READY TO GOVERN
DEVELOPING A MANAGEMENT ROADMAP
FOR THE NEXT ADMINISTRATION

Encouraging and Sustaining Innovation in Government

Technology and innovation in the next administration

AUGUST 2016

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PARTNERSHIP FOR **PUBLIC SERVICE**

IBM Center for
The Business of Government

The Partnership for Public Service is a nonpartisan, nonprofit organization that works to revitalize the federal government by inspiring a new generation to serve and by transforming the way government works. The Partnership teams up with federal agencies and other stakeholders to make our government more effective and efficient. We pursue this goal by:

- Providing assistance to federal agencies to improve their management and operations, and to strengthen their leadership capacity
- Conducting outreach to college campuses and job seekers to promote public service
- Identifying and celebrating government's successes so they can be replicated across government
- Advocating for needed legislative and regulatory reforms to strengthen the civil service
- Generating research on, and effective responses to, the workforce challenges facing our federal government
- Enhancing public understanding of the valuable work civil servants perform

The IBM Center for The Business of Government connects research to practice, applying scholarship to real world issues and decisions for government. The Center stimulates research and facilitates discussion of new approaches to improving the effectiveness of government at the federal, state, local and international levels.

The Center's publications focus on major management issues facing governments today, including the use of technology and social media, financial management, human capital, performance and results, risk management, innovation, collaboration and transformation. Our intent is to spark creativity in addressing pressing public sector challenges—crafting new ways of improving government by identifying trends, ideas and best practices in public management that can help government leaders respond more effectively to their mission and management priorities.

Since its creation in 1998, the Center has awarded research stipends to public management researchers in the academic and non-profit communities that have resulted in nearly 350 reports—all of which are available on the Center's website, www.businessofgovernment.org.

FOREWORD

On January 20, 2017, the 45th president of the United States will be inaugurated. He or she will take the reins of one of the largest and most complex organizations in the world, ready to move ahead with a set of priorities that have been articulated throughout the campaign and the transition period.

A focus on management by the White House and executive branch agencies will be essential for the new administration to successfully implement policy goals, reduce the risk of costly missteps, and build public confidence in the federal government's ability to serve our nation.

The Partnership for Public Service and the IBM Center for The Business of Government have joined together in sponsoring a series of roundtable dialogues with key government leaders and stakeholders to inform the next president and his or her team about critical management issues and actions that can strengthen the new administration's capacity to address important challenges. Each one of our roundtables is focused on a key theme: Leadership Talent, Enterprise Government, Decision-Making, Innovation and Key Enablers.

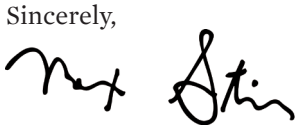
Through these roundtables, the accompanying papers and related research, the Partnership and the IBM Center will develop a Management Roadmap for the next administration to share lessons learned, identify promising initiatives and offer ideas on successful implementation.

Roundtable participants include current and former political and career leaders from the executive and legislative branches, subject-matter experts, representatives from good government organizations and the academic community. We have invited expert authors to write a report that summarizes the key themes and recommendations from the discussions, and each report includes a special section devoted to the author's own "out-of-the-box" ideas and perspectives. A list of participants is provided in Appendix I.

This report, authored by Beth Simone Noveck and Stefaan Verhulst, co-founders of The Governance Lab, is based on a January 2016 discussion that focused on how the next administration can use innovation to achieve policy goals and improve the operations of government. Part I recaps the discussion; Part II provides a historical review of innovation initiatives from the past two administrations; and Part III provides a set of recommendations on technology and innovation priorities for the next administration.

We hope this report and the final Management Roadmap will help the new administration successfully transition to power and improve the government's performance throughout the new President's term.

Sincerely,



Max Stier
President and CEO
Partnership for Public Service

Daniel Chenok
Executive Director
IBM Center for The Business of Government

CONTEXT FOR THIS REPORT

DEVELOPING A MANAGEMENT ROADMAP FOR THE NEXT ADMINISTRATION

The IBM Center for The Business of Government and the Partnership for Public Service are sponsoring a series of dialogues to inform the next administration about issues and actions that strengthen the long-term organizational capacity of our government.

