

# **MEMO #9**

## **EXPANDING THE INTELLIGENT USE OF TECHNOLOGY: Promoting Innovation, Collaboration and Citizen Engagement**

*Beth Simone Noveck*

**T**he ideal of open government – government of the people, by the people, with the people – resonates in all democracies. Yet poll after poll reveals deep distrust of institutions that seem to have left “the people” out of the governing equation and that are also deficient in their ability to act quickly and to implement the latest innovations. At the same time advances in science and technology and a deeper understanding of individual and organizational behavior offer the potential for improving the effectiveness and legitimacy of our institutions of governance and how they make decisions and solve problems in the 21<sup>st</sup> century.

Re-designing and improving how government works – not the political questions of the choice between two policies but improving overall how we make policy and deliver services – will have to be a key a priority for any new administration. The failures of Healthcare.gov in 2014 enabled everyone to understand why having tested tools and strategies for dealing with myriad and rapidly evolving public challenges is essential. The central question facing the next Administration – and every leader – is thus how to scale and institutionalize the tech-driven innovation that results in making government work better and cost less.

### **A Changing Technological Landscape**

Three technologies – big data, collaboration platforms, and the technologies of expertise – offer the potential to do better at governing. Advances in technology provide a unique opportunity to redesign our public institutions to become more data-driven, open and collaborative.

This emerging paradigm of data-driven and collaborative innovation is often called “opening governance” because it stresses the use of digital communications tools to make public organizations more open to information and ideas outside their institutional boundaries.

First, the diffusion of sensors to collect large quantities of data – so-called Big Data – creates the potential to give those who manage a more accurate and evidence-based picture of on the ground conditions of the economy, society, and infrastructure. Over the last two decades, we have learned how to create and store new kinds of content in vast quantities. Thanks to new sensor-rich devices including mobile phones and other wearables and data-rich services like social media and the clickstreams from online transactions, we are generating over 2.5 quintillion bytes of so-called “big data” every day. The availability of more data has the potential to create tremendous value for policymakers and the public by creating transparency, exposing variability, enabling delivery of customized solutions and services, and informing decision-making with greater evidence.

In addition to the tools for collecting, storing, transmitting, processing, and visualizing large quantities of data about individuals and whole populations, the second major technological trend enabling more open and innovative governance is the advent of new collective intelligence tools to gather input – both of ideas and of actions -- from citizens. These contributions are not limited to asking people for their opinions, but increasingly also involve soliciting expertise. For example, the federal government’s Challenge.gov website has hosted seven hundred prize-backed challenges – requests from federal agencies to the public to supply information to help solve hard problems such as reducing the salt in saltwater to improve agricultural productivity or designing a next-generation combat vehicle. This “crowdsourcing” activity also includes asking people to perform tasks, such as Amnesty International’s Decoders network, where more than 8,000 volunteers from 150 countries participate in projects to identify human rights violations from satellite photographs.

With so much information coming from sensors and people, there is also a desperate need to curate what we know by accessing people with the right expertise to make sense of all the information. The large-scale availability of digital traces of knowledge-related activities (think of the digital certificates you get for taking a course online, as one example), now make it possible to automate the process of expressing and locating expertise. These technologies of expertise – expert networks that make it possible to search for what people know, such as LinkedIn or Google Scholar – are making it easier to identify the skills and experiences people possess and match them to opportunities to participate in governing or civic life.

From prize-backed challenges to spur open innovation, to open data portals that share reusable government-held information with the business and academic community, to expert networks that help to match the supply of expertise among citizens and civil servants with the demands for it in government, technology is spawning a variety of innovations in how institutions make decisions and solve problems. This shift from top-down, closed government to decentralized, open and data-driven governance may be the major social innovation of the 21st century.

### **The Goals of a Tech and Innovation Agenda for Government**

Twenty-five years into the evolution of the World Wide Web, any governance innovation strategy will inevitably build upon work done in the Clinton, Bush and Obama Administrations to use technology to improve government efficiency and effectiveness. With a well-established understanding that technology matters as a force for social good, the next Administration will have to develop new approaches to answer three questions:

- **How to scale current data-driven and collaborative experiments?**

With the federal government already having published close to 200,000 datasets in free, downloadable and reusable formats, the new Administration will need an approach that enables it maximize the potential value of that open data for making government and society work better.

- **How to create a government-wide culture of innovation, experimentation and customer service?**

With the establishment by every agency of an open government initiative and the embrace of innovations such as prize-backed challenges, the new Administration will need a strategy for

ensuring that the four million strong federal service -- and not just a few people in a White House Office -- know how to use technology to serve the public interest and how to steward new kinds of conversations between government and the public. This will also require addressing whether we have the right institutional arrangements and human resource skills to foster innovation.

