important with the recent rise of populism and the decline of democratic avenues in some spheres of the policy space globally. Democratic engagement in the policy-making process is also one way to reduce the perennial threat of capture of policy institutions by elites and powerful lobbies. The theory suggests that one would expect greater engagement across the policy cycle. While we found lots of effort in what was arguably the heyday of engagement in the science, technology and innovation policy space, the focus was often highly diffused—targeting too many steps in the cycle to be visibly persuasive—and still too heavily focused on traditional one- or limited two-way flows of information and little or no effective engagement that builds trust and social capital in the resulting decisions.

Moreover, despite the different levels of engagement accomplished at different stages of the policy cycle in the literature we explored, it is unclear how any of these policy engagement experiments directly influenced policy decisions and outcomes. Most of the literature seldom got past descriptive presentations or self-confirmatory assessments, asserting that their effort added value because it happened. None of the literature presented any evidence of random selection, controls or counterfactuals to anchor their expectations or assessments (see What Works Center 2022 for a scale of evaluation). Bryson et al. (2013) offer some advice, but it is not clear there has been much take up of the emerging better practices from these exercises.

Democratic engagement theory appears to have outpaced good practice. Going forward, a good first step in improving uptake and use of the engagement processes that advance the democratization of policy would be improve clarity in the definitions of both the policy cycle and the engagement processes. Many of the models and tools are bespoke and specific to particular advocates or users, and not universally accessible. The next obvious step would be to create a bigger inventory of cases over time, over geography and over policy fields. A well-structured inventory should illustrate the power and reach of each model over a range of policy systems (e.g., presidential and parliamentary) and over a variety of topics. As experience grows, there will be more opportunities to undertake structured assessment along the lines of the higher orders of the

Maryland Scientific Methods Scale (MSMS)² which communicates to scholars, policymakers and practitioners in the simplest possible way the methodological quality of various evaluative studies (What Works Center 2022).

² <https://whatworksgrowth.org/resources/the-scientific-maryland-scale/>

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