Beth Simone Noveck*

Crowdlaw: Collective Intelligence and Lawmaking

Abstract: To tackle the fast-moving challenges of our age, law and policymaking must become more flexible, evolutionary and agile. Thus, in this Essay we examine 'crowdlaw', namely how city councils at the local level and parliaments at the regional and national level are turning to technology to engage with citizens at every stage of the law and policymaking process. As we hope to demonstrate, crowdlaw holds the promise of improving the quality and effectiveness of outcomes by enabling policymakers to interact with a broader public using methods designed to serve the needs of both institutions and individuals. crowdlaw is less a prescription for more deliberation to ensure greater procedural legitimacy by having better inputs into lawmaking processes than a practical demand for more collaborative approaches to problem solving that yield better outputs, namely policies that achieve their intended aims. However, as we shall explore, the projects that most enhance the epistemic quality of lawmaking are those that are designed to meet the specific informational needs for that stage of problem solving.

Keywords: crowdlaw, citizen participation, citizen engagement, regulation, anticipatory regulation, policy making, decision making

> *"Many hands make light work. Many hands together make merry work."*
> *Jeremy Bentham*

1 Introduction: The Need for Smarter Institutions

In the United States in 2018, Amazon announced that twenty cities were in the running to host Amazon's second headquarters (HQ2) (Day 2017). With the promise of 50,000 new jobs being dangled before these cities' mayors and councils, public officials were competing to offer incentives to the Silicon Valley retailer (Michaels

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*Corresponding author: Beth Simone Noveck,** Tandon School of Engineering, The Governance Lab, New York University, e-mail: noveck@thegovlab.org

2018). In a process that usually happens behind closed doors, the Amazon HQ2 bidding war has given the public a glimpse into the all-too-common process of using tax breaks to lure companies to town even without any clear evidence that the city will recoup the costs by other means (Oliver 2017). New Jersey, for example, offered Amazon $7 billion dollars in tax breaks if it were to have set up shop in Newark. Fresno, no longer in the running after finalists were chosen in January, went even further, offering to cede control over the city to the company (Holder 2018).

Offering such incentives to private companies is nothing new. In *Wired* Magazine, Susan Crawford questions whether Toronto's agreement with Google spinoff Sidewalk Labs to develop and wire a 12-acre portion of the city called Quayside will yield real benefits for the city and its citizens. In this case, the incentive offered to the company is citizens' data. "The idea is that Sidewalk will collect data about everything from water use to air quality to human movements. But city officials—and citizens—will get access to very little of what Google learns from their citizens... Meanwhile, Google will be gaining insights about urban life—including energy use, transit effectiveness, climate mitigation strategies, and social service delivery patterns—that it will then be able to resell to cities around the world. Including, perhaps, Toronto itself." (Crawford 2018)

These examples are emblematic of a common problem. Communities are grappling with how to regulate new technologies but also how to stand up to the innovative yet powerful private companies that created them. Public officials are often ill-equipped to know how to negotiate these deals, especially when they involve complex and challenging scientific advances, such as autonomous vehicles, Artificial Intelligence (AI), CRISPR gene editing, or sensor networks, all of which raise myriad ethical, moral, political, legal, regulatory and social questions.

As we shall explore, the demand on government to legislate and regulate—made all the more difficult and urgent because of the still-evolving nature of new technologies—on a wide range of issues from driverless cars to immigration is precipitating the need for improving the quality of lawmaking by bringing greater collective intelligence to bear to enhance the lawmaking processes. Making use of more expertise and know-how from more diverse sources may also help to enhance the legitimacy of lawmaking.

Thus, in this Essay we examine 'crowdlaw', namely how city councils at the local level and parliaments at the regional and national level are turning to technology to engage with citizens at every stage of the law and policymaking process. Examples range from the *Mi Senado* ('My Senate') mobile app to "bring Colombian citizens closer to the legislature via increased information access, communication channels with senators, and real-time voting opportunities" to web-based citizen collaboration in drafting laws and regulations in Finland and France to citizen

participation in constitution crafting in Iceland and South Africa (Oddsdottir 2017; Barnes/DeKlerk 2012).

As we hope to demonstrate, by bringing both more cognitive expertise as well as diverse ethical perspectives into the deliberation and decisionmaking around lawmaking, crowdlaw holds the promise of improving the quality and effectiveness of the outcomes (Rothstein 2011; Landemore 2017). Thus we are self-consciously arguing that more online citizen engagement does not simply enhance procedural legitimacy but, done right, enhances output-legitimacy. However, as we shall explore in this essay and in Marti and Alsina's companion essay "The Birth of the Crowdlaw Movement", current practices often do not succeed because they combine problem identification with problem solving, jumble drafting with commenting and confuse implementation with evaluation. The most successful projects in terms of enhancing the epistemic quality of lawmaking are those that are designed to meet the specific informational needs for that stage of problem solving. Thus, to catalyze smarter institutions and more active citizens, care must be taken to ensure that participation is well-tailored to achieve the desired ends. Even as collective intelligence can augment lawmaking by opening up previously closed processes, it may also represent a threat to traditional forms of representative process. The ultimate question is whether the resulting changes in process enhance or degrade the effectiveness of lawmaking, effectiveness understood as the ability of lawmaking to offer a solution to an articulated problem.