Bringing together external partners and government leaders during a series of roundtables, the IBM Center and the Partnership will craft a Management Roadmap for consideration by the next administration. The Roadmap is a key element in the Partnership's Center for Presidential Transition Ready to Govern® initiative (for more information, see presidentialtransition.org).

The Roadmap will distill the essence of lessons learned from the past and identify current and new management initiatives that will be needed to address key challenges facing the country. The focus areas of these roundtable discussions include:

DEVELOPING AND MANAGING EXECUTIVE TALENT

Focusing on strengthening federal senior leadership, including political appointees and career executives, and enhancing their collaboration.

BUILDING AN ENTERPRISE APPROACH

Strengthening governance, improving collaboration and using enterprise frameworks to build capacity to achieve cross-agency goals, improve operations and lower costs.

IMPROVING DECISION-MAKING

Creating the capacity to enhance analytics decision-making through strategic foresight and integrating existing planning, program evaluation, risk management, analytics and benchmarking capabilities.

SUSTAINING INNOVATION

Creating and sustaining disciplined and replicable models of innovation to drive better customer service and improve outcomes.
(Note: this is the subject of this report.)

GETTING IT DONE

Outlining how to deliver real change in the federal government, utilizing the full set of operational and change management levers available to leaders and implementing new governance and collaboration structures.

CONTENTS

EXECUTIVE SUMMARY

According to a 2015 survey by Pew Research Center, the public believes existing democratic institutions are failing. Just 20 percent say the federal government runs its programs well, and 59 percent say the government is in need of "very major reform"—up 22 points since 1997[1]. With rates of trust in government at an all-time low, technology and innovation will be essential to achieve the next administration's goals and to deliver services more effectively and efficiently. The next administration must prioritize using technology to improve governing and must develop plans to do so in the transition.

On January 28, 2016, The IBM Center for The Business of Government and The Partnership for Public Service hosted a discussion, The Ready to Govern Innovation Roundtable.[2] Moderated by Professor Stephen Goldsmith, the event convened an exceptional group of 35 current and former senior officials from both parties, leaders from Capitol Hill, as well as experts from academia and the private and nonprofit sectors for a wide-ranging discussion on how the federal government can use technology to achieve the next president's policy priorities regarding economic growth, immigration, national security and responding to natural disasters.

This paper provides analysis and a set of concrete recommendations, both for the period of transition before the inauguration, and for the start of the next presidency, to encourage and sustain innovation in government. Leveraging the insights from the experts who participated in a day-long discussion, we endeavor to explain how government can improve its use of using digital technologies to create more effective policies, solve problems faster and deliver services more effectively at the federal, state and local levels.

1 See Beyond Distrust: How Americans View Their Government, Pew Research Center, November 2015 http://pewrsr.ch/1IaB4tp

2 The meeting was the fifth of seven planned Roundtables in the "Management Roadmap" series, part of a multi-pronged Ready to Govern (#Ready2Govern) initiative, through which the Partnership seeks to improve the transfer of power and knowledge between administrations [1]. These Roundtables addressed the critical importance of strong leadership (along with the related report on Executive Talent), the need for agency-specific and government-wide approaches, and the challenge of decision-making in a time of transition.

Part I

Part I of this report presents observations and recommendations from a wide-ranging roundtable discussion on government innovation. The roundtable focused on: efficiency and effectiveness; the customer experience; citizen engagement; and innovation through leadership and talent, process, scale and governance. Talent emerged as a key challenge – the difficulty of bringing people into government, and in harnessing the creative talent of civil servants currently serving. Participants agreed that the next administration would be well advised to focus on talent as a key enabler for driving innovation.