- **How to be more evidence-based in using technology to solve problems?**

Despite the fact that previous administrations have seen significant uptake of tech-enabled ways of working, we need to measure the impacts of these innovations on public policy outcomes. How do we assess which innovations measurably improve people's lives? The new Administration will need more agile strategies for conducting evaluation of governance innovations and be able to respond to what we learn by changing how government works.

## **Recommended Actions**

When the next president takes office in 2017, a new Administration will have the opportunity to embark on its own innovation agenda, building upon past efforts and setting new goals. To scale data driven and collaborative governance, strengthen a culture of innovation across the federal government, and develop an evidence base about what innovation works, the new Administration should take the following urgent steps:

### **Scaling Data Driven Governance**

When government has the ability to use the data it collects, it can make policies and deliver services backed by evidence.

#### **1. Creating a What Works Agency**

The President should direct the Office of Management and Budget to overhaul its Office of Information and Regulatory Affairs to take account of the distributed statistical and data science capacity across the agencies, and to redesign the Office of the Chief Statistician accordingly to support and foster the growth of an analytic capacity across the federal government. At present, statistical analysis of legislation and regulations are conducted centrally by the Office of Information and Regulatory Affairs, which lacks the access to data and the capacity to make use of new data science techniques, such as the ability to analyze large scale datasets using predictive analytics or the ability to understand what people do or do not understand about a social problem by analyzing social media patterns using sentiment analysis. A revamped OIRA – supported by research efforts from the Administrative Conference (ACUS), which has the ability to collaborate more easily with outside academics – can expand its analytic and data science capacity and become the driver of more innovative, information-based, and human-centered design practices across the government. A particular focus area would be on efforts to enable the identification and the responsible publication of more administrative data from agencies with safeguards for privacy and research into that data (in collaboration with universities and the private sector) to improve how policy is developed. For example, the work of economists Raj Chetty, Nathaniel Hendren, and Lawrence Katz on tracking the long-term outcomes of families who participated the housing choice voucher program enabled the Department of Housing &

Urban Development overhauled the formula it had been using for four decades to calculate rental assistance and increase opportunities for families to move to low-poverty areas. In addition, OIRA should establish a data lab to enable other agencies and social service providers to request queries of sensitive administrative data in an effort to determine better what works.

## **Scaling Collaborative Governance: Creating a Learning and Listening Government**

When institutions know how to leverage the expertise of citizens and civil servants, public decision-making can become more effective and legitimate. Imagine if creative individuals across sectors could speak directly to institutions with the power and responsibility for delivering policies and services. Imagine if public institutions had the agile ability to tap the intelligence and expertise of citizens and civil servants.

### **1. With, For, and By the People**

Whether the topic is paying taxes to the IRS, delivering services to Veterans, or helping states apply for grants or small businesses get contracts, every agency can improve how it does its work by consulting with those people most affected by that service. Those include front-line workers in the agency serving the intended audience; the public who use those services, be they citizens or local offices; and the professionals in the private sector who help them (e.g. accountants who help people file their taxes). For example, to improve children's access to healthy meals at school, the Food and Nutrition Service and the Office of Personnel Management reviewed existing applications, regulations, and guidance documents, conducted in-depth interviews and observations in U.S. schools and integrated these insights into new design prototypes that they rapidly tested with parents and children. In addition to using such ethnographic and human-centered design approaches designed to align innovation and interventions to meet the needs of citizens who are impacted by government services, processes, and policies, more agencies should use prize-backed challenges to improve how government serves the public, as the IRS did when it invited information visualization and design professionals to redesign IRS forms, and crowdsourcing techniques to get ideas from the civil service and citizens to make government work better. The White House should also introduce a new executive order or legislation to overhaul impediments created by the Paperwork Reduction Act that impede strategies to getting expertise into government faster. Right now, agencies are limited in their ability to consult with the public because of ambiguities arising from the need to clear all information collection requests with the Office of Management and Budget in a process that can take months if not years. Finally, this recommendation includes a proposal to collaborate with the private sector and universities to design the best training materials and toolkits to train government officials in using these innovative ways of working. Priority in implementation of the guidance could be focused on the 10-20 most public-facing agencies in government to make rapid progress such as Social Security, IRS and Veterans Affairs.