2 The Need for Collective Intelligence

Despite no special training in technology or innovation, public officials are expected to make the policies about when it is safe to deploy innovations like driverless cars in real world settings. Public managers are expected to be master of all trades and jack of none; that is to say well-versed in an impossibly wide range of issues. It is no wonder that most Americans today have lost confidence in government and that trust is only declining, especially toward national government. The public's trust in the federal government continues to be at historically low levels. According to Pew Research, only 19% of Americans today say they can trust the government in Washington to do what is right 'just about always' (3%) or 'most of the time' (16%) (Pew 2015). The same phenomenon is true globally. In 2018, the average level of trust in government among 28 countries surveyed was 43 percent (Edelman 2018).

To take just the issue of new technology regulation (but the same concerns apply whether we are talking about global warming or nuclear security), public officials have to confront variations of the so-called "trolley problem" (Cassani Davis 2015). While it is usually believed that AI systems, such as self-driving cars or robots, will commit fewer errors of the kind that humans make, and that gene manipulation will cure many diseases, there are still countless unanticipated risks and safety problems for which we have not yet developed consensual legal or ethical answers. These making the determinations about when and what is the right time to test these technologies in the wild. What is an acceptable level of risk? How exactly can we weigh different moral goods or different moral evils?

The advances of the 21st century present policy as well as ethical challenges. Although autonomous vehicles, for example might decrease traffic accidents, they also mean fewer parking tickets and parking fines, reduced gas taxes and money potentially diverted away from public transportation infrastructure. Other innovations raise comparable questions about the consequences for public revenue models. All are potentially solvable problems but ones that require grappling with the economic implications of new technologies and data-driven assessment of whether, when and by how much we need to change the basis for the levying of taxes to make up for new shortfalls.

Then there are the related questions of job losses and economic dislocation for individuals. What jobs will be lost? Which are created? What needs to be the policy response to these threats and how, in turn, to ensure that workers are trained and ready to assume the jobs created by the advent of new technologies.

And all of these dilemmas presuppose a clear view as to who should regulate and how to smooth out conflicts between international, national, state, local and non-governmental organizations. No such clear view exists. Although these technologies—whether Tesla's driverless cars or Uber's autonomous vehicle fleets or Starship's sidewalk-navigating delivery robots or Amazon's drones—often first get introduced in cities, as we know from scholars like Richard Briffault, cities are being systematically stripped of their regulatory power by states (Briffault 1996). Then there are those such as former New York Mayor Michael Bloomberg or the late political theorist Benjamin Barber who see the only way forward is by having mayors exercise greater power (Barber 2013; Bloomberg/Pope 2017). We need to decide who should decide.

Public officials must navigate a morass of concerns while stewarding the public interest and safeguarding the taxpayer dollar. Yet if the ignorance of technology on display when congressional leaders interviewed Facebook CEO Mark Zuckerberg in April 2018 after the Cambridge Analytica scandal was any indication, public officials do not possess the expertise necessary to tackle these questions (Kang 2018).

Thus, to make policy and legislation that will, at once, protect the public while stimulating innovation and creating jobs, demands that more expertise be brought to bear. The same is true for other complex issues from climate change to immigration, where there is either a dearth of good information or so much information and often from biased and ideological or self-interested sources that policymakers have a hard time making sense of it all under constraints. Even the most capable politicians and public servants do not possess all the expertise needed to understand the root causes of problems and then turn available information into coherent and effective policy.

Hayek argued that the challenge policymakers face in making order out of complex and distributed information is doomed to failure. He argued that market pricing mechanisms are the best way to make sense of available knowledge. But what if other collective intelligence mechanisms beyond that of supply and demand market mechanisms could help? What if new technology could unlock new approaches that enable more individuals—not only interest groups—to weigh in both on how to advance stakeholder interest, but also how to solve our collective problems? What if a city council or parliament could get rapid counsel from university professionals, for example, to help improve their understanding of science and technology?

We need what Dan Esty terms 'green' rather than 'red lights', namely regulations that assist with the growth of new technological tools while ensuring that the public is also protected. These new methods can loosely be described as what NESTA describes as "anticipatory regulation" (Esty 2017; Mulgan 2017). Anticipatory regulation implies that, rather than top-down prescriptions, the fast-paced and ever-changing nature of new technology (and other complex social issues) calls for more open dialogue with innovators and entrepreneurs as well as consumers to ensure that regulations are neither overly burdensome nor under-protective. Getting this admixture right, demands regulations that are iterative rather than final with a more data-driven feedback loop to assess what is working and to know where and how to target scarce regulatory resources.