Part II

Part II takes stock of past experiences in the use of technology and innovation in government. The next administration will have the opportunity to build on progress from past administrations – from President George W. Bush's e-government initiatives to the many efforts undertaken by the Obama administration. Despite significant obstacles, including obsolete infrastructure and a patchwork of policies, considerable progress has been made along three government-wide and agency-specific dimensions:

- **Personnel:** Creation of new technology and innovation leadership roles across government, signaling a commitment to the use of technology and especially data, and catalyzing a new culture of innovation.
- **Policies:** New policy and legal frameworks that encourage experimentation and innovation.
- **Platforms:** Innovative platforms such as data.gov and challenge.gov hold the promise of translating policy into concrete, tangible progress.

Part III

The final part offers a series of five broad recommendations and 10 specific and implementable actions to institutionalize a culture of innovation. The broad recommendations are:

- **Scale Data Driven Governance:** Platforms such as data.gov represent initial steps in the direction of enabling data-driven governance. Much more can be done, however, to open-up data and for the agencies to become better consumers of data, to improve decision-making and scale-up evidence-based governance. This includes better use of predictive analytics, more public engagement; and greater use of cutting-edge methods like machine learning.
- **Scale Collaborative Innovation:** Collaborative innovation takes place when government and the public work together, thus widening the pool of expertise and knowledge brought to bear on public problems. The next administration can reach out more effectively, not just to the public at large, but to conduct targeted outreach to public officials and citizens who possess the most relevant skills or expertise for the problems at hand.
- **Promote a Culture of Innovation:** Institutionalizing a culture of technology-enabled innovation will require embedding and institutionalizing innovation and technology skills more widely across the federal enterprise. For example, contracting, grants and personnel officials need to have a deeper understanding of how technology can help them do their jobs more efficiently, and more people need to be trained in human-centered design, gamification, data science, data visualization, crowdsourcing and other new ways of working.
- **Utilize Evidence-Based Innovation:** In order to better direct government investments, leaders need a much better sense of what works and what doesn't. The government spends billions on research in the private and university sectors, but very little experimenting with, testing, and evaluating its own programs. The next administration should continue developing an evidence-based approach to governance, including a greater use of methods like A/B testing (a method of comparing two versions of a webpage or app against each other to determine which one performs the best); establishing a clearinghouse for success and failure stories and best practices; and encouraging overseers to be more open to innovation.
- **Make Innovation a Priority in the Transition:** The transition period represents a unique opportunity to seed the foundations for long-lasting change. By explicitly incorporating innovation into the structure, goals and activities of the transition teams, the next administration can get a fast start in implementing policy goals and improving government operations through innovation approaches.

By building on progress that has been made and effectively utilizing the tools and levers in the federal government, the next administration can institutionalize the use of technology to enhance government innovation and effectiveness. The transition teams can accelerate these efforts by thinking strategically about how to implement an innovation agenda within agencies and through government-wide initiatives. The transition team can also make innovation a priority in the selection of appointees and in providing a clear agenda for action.

ABOUT THE AUTHORS

Beth Simone Noveck The Jerry Hultin Global Network Professor at New York University's Tandon School of Engineering, Beth Simone Noveck is Co-Founder and Director of The GovLab and its MacArthur Research Network on Opening Governance. Beth focuses her research, teaching and activism on the impact of technology on public institutions and solving public problems.

Beth served in the White House as the first United States Deputy Chief Technology Officer and director of the White House Open Government Initiative (2009-2011). UK Prime Minister David Cameron appointed her senior advisor for Open Government, and she served on the Obama-Biden transition team. Among projects she's designed or collaborated on are the Network of Innovators, Unchat, The Do Tank, Peer To Patent, Data.gov, Challenge.gov and the Gov Lab Academy.

A graduate of Harvard University and Yale Law School, she is a member of the Advisory Board of the Open Contracting Partnership and a Program Committee Member of the 2016 Conferences on International Open Data, Open Data Research, Data Science for Government, and the Data for Good Exchange. She was named one of the "Foreign Policy 100" by Foreign Policy, one of the "100 Most Creative People in Business" by Fast Company and one of the "Top Women in Technology" by Huffington Post. She has also been honored by both the National Democratic Institute and Public Knowledge for her work in civic technology.