### **2. Tapping into What People Know and Can Do**

The fire department of San Ramon, California has created a nonprofit software application called PulsePoint to enable citizens to assist with first response in medical emergencies. Each year, 424,000 people in the United States suffer sudden cardiac arrest, and roughly a thousand die each

day. Effective CPR administered immediately after a cardiac arrest can double or triple the victim's chance of survival, but less than half of victims receive that immediate help. A bystander can do three things to improve a victim's chances for survival: call 911, start chest compressions, and/or use a defibrillator. If a bystander who knows how to do these things arrives on the scene of an emergency in the first few minutes, the odds of death go down 50 percent. According to the American Heart Association, bystander CPR is performed only one-quarter of the time. PulsePoint aims to change this by enabling each of us to find our inner hero and help save the lives of our neighbors. By tapping into a feed of the 911 calls, PulsePoint sends a text message "CPR Needed!" to those registered members of the public – off-duty doctors, nurses, police and trained amateurs – near the victim. Using new technology to match over 36,000 CPR-trained volunteers to those who need it, Pulsepoint has already saved 13,000 lives. We need Pulsepoint in every community both to save lives but also to demonstrate the power of citizen engagement projects that tap into what people know and can do to help their neighbors. Whether it's performing CPR, helping others to start businesses, teaching computer science in and after school, or doing more citizen science to keep our communities clean and safe, a new administration should invest in the use of technology to unlock the potential of citizen engagement to make America's communities stronger.

## **Creating a Culture of Flexible, Permission-Free Innovation**

In order to take advantage of all that technology has to offer to improve governing, the government has to do more to institutionalize a culture of innovation and attract talented people into government who know how to work in a data-driven, open and collaborative fashion.

### **1. Building a 21st Century Civil Service**

The President will hire for the White House and direct every agency and department to create a Chief Innovation Officer role, who will report directly to the Cabinet Secretary and have responsibility for overcoming "compliance culture" and improving the effectiveness of the agency at achieving its core priorities using 21st century tools and techniques. The responsibilities of the Chief Innovation Officer are not focused on technology per se (hence the need to redefine the role) but on how to use the agency's and other data to help the agency realize operational improvements, to deliver results, and to measure those improvements. The Chief Innovation Officer will also ensure that the necessary personnel and systems are in place to create an innovation culture within the legal team in each agency, ensuring that the lawyers do not become a roadblock to innovation and know how to safeguard the public interest while enabling experimentation and innovation. Lawyers need to develop a clear understanding of the necessity of using innovative technology and methods, such as A/B testing, whereby agencies run experiments to compare two versions of a policy or service. The aim is to achieve core priorities and to transform the culture of the General Counsel's office from that of naysayers to innovators. The Chief Innovation Officer will also work with the HR and personnel managers in the agency to explore how to use personnel data, other analytics, and new technology to help the agency identify the skills and skills gaps within its workforce; help employees identify projects on which they might work and to which they can contribute their skills; expand open innovation efforts to crowdsource good ideas from employees; and develop more effective ways to organize teams to break down silos and solve problems faster and more effectively. The Chief Innovation

Officers will be able to partner with 18F – the government’s digital services agency – to accomplish new projects quickly and replicate and scale the diffusion of what works across the federal government.

## 2. Recruiting Top Talent to Tackle Hard Problems

The President should direct the new Chief Innovation Officer and Office of Personnel Management to take the necessary steps to ensure that every agency has the authority and ability to hire the best and brightest talent from the private sector, universities, and nonprofits to improve the effectiveness of government. To attract those people, OPM needs to bring down the time required to bring people into government – and to promote people already in government – to under a month. It needs to provide training to agencies in problem and project definition to help agencies craft new job descriptions for such hires that describe problems to be solved and the skills needed to solve them rather than merely posting opaque and bureaucratic job titles. As part of this effort, the President should craft new legislation overhauling the Federal Advisory Committee Act, which impedes the government’s ability to use new technology to recruit more people from across the nation to serve on federal advisory committees, and to move the work of such committees online to ensure that they bring in more innovative thinking from more diverse people outside government more quickly than in-person committees in Washington can do today. Such legislation could also allow for one or two year rotations within government for focused innovation – perhaps part of SES rotation program – laying the foundation for what some Roundtable participants called for: a Peace Corps for government.

## Conclusion

The central question facing the *next* Administration – and every leader – is thus how to scale and institutionalize more tech-driven innovation to change how we govern to the end of improving people’s lives. Government needs to solve increasingly complex problems for growing populations with fewer resources. To do more with less, governments needs to become more agile, data-driven and, above all, more open in how they identify *and* implement effective policies and services.

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