But for law and policymaking to become more flexible, evolutionary and agile, policymakers need to be able to interact with a broader public with more expertise and more diverse values to improve the quality of lawmaking. We need more innovative, creative yet implementable know how to enable our regulations and policies to keep up with the pace of technological change.

This calls for re-imagining the processes by which we make laws and regulations. augmenting our representative and administrative rulemaking processes with more robust, frequent and disinterested advice-getting. This is less a prescription for more deliberation to ensure greater procedural legitimacy by having better inputs into lawmaking processes than a practical demand for more col-

laborative approaches to problem solving that will yield better outputs, namely policies that achieve their intended aims. Advances in science and technology are set to transform the way we live together, with profound and frightening consequences. Lest we are to become subjugated to technological systems we cannot understand and few of us can control, we need platforms and processes for connecting public officials and institutions to robust sources of collective intelligence (Susskind 2018).

3 The Maturing Field of Online Citizen Engagement: From Process Norms to Policy Effectiveness

Public consultation is, of course, not a new idea. The Administrative Procedure Act enshrined into law the right of all Americans to comment on draft regulations in 1946 (Noveck 2014). But that right is limited to comments on already-drafted regulations and does not imply any concomitant power to set the agenda for rulemaking nor to participate in the lawmaking process. At the Jefferson Center, Ned Crosby pioneered the practice of convening small-scale citizen juries and at James Fishkin became famous for his successful experiments convening large-scale, representative assemblies to deliberate on issues of policy (Crosby/Hottenger 2011; Fishkin 1991). While used for impressive one-off exercises in civic engagement, neither citizen juries nor Fishkin's deliberative polls have become institutionalized. The same can be said of citizen assemblies such as those created in British Columbia (Canada) or Ireland, among other places (Warren/Pearse 2008). They are exercises in legitimacy building but have no impact on formal decisionmaking or the exercise of power. The aim of these practices is to improve the quality of civic discourse and not, except in the most attenuated way, to improve the outcome of decisionmaking (Schuck 2014).

Fast-forward to the Internet era and there has been mixed success with efforts to bring public consultation online and institutionalize it. In the United States, one can comment on a regulation electronically, instead of on paper via regulations.gov. In many cases, this little known and less publicized e-rulemaking process simply increases the scale at which interest groups mobilize members to file identical electronic 'postcard comments' to log public displeasure at a regulation (Noveck 2004). The participation process, which comes after a regulation is drafted, is not especially designed to enhance the epistemic quality of decisionmaking.

Similarly, when, during the planning period following President Obama's election and prior to his first inauguration in 2007–2008, the President's transition team asked the American public for its suggestions for the first one hundred days of the Administration, this People's Briefing Book process yielded 84,000 suggestions, not one of which was actually read let alone considered (Barris/Jain 2013; Noveck 2015). (I know: I suggested the project, failing to appreciate how it would unfold.) In hindsight, it ended up being a one-off publicity stunt designed to make it easy for individuals to participate but without regard for how the information would be used.

Podemos in Spain had more success with engaging its party faithful with giving input into drafting the party platform but less success formalizing that crowdsourcing practice once elected. The Five Star Movement in Italy also set up an online system called *Rousseau* by which adherents could respond to proposals by its parliamentary members. "FSM members of parliament make legislative proposals, post short videos explaining them, and then party members post comments and vote for or against the proposals." But, in practice, the platform is opaque with online discussions and votes being shaped by a very small number of people. "Participation in online deliberations has declined steadily from 2012 to 2017, falling from an average of 36,000 to 19,000 participants. Because the movement has grown considerably in that time, the decline in the rate of participation is even more drastic: from 68 percent of eligible members in 2012 to a mere 13 percent in 2017." (Stille 2018)

Now the growing field of digital democracy is slowly becoming more mature and sophisticated. Public and civil society institutions (and private technology vendors) are beginning to develop strategies for using collective intelligence to improve the quality of outcomes, re-designing how institutions make use of diverse inputs to improve the quality of decisionmaking and problem-solving.

For example, in Monterrey, Mexico, the municipal government has pioneered the use of open innovation—the open solicitation online from the public of solutions to high priority policy challenges. Bogota, Colombia's *Bogota Abierta* project and Costa Rica's *RevolucionCR* initiative also employ the Internet to go beyond citizen-commenting and, instead, focus on asking residents to solve problems together. The difference in Monterrey, however, is that the *Desafios* project also changed how its public officials worked, first, training them in problem definition to articulate challenges in a form specific and actionable enough for the public to understand and, second, coaching public servants and the public to develop citizen-proposals from mere ideas into implementable new policies and services.