Beth is the author of "Smart Citizens, Smarter State: The Technologies of Expertise and the Future of Governing" (Harvard University Press, 2015), which will appear in Spanish and Russian in 2016; "Wiki Government: How Technology Can Make Government Better," "Democracy Stronger and Citizens More Powerful" (Brookings, 2009), which has also appeared in Arabic, Russian, Chinese and in an audio edition, and co-editor of "The State of Play: Law, Games and Virtual Worlds" (NYU Press, 2005). She tweets @bethnoveck and writes on Medium @bethnoveck.

Stefaan G. Verhulst is Co-Founder and Chief Research and Development Officer of the Governance Laboratory @NYU (GovLab) where he is building a foundation of research and experimentation on how to transform governance using advances in science and technology.

Before joining NYU full time, Verhulst spent more than a decade as Chief of Research for the Markle Foundation, where he continues to serve as Senior Advisor. He is also an Adjunct Professor in the Department of Culture and Communications at New York University, a Fellow at the Center for Democracy and Technology (CDT); Senior Research Fellow for the Center for Media and Communications Studies at Central European University in Budapest; and an Affiliated Senior Research Fellow at the Center for Global Communications Studies at the University of Pennsylvania's Annenberg School for Communications.

Previously at Oxford University he co-founded and was the Head of the Programme in Comparative Media Law and Policy at the Centre for Socio-Legal Studies, and also served as Senior Research Fellow of Wolfson College. He is still an emeritus fellow at Oxford. He also taught several years at the London School of Economics.

Verhulst was the UNESCO Chairholder in Communications Law and Policy for the UK, a former lecturer on Communications Law and Policy issues in Belgium, and Founder and Co-Director of the International Media and Info-Comms Policy and Law Studies at the University of Glasgow School of Law. He has served as a consultant to numerous international and national organizations, including the Council of Europe, the European Commission, UNESCO, UNICEF, World Bank, UNDP, USAID, the UK Department for International Development among others.

Verhulst has published—including nine books—and spoken widely on a variety of topics at the intersection of technology, society and governance. His latest writings, projects and speaking engagements are focused on how the increased availability and use of data, new ways to leverage the capacity, intelligence, and expertise of people in the problem-solving process, combined with new advances in technology and science can transform governance.

PART I

Summary of Roundtable

When the next president takes office in 2017, the new administration will have the opportunity to embark on its own innovation agenda, building on past efforts and setting new goals. How can new agency leaders drive and sustain innovation? How can the next administration enhance customer experience, and support the empowerment of citizens and businesses? These and other questions served to frame a rich discussion at the Innovation Roundtable.

The discussion highlighted that innovation is the means to an end—rather than an end-goal per se, and focused on how innovation can improve outcomes. Discussion questions, shown at right, were posed within each of these areas:

Improving Efficiency and Effectiveness
How can the next administration utilize technology to improve government operations—both incremental improvements and transformative changes? How can the next administration use new approaches to provide insights, support data-driven decisions and apply new tools such as artificial intelligence and cognitive computing? How can the next administration use innovation to spark progress on the administration's goals/priorities?

Enhancing Customer Experience
How can the next administration enhance customer experience? How can a better customer experience improve trust in government and reduce costs? How can self-service options and navigating government information and services be improved?

Increasing Citizen Engagement
How can citizens and businesses be empowered to participate in the development of government policies and programs? How can agencies enable the public to engage in activities that have previously been performed by government such as co-production and open data? How can the expertise of citizens be effectively tapped to help craft solutions versus problem identification?

Enablers
How can incoming leaders leverage tools of effective government innovation and harness them in the complex federal environment? What are the tools of innovation—prizes, challenges, awards, and innovation labs and how can they be best used? Does implementation differ across functional areas such as policymaking, grantmaking, and contracting? What are the barriers to effective innovation? How can transition teams set innovation goals, and incorporate them into policy and management? How can innovation be driven at the agency level and sustained over time? How should leaders handle innovation attempts that fail? How can the new administration set goals and objectives for innovation? What is the role of key players—e.g. White House Office of Science and Technology Policy (OSTP); Federal Chief Technology Officer (CTO); US Digital Service (USDS); GSA's 18F (18F); and oversight institutions such as the inspectors general and the Government Accounting Office (GAO)? How can new agency leaders drive and sustain innovation–and support front-line innovation? How can hurdles to innovation be removed?