These new forms of participatory law and policymaking—crowdlaw—leverage new technology to tap into diverse sources of opinions and expertise at each stage of the policymaking process to improve the quality of outcomes.

Crowdlaw differs in quantity and quality from earlier forms of public participation, first, because it is institutionalized and has the potential to impact how power is wielded, money spent, and decisions made.

Second, crowdlaw focuses on obtaining expertise and ideas instead of opinions. It is not merely a form of better opinion polling or a way to win supporters for party political causes but designed to bring collective intelligence to bear to solve problems.

Third, crowdlaw emphasizes the institutional design needed to be able to digest all collected knowledge not merely the design needed for individuals to participate.

Fourth, although it takes different forms, crowdlaw processes generally involve ceding some control over some aspect of policymaking, at least in part, to a more diverse audience. Many of these platforms are still little more than glorified electronic suggestion boxes, but they are aiming eventually to change the institution and render it more democratically accountable.

Although it is still early days, some of these projects are starting to use AI to help manage the process of wrangling collective intelligence, leveraging machine learning algorithms to sift and sort content, match the demand for expertise to the supply of it, and render the process of using input more efficient and tractable.

With experimentation and testing, crowdlaw has the potential to go beyond accountability and to make public institutions more effective by enabling decisionmakers to leverage diverse and innovative solutions to solve problems more quickly but also to putting on the agenda new problems to solve, such as those of structural inequality, that have too long been neglected by political elites.

4 Crowdlaw as Augmented Problem-Solving: The Five Stages of Policymaking

One challenge to maturing our practices for democratic engagement in governance, rather than only improving turnout on Election Day, is the recognition that at each stage of the law and policymaking process, there are distinct informational needs. That is to say, the arc of the law and policymaking cycle begins, first, with the identification of problems, which can benefit from diverse and large-scale input from those with lived experience and situational awareness of issues just as much as from those with credentialed expertise. In fact, it is an optimal time to learn about the problems as experienced by diverse members of society, especially those who are the most disadvantaged and may otherwise lack ways to inform the lawmaking process.

But, at the next step, namely solving those problems once identified, requires a different form of know-how. It demands innovative and creative and workable solutions. Here credentialed expertise from diverse sources might come more into play (as well as the value judgment about which solutions to prioritize).

If the process calls for a drafting stage to produce a bill or a party platform or a policy proposal, this, in turns demands a different skill set and those with talent for, interest in and ability to write, which need not necessarily be the same people as those who want to spot problems or imagine solutions.

Furthermore, at each stage, from problem-identification to solution identification to drafting to implementation and evaluation, improving outcomes may call for gauging opinions in addition to obtaining information and ideas. Both are important but require different designs to accomplish.

Thus, to be successful, crowdlaw projects need to be conscious of their aims and designed to accomplish them. An online process that yields opinions about the severity of a problem is highly undesirable when what is sought are innovative and data-driven solutions. If the desired outcome is a consensual draft of a bill, a process that results merely in complaints about the problem does not help. Crowdlaw also requires an honest assessment of the time commitment required to participate. Developing implementable approaches potentially requires more commitment from those participating or at least a more collaborative process to get enough people working on turning an idea into the design for a policy or service in practice than does naming a problem. And then there are the designs for processes that have not yet been tried or envisioned.

4.1 Problem Identification

4.1.1 vTaiwan, Taiwan

Depending on the political process, there are different ways in which the agenda gets defined. For the most part, public officials propose topics which they deem to be of importance. These can be of their own invention or at the request of interest groups or their political party or as 'fed' to them by a lobbyist (Jackman 2017).

In New York City, for example, a City Council Member proposes legislation based upon what they have heard from listening to the news or perhaps to a constituent or an interest group. None of the fifty-one members of the Council have any systematic way to divine what are the most urgent and important issues to their constituents or to diverse segments of the population within their districts, which means that often the needs and concerns of those with the greatest need may get voiced the least.

New technologies—both big data and the technologies that enable collective intelligence—have the potential to change how the agenda gets set and offer a more data-driven and informed way of spotting problems.

Take the example of Taiwan. The *vTaiwan* experimental e-consultation platform created and led by Taiwanese CTO Audrey Tang enables the broader public to participate in an ongoing process of problem identification. vTaiwan is a multistep, multi-platform method which enables people to flesh out and define a problem posed by the government using an online forum (Horton 2018).

The participants collaboratively compose an open, online glossary to ensure that terms are defined and understood by all. They flesh out problem definitions and, if the definition of the problem is agreed to by participants, then they proceed with a 'discovery' session. They use this meeting to discover the issues that both sides consider important only after which the self-selected group moves to discuss solutions. The vTaiwan method utilizes Pol.is, a machine learning software that sorts and clusters responses into categories for more efficient review and discussion. This allows for the formation of working groups—not merely attention to the most popular idea—who can turn problem findings into policy recommendations that are then delivered to the administration. In more than 80% of cases, the publicly defined issues have led to government action, in large part because the process involves civil servants, lawmakers, citizens and stakeholders in the conversation from the get-go. As the creators explain, the process they follow is designed to lead to 'coherence' not consensus.

vTaiwan is not simply an ad hoc civil society initiative but an institutionalized process done in collaboration with the national government. The national government is obligated to provide a response to the recommendations that emerge from the public consultation. So far, 26 national issues, including the regulation of telemedicine, online education, telework, company law and Uber, have been discussed with over 200,000 people participating. It is a very promising approach, largely because through Tang's leadership in both the civic technology community from which she came and the government in which she now serves, Tang has been able to ensure a connection between public participation and power. But the process also faces challenges in its evolution. As a process where the public self-selects to participate, vTaiwan has tended to attract a more educated, tech savvy audience. It has worked well for addressing topics such as the future of Uber. It is unclear how well suited it will be for handling issues of social inequality.

4.1.2 Erasmus Dashboard, Europe

Sound policies require what anthropologist James Scott refers to as social legibility, namely access to good information about problems and their root causes. This information, as in the case of vTaiwan, can come from people actively contributing it but it can also come from passive listening to information shared in the ordinary course via social media. Sentiment analysis refers to the data mining process of extracting meaning from Facebook, Twitter, and other large-scale sources of communications data. Thus, to understand how people feel about a government agency, policy or program, data scientists can scan Twitter, Facebook and 311 call data to hear what it is being said. Whereas online engagement platforms often attract predominantly educated, male participants, sentiment analysis may help with listening to specific segments of the population, who might not otherwise be heard (Leosk 2016; Aitamurto 2017). Imagine if every City Council Member in New York City, for example, had such a real-time way of hearing the concerns of a wide array of citizens in her district or if the Speaker could quickly take the pulse of the City as a whole to understand how to be most responsive to members of the public.

The Erasmus Dashboard, an experimental and non-profit EU-funded program, identifies what young people are saying about learning mobility programs to provide insightful inputs for EU policy-makers and stakeholders. The Dashboard currently 'listens' to the opinions voiced on Twitter, Facebook, blogs and other social media sites. The creators at DEEP-Linking Youth have trained an Artificial Intelligence (AI) algorithm to filter out relevant items connected to the subjects of youth mobility and learning programmes, such as the Erasmus Scholarship in an effort to educate policymakers about the views of young Europeans. This kind of passive listening exercise does not depend on people's willingness to spend their time participating in a governmental or civic project. Instead, it leverages incidental communications to assess meaning.

However, there is still the risk that, when opening a new channel for influencing the agenda-setting process, this could be abused and misused by those with ideological interests wishing to bend the process to serve their interests. It upends the control of elected officials over agenda-setting. If poorly designed, these new platforms risk overwhelming decisionmakers with under-informed and false claims of problems. There is also far too little understanding of how to weight these new inputs, whether from people or sensors, and how to prioritize them. Creating such new, more direct and less intermediated avenues for spotting problems—more plebiscitary democracy—runs the risk of skewing legislative processes in unforeseen ways, especially if representative institutions are compelled to act in response. Yet, with more experimentation and research

to understand what works, and taken together—collective intelligence and big data technologies—potentially offer a more robust way to engage the public, especially the under-represented, in spotting problems, measuring their intensity, identifying whom they impact, and dissecting their root causes.

4.2 Solution Identification

In contrast to problem identification, solution identification requires different kinds of expertise. The former demands diverse, lived experience. The latter cries out for more professional know-how from diverse experts operating in the public interest. Those solutions might be market-based or nonprofit. They might come from academia or from industry. They might simply be a quick insight about how to tackle a problem. But legislatures need ways to identify innovative, evidence-based and alternative approaches to tackling problems, especially solutions that might work without the need for legislation at all.

4.2.1 Better Reykjavik, Iceland and Rahvakogu, Estonia

In Reykjavik, Iceland following the banking crisis of 2008, public trust in institutions plummeted. Despite having the oldest parliament in the world and stable, high-functioning democracy, people's faith in their political leadership faltered. Thus, technologist Robert Bjarnsson created the Citizens Foundation, a nonprofit civic technology organization to help restore trust by creating ways for citizens to have a formal and persistent way of participating in politics by "harnessing the creativity and innovation of the broader society" (Hummel 2018).