ISSUE 1

Improving Efficiency and Effectiveness

ISSUE BACKGROUND

The challenge of how to improve the delivery of services and reduce the cost of delivering those services is top of mind for many leaders. There are several types of innovation related to operational efficiency: technological innovation, process innovation and innovations in business models. Operational innovation can proceed in an incremental fashion or through transformational leaps. Improvements to efficiency and effectiveness can free resources that are being consumed in inefficient processes—resources that can be reinvested into an agency's mission, redeployed, and reduced—depending upon the priorities of the administration.

ROUNDTABLE DISCUSSION

The roundtable discussion touched on the different types of innovation and on topics related to leadership and change management. Key challenges that emerged included:

- The lack of effective measures of government productivity.
- The need for more rigorous, data-driven strategic planning.
- The role of the oversight community—Inspectors General, the Government Accountability Office and Congress—in supporting or deterring innovation efforts.
- The burden and barrier that federal procurement rules place on the ability of agencies—and vendors—to bring innovation solutions into government.

Attendees recognized that efforts to drive innovation in support of efficiency and effectiveness occur in three dimensions—across government (enterprise initiatives); within agencies; and often with vendors. A frequently cited example was shared services—which has all three components—enterprise, agency and cross-sector. New administration leaders should consider all three dimensions in the planning and execution of initiatives.

INSIGHTS AND OPTIONS

- The acquisition process should be overhauled to support innovation in contracting.
  - Allow vendors to bring ideas into their solicitations and to bring a forward-looking perspective—not just responding to where an agency is today, but where it is heading.
  - Include innovation as a specific element in solicitations.
  - Use contracts that promote collaboration between government and industry around innovation.
- Use the power of analytics and create a national level team with data science team to help agencies use data to make better decisions, and inform strategic choices about which innovation initiatives to pursue. As part of this effort, attendees strongly recommended continuing the benchmarking program within General Services Administration that provides valuable information on efficiency, processing times, and costs for mission support functions.
- Create centers of excellence for operational improvements.
- Expand the use of machine learning to free people from routine tasks so they can focus on solving problems.
- Incorporate externally customer-facing technology improvements – they drive mission-support improvements and create momentum and visibility among consumers and stakeholders.
- Look for opportunities to innovate the regulatory processes – which could drive significant benefits, such as increasing the focus on outcomes and flexibility instead of rule compliance.

ISSUE 2

Enhancing the Customer Experience

ISSUE BACKGROUND

A frequent pain point for citizens is the experience they have when interacting with government. Citizens have seen tremendous customer experience improvements in many aspects of their lives such as online banking, retail shopping and information consumption—just to name a few. For the most part, they have not seen the same level of improvements when interacting with government. Poor experiences can undermine trust and confidence in government, and result in higher service delivery costs for agencies. Improving the customer experience has become a priority in the latter part of the Obama administration, with the US Digital Service, and 18F, and innovative agency teams leading the charge.

ROUNDTABLE DISCUSSION

The roundtable discussion ranged from the theoretical to the very practical. The participants recognized that barriers exist that are specific to the federal government such as widespread agreement on the need to update the Paperwork Reduction Act to make it easier to gain feedback from federal customers. Roundtable participants focused on the service delivery and innovation ecosystem – which consists of customers, agencies and service providers (and more) – and the potential to use alternative service delivery options. Along these same lines, participants pointed out the key role that state and local government play in deploying federal funds and providing services. The next administration will have the opportunity to use federal spending to change the customer experience at the state and local level where most services are actually delivered. Conversely, agencies should avoid duplicating the private sector. The example was given about the creation of 411 systems to give road conditions, although people instead use Google Maps or Waze.

A key focus in the roundtable was the critical importance of feedback. The customer experience cannot be improved in a vacuum and will only occur through deliberate and iterative customer feedback. When agencies take a "we know best" attitude, it is detrimental to customer experience and can backfire, slowing down or derailing initiatives. A participant related the power of employees conducting field "ethnographic" research that allows them to view and interact with customers in the customer's environment. By understanding how people are behaving, more effective solutions can be tailored.

The key role of people was also emphasized. Employees should be empowered to improve the customer experience and should be part of the innovation process. Key topics discussed were:

- Incentive structures are often not designed to deliver better services and reduce costs—but to adequately staff offices and provide coverage.
- Rules around cross-agency data sharing can inhibit creation of streamlined "one-stop" access.
- Shift the perceived role of civil servants—employees should not only be defined by their narrow areas of professional expertise, but their role in creating positive interactions with the public.
- Challenges and prizes have proven to be an effective way to bring in outside ideas. Participants wondered how the same approach could be used internally with employees to spur innovation.

INSIGHTS AND OPTIONS

Across many institutional decision-making processes, there is flexibility in many cases to adapt these processes to the personal style of individual leaders. In that vein, roundtable participants suggested that new political leaders:

- Identify the 10 to 20 most public-facing agencies in government and focus on improving them first.
- Make customer experience a priority for agency leadership by including customer satisfaction or similar metrics as a Senior Executive Service and political leadership performance goal—and create incentive structures that reward delivery of better services.
- Use behavioral evidence approaches when designing regulations and making programmatic budget decisions.
- Create incentive structures for employees that reward delivery of better services.
- Identify ways to increase cross-agency data sharing—convene a legal/regulatory task force that can sort through potential challenges.
- Design customer research and feedback directly into innovation efforts from the start, and bring procurement and legal into discussions.

ISSUE 3

Increasing Citizen Engagement

ISSUE BACKGROUND

Technology has opened up entirely new possibilities for how citizens interact with their government. From obtaining information on communities and government operations, to creating avenues for citizen input and meaningful engagement on public policy issues, and how citizens engage government is changing rapidly. Early experiments, such as the Obama administration's "We the People" internet petitions, illustrated both the potential and the pitfalls of new forms of engagement. The next president has the opportunity to build on these experiments, and those in cities and states across the country, to develop more meaningful participatory channels and experiences for citizens.

ROUNDTABLE DISCUSSION

The discussion identified several of the philosophical and practical challenges facing federal agencies and an administration that seek deeper citizen engagement. These include:

- Agencies and leaders often do not see the value of engagement. Rather than using engagement as an opportunity to collect useful feedback, identify customer pain-points, or sharpen policies and programs, engagement is a "check the box" exercise.
- There are real and perceived barriers to collecting customer feedback—in particular the Paperwork Reduction Act constraints on asking for feedback.
- One-off or infrequent engagement that is not sustained and reiterated will not build the type of meaningful engagement that can lead to innovative approaches to improving service delivery.
- There are not good mechanisms to solicit solutions from citizens. While citizens may have important information or ideas, feedback is often simplistic and not designed to allow for co-creation of solutions.

INSIGHTS AND OPTIONS

- Set a leadership tone in organizations by celebrating successes as a result of better engagement.
- Training in design thinking and similar client focused techniques can help employees understand the benefits of citizen engagement—creating a strong link between engagement, user experience and agency mission and providing employees with the tools for effective engagement.
- Leaders should systematically address regulatory barriers and inflexibilities that make it difficult for customers to engage with agencies.
- Engagement best practices should be shared across agencies.
- Design engagement tools that allow for deeper citizen engagement and co-creation of solutions.

ISSUE 4

Enablers

ISSUE BACKGROUND

There are no shortage of ideas for what should be done to drive better outcomes and performance in government. The more challenging question is often how to lead innovation and change. Identifying levers that are available to leaders, and the common roadblocks that can derail innovation efforts was one of the key topic areas for the roundtable discussion. The areas of focus were Leadership and Talent; Process; and – all of which are informed by approaches to goal setting and governance. Collectively, the participants had hundreds of years of experience driving change in a variety of public and private sector organizations.

ROUNDTABLE DISCUSSION

The breadth and depth of participant knowledge provided a wealth of practical recommendations. The overarching advice was to use innovation to help figure out how to reach the targets, but don't start with innovation as the goal. Start by defining a clear goal, set a high-bar, and then unleash innovation to achieve the goal.