Active Citizens built an open source platform and process known as *Better Reykjavik*, an open forum web platform for 'idea generation' and 'policy crowd-sourcing' for citizens to present and discuss ideas related to the services and operations of the City of Reykjavik. The website, which has been used by 20% of Iceland's population, and over half of those registered on the site use it regularly, has been used by a million and a half people and is now in use in copycat projects in 20 countries. The website is a simple ideation platform where citizens post ideas in relevant topic sub-pages for education, transportation, tourism, welfare, etc. They can rate one another's ideas and debate each other in the respective idea's comment section.

A 'pros and cons' feature discourages flame wars while promoting reasoned arguments simply by encouraging posters to sort and organize their own feedback. The result is a list of solutions and the best arguments for and against the

ideas. What is truly novel, however, is not the technology but the process, which requires that the city try to implement the public's best ideas. Each month, the five top rated ideas are processed in the appropriate government standing committee. Hundreds of citizen ideas have been implemented, reports Bjarnsson.

Now Citizens Foundation is exploring the integration of machine learning algorithms to improve participation by giving users recommendations of proposals that might interest them.

This is, to some extent, in contrast to Estonia, which imitated the project in 2012 during a three-week pilot known as Rahvakogu in which 60,000 people took part to "crowdsource ideas and proposals to amend Estonia's laws on political parties and their financing" following a corruption crisis (Estonian Cooperation Assembly 2015). Although 3 of the 15 top-rated initiatives were implemented into law and 4 others were implemented as policy, the project was halted after one pilot. Observers evaluate the experience differently, some seeing it as a success because proposals were implemented and others as a failure because the process was discontinued. The initiative was borne of a political crisis that, once subsided, threatened the ability of political elites to control the legislative process. There was no interest in ceding any power over politics as usual.

Thus, the initiative offers multiple lessons. The Icelandic example demonstrates the practical example of collaborative decisionmaking between state and citizens to solve problems, highlighting the ways in which the public can inform the policymaking process with new, innovative and more creative thinking (Olafsson 2014; Landemore 2015). With more data, background information and framing, the platform might even do a better job of sourcing actionable and implementable solutions. But the comparison to Estonia also makes clear the need for institutional cooperation for the platform to make any real and lasting difference. Without the commitment to implement what the public proposes; the quality of contributions may diminish.

4.3 Drafting

4.3.1 Marco Civil, Brazil

The process of drafting legislation, turning a policy proposal into a document with legal validity that offers instructions to implementing agencies and the public, is typically done behind closed doors, often by professional staff assisting politicians to ensure correct formatting, indexing and references back to earlier legislation. Participating in this stage is more challenging because it demands a high level of commitment and greater knowledge of the subject matter. Either partici-

pants have to have command of the legal requirements of the process or administrators need to be committed to creating a baseline draft in plain language and working out the details without resort to jargon or legalese. Also, collaboration on this phase arguably invades the inner sanctum of the politician's preserve—the jargon-filled ritual of legislative sausage making—and threatens the essence of representative democracy.

Getting meaningful, useful feedback is not easy. As Tarik Nesh Nash of Legislation Lab in Morocco explains about an online engagement process he organized in Morocco, where the public was asked to discuss a list of soon-to-be legislated crimes and their penalties, the text of the law was 700 paragraphs outlining definitions. Because the platform he designed for collaborative drafting was open-ended, it resulted in unhelpful comments such as 'we don't care' or 'we don't trust the system' or 'the system is corrupt' or 'why are we bothering' or 'let's go back to Islamic law' that did nothing to improve the quality of the draft. In fact, he reports, most of the comments reflected a distrust of the rule of law in the first place. However, done right, inviting the public to participate in drafting offers key advantages, including addressing issues legislators don't know about and ensuring that bills more effectively reflect the concerns of the people impacted by them. It may be easier to get useful public feedback on a first draft that explains the planned approach than earlier, when the legislation is still inchoate.

For example, in Brazil in 2009, the Ministry of Justice in collaboration with a local law school launched an interactive website where they posted the first draft of the Marco Civil—a new bill on Internet freedom—for public comments. The website allowed individual citizens and organizations—including NGOs, businesses, and political parties—to add to the law's content and 800+ contributions were received in the form of comments, e-mails, alternative drafts and references. After three more collaborative drafting phases, the bill was sent to Congress in 2011 and ratified by President Dilma Rousseff with the support of four ministries (Souza et al. 2015). France replicated the process with its Internet law in 2015 with a high degree of success for citizens and, perhaps more surprisingly, satisfaction among government officials. "The Secretary of State praised the quality of the opinions submitted to the Government and the collaboration with the administrative authorities during production of the bill." (Government of France 2015)

In the United States in June 2009, the White House invited the public to craft language for the United States Open Government policy via a web-based collaborative editing tool (aka a Wiki). This was the third part of a multi-stage drafting process that began with brainstorming then commenting and, finally, drafting. By posting more than 300 drafts and rating others' proposals, the public "helped us to begin to think about specific implementing language and, in the process, learned how hard it can be to translate lofty principles into clear and specific di-

rection to agencies" (Noveck 2015). What was unique about this wiki, in particular, was that it did not permit one person to overwrite whatever the last person wrote. Changes required the vote of a configurable number of participants. If the threshold was reached, only then did the edit take effect.

Although examples of public participation in writing legislation are still few and far between, the handful of pilot projects have been largely successful. Still, more experimentation is needed to determine, for example, what is the impact of an extended versus a shorter drafting process? What happens when legislative staff participate actively with the public as opposed to leaving citizens and civil society to draft on their own? Does changing how the request to draft is framed impact people's willingness to participate and the quality of their participation? Given its technical nature, does involving the public in drafting actually pay off in terms of improving the legitimacy or the effectiveness of the process?

4.4 Implementation

4.4.1 MindLab, Denmark

Once legislation is drafted and passed, it still must be implemented, often by an agency to whom responsibility has been passed. Implementation provides another opportunity to practice many of the same techniques already outlined and engage in the public in developing concrete strategies for execution. For the last sixteen years in Denmark, Mindlab, a cross-ministry innovation lab has facilitated the active involvement of Danish citizens and businesses in developing new public-sector solutions in practice. Public servants from Danish ministries bring policy challenges to MindLab. Citizen and business stakeholders collectively participate in decision-making and the development of prototypes and large-scale experiments with the ministries.

MindLab uses iterative design methods such as user journeys, expert interviews, what-if scenarios, and prioritization grids to manage the engagement process. Insights are gathered from their experiments and prototypes to determine how initiatives will be fully deployed by the Danish ministries (MindLab 2018). In so doing, MindLab directly involved the public in the creation and testing of actual services, policies and programs. This collaboration offers distinct advantages to agencies. Citizens can identify problems and better approaches before a program is fully deployed. They can bring their expertise to problem-solving alongside the government. MindLab, however, was disbanded in Spring 2018. Perhaps this is a sign of success? MindLab's collaborative and engaged practices became the standard operating procedure for so long that there was no longer need for a new and

separate agency to run them. However, politics seem also to have played a role. MindLab was replaced by a 'Disruption Task Force', a unit set up by the prime minister to reform Denmark's civil service through digital technology. MindLab, which pioneered design thinking was not, in fact, a technology agency or big data analytics unit, and thus it was folded into this new shop focused on digital and tech-based innovation.

The challenge with engaging the public in implementation—whether through human-centered design and observation or whether through digital consultation and ideation—is ensuring that the process yields information unavailable to bureaucrats, rather than re-litigating the legislative process post hoc. Doing this well will depend on close collaboration between the public and government to co-create implementation strategies This administrative phase is not designed to be a popularity contest but a further opportunity to obtain expertise to ensure successful implementation. Opening up the implementation process to public collaboration, however, will have inevitable consequences for the nature of administrative practice.

4.5 Evaluation

Sadly, policymaking and legislation often end with enactment. There is no systemic effort to understand the impact a law had, for whom, how and why. Most evaluation takes place long after the fact with limited data. Yet evaluation serves as an important piece in the feedback loop to improve existing service delivery and inform future policy formulation. But some of the oft-cited challenges to evaluation include scarcity of resources and access to relevant data that limit feedback processes. This presents an opportunity for engagement, including asking the public how to measure impact, what data to use for that purpose and engaging them in the process of evidence gathering (Dinesh 2018). Enabled by new technology, a watchful community can improve the outcomes of government activities and render legislation, as a solution to public problems, more accountable because it can be evaluated. Sometimes known as 'social audits', these participatory processes have the potential to enable more iterative regulation and legislation. Alas, the social auditing projects usually have nothing to do with formal lawmaking or, as we shall see in the case of Chile, where they do, they do not use technology to give them broader scope and scale. This stage of the lawmaking process is the one most in need of crowdlaw projects.

4.5.1 Social Auditing in Ghana: TransGov

TransGov is a platform created in 2014 to help Ghanian citizens monitor the progress of local development projects by empowering citizens to hold government accountable for faulty or incomplete infrastructure projects and service delivery in their localities.

They curate a list of projects in local communities and give people the ability to comment. Today, TransGov has 600,000 registered users who provide feedback through the TransGov website, mobile app, by SMS or using Interactive Voice Response (IVRS). Six employees run Transgov and handle the technology, management and communications of the project. Although not strictly legislative in nature, it is an instructive example of using the distributed power and collective intelligence of citizens to monitor policy outcomes and create an evaluative feedback loop.

4.5.2 Evaluation in Chile: Evaluación de la Ley, Chile

In the legislative context, there's also a unique crowdlaw project in the Chilean Senate, where they have hired a full-time facilitator who runs evaluative focus groups post-implementation of a new law to understand how it is working (Evaluacion 2018). "The ex-post evaluation has as a goal to determine if the regulatory framework has fulfilled the desired objectives, if the law or regulation was sufficiently efficient and effective in its implementation and to what extent expected and unexpected impacts of the intervention regulations were adequately addressed when conceiving the regulatory instrument." This is a formal part of the lawmaking process in Chile but nowhere else. The facilitator convenes lawmakers, staff, stakeholders and citizens to discuss evaluative metrics and the success of the implementation to data.

The Department of Evaluation of the Law has developed a three-stage project to evaluate the effectiveness of a law. It is determining compliance with the metrics set out when the saw was enacted. It gauges the perception of citizens about the law and its implementation. It also suggests corrective measures for the law and its implementation to bring it into line with the stated metrics. The process is not applied to every law. It is used for laws that do not regulate highly ideological or partisan issues and are relevant to large numbers of people. Evaluation is also subject to a feasibility assessment to determine if it is, in fact, possible to measure efficiency or effectiveness in the implementation.

4.5.3 Citizen Monitoring in Brazil: Projeto Controladoria na Escola, Brazil

In Brazil, a decree passed in 2007 ensures that public schools have the autonomy needed to spend funds assigned to them by the federal district for maintaining and operating the school. The intention behind the decree (called Programa de Descentralização Administrativa e Financeira (PDAF) was to help public school management to respond in an agile manner to local needs. Yet, audits conducted in random municipalities by the national comptroller have shown that there are deficiencies in school infrastructure quality across the country. Studies have attributed several reasons for these deficiencies including lack of resources, corruption and student behavior but there is less information available at granular levels to pinpoint where the issues are (Ferraz et al. 2012).

Therefore, in 2016, the comptroller launched an experimental project called the *Projeto Controladoria na Escola* to engage students in 10 public schools in Brasilia in the process of auditing school infrastructure, mapping commonly raised issues and fostering civic education in schools The project involved asking students to collect data about their local school environments, reporting the major issues they faced, identifying the root causes of those issues and proposing ideas to fix them. In one school alone, the students identified 115 issues and within just 3 months 45% of the issues were fixed either by the department of education or, where possible, by the students and school management themselves. (Moll 2016) The success of the project was two-fold. It not only enhanced the CGDF to conduct detailed audits of every public school but also generated great buy-in from the schools to identify, report and fix issues in their surroundings. The civic audit model employed in Brazil is a great example of organizing citizen-led campaigns to foster civic education and to help government oversight agencies understand local issues with granular details. It also helps build a sense of community and, done right, motivated citizens to take action to fix those issues. It is still unclear, however, if the campaign improved educational outcomes and if the medium and long-term solutions were implemented. But social auditing and monitoring of this kind that takes advantage of the distributed power of citizens to monitor effectiveness could be a promising improvement to legislative practices, if systematically implemented as part of the lawmaking process. No smart company implements a policy without measuring whether it works and the cost for the bottom line neither should government spend taxpayer dollars without more real-time evaluation and assessment. If parliaments distribute the work of monitoring implementation, for example, to citizens with camera-phones, this could dramatically increase the ability to evaluate the downstream impact, including both cost and benefits, of legislation on people's lives (Wilkerson 2015; Center for Civic Media 2017; Björkman 2015).

But to be done well, the metrics for evaluation and the data collection task must be clear to all parties lest the social auditing process result in a partisan or ideologically-motivated attempt to undermine the legitimacy of the legislation.

5 Conclusion

According to John Dewey, public participation is essential to democratic accountability and legitimacy. The right to vote for representatives is a necessary condition for democracy. But annual elections are not going to be enough either to strengthen bonds between citizens and with their government nor to make use of our collective intelligence to improve the quality of the lawmaking process. Asking us to vote but once a year misses an opportunity to leverage what we know to solve difficult and complex societal problems. There is still much debate over the relevance of citizens doing more than voting, especially when complex decisions must be made quickly. But Crowdlaw demonstrates that citizens can play a more active role in the machinery of governing.

In fact, expertise rooted in lived experience or scientific fact is widely distributed in society. We've witnessed a shift away from credentialed experts to citizen experts in everything from restaurant reviews to medical advising (Noveck 2016). Crowdlaw provides a way to link this distributed expertise to governing. Crowdlaw is more than just commenting or brainstorming. It is a series of practices at each stage of the legislative process designed to elicit collective intelligence to inform policymaking.

Over the next fifty years, we will face challenges greater than any previous generation, especially challenges created by new technology and those potentially solved by it, and we will need to run our institutions differently if we are to be able to respond quickly and effectiveness. People may not be conversant in the sport of politics, but they do possess expertise in spades. Those who govern need to tap into that know-how, not occasionally, but continuously, bringing collective intelligence to bear to transform lawmaking from a political sport into a practical exercise in problem-solving.

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