A frequent refrain was that "procurement and legal is where innovation dies." One of the tasks for incoming leaders should be to quickly gain an understanding of the organizational barriers and to help remove them. Leaders have to overcome the perception that anything new or innovative is illegal or against regulations. On the flipside, leaders need to ensure that innovation is not seen by the organization as chasing "bright, shiny objects." This approach can alienate the rest of the organization and make scaling innovations much more difficult.

Incoming leaders can gain support within an organization by identifying quick wins—often small pain points—before undertaking more lofty initiatives. Participants voiced a warning to "avoid the trap of the grandiose." Taking innovation from idea to pilot to scale across the government or an agency or even a bureau is a real challenge, and requires concerted effort and support by leadership.

When it comes to institutionalizing and integrating innovation, roundtable participants felt that despite the high profile nature of many technology appointments, there is still a shortage of personnel with technology skills, including data, analytical know-how and knowledge of how to work more collaboratively using such innovative techniques as crowdsourcing. Even where technology roles exist, they often sit within the communications or finance functions within agencies, and are not tied to solving problems and achieving core policy priorities.

For the federal government to become more effective in using technology, there needs to be many more people with an innovative skillset and mindset. The next administration will need to be concerned with how to develop and recruit more people with skills ranging from human-centered design to data science as well as how to train current employees in these new skills.

From relatively little innovation capacity in government, there's now a hodgepodge of overlapping institutions among the General Services Administration, the Office of Management and Budget, the White House and within agencies and departments. Becoming more effective over time may require reorganizing institutional arrangements and structures to enable innovation.

With regard to policies, participants felt more progress needs to be made in order to advance the use of technology and encourage innovation. Further, the notion that government should release the data about the economy and society that it collects in the course of doing its work, including data that it collects from companies as part of its regulatory

mandate, is still not well understood. There is also a wide chasm between opening data and government, itself, using such data to improve how it delivers services and designs policies. Despite the proliferation of prize-backed challenges, we still have too little understanding of their impact and whether and how they work better than grants to support innovative solutions to problems. In addition, far too few people know about Challenge.gov, the online crowdsourcing platform, and challenges often fail to reach the audiences most likely and willing to participate.

Reviewing the progress in platforms, participants indicated that "We the People" internet petitions rarely translate into changes in policy. And that despite tremendous progress in data.gov, data are not made available in real time and are often published in forms that require a great deal of cleaning to be useful. Challenge.gov also could be improved with more automated help for those designing challenges and, above all, more tools to help promote challenges to interested communities.

Finally, many participants acknowledged that scaling innovation across the government or even within a single agency or bureau is a real challenge and requires concerted effort and support by leadership. According to the participants, equally important as scaling innovation was the need for "myth-busting," challenging the perceptions of rules and boundaries that may limit innovation.

The discussion identified a number of common challenges and points of failure:

- Innovation driven by bottom-up engagement of employees is much more likely to succeed than top-down innovation initiatives. Leaders should focus on creating the conditions necessary for innovation.
- "Fail-fast" is a common mantra in the innovation sector. The risk-reward calculus is often perceived differently in public sector organizations. It is critical that leaders create the safe space for innovation.
- Innovation requires transparency. A frequent theme of failure is teams that collect input from stakeholders early on and develop solutions in secret which are then rejected by stakeholders.
- Government is good at sourcing innovation from the private sector, but struggles with developing, testing and scaling innovations. Incentives for testing and scaling need to be increased.
- Leaders should be prepared to take advantage of a crisis to do transformative innovation—in other words, crisis can "unfreeze" processes and systems and open the doors for more radical rethinking of business processes.

INSIGHTS AND OPTIONS

In each of these areas, innovators in and for government must address the challenges of leadership and talent, process and scale in order to sustain and grow an innovation culture.

Leadership and Talent

- Make innovation a key expectation of every agency leader—career and political—and measure the performance of leaders. Innovation is one of many priorities competing for the time and attention of staff and leaders. To highlight its importance, it needs to be part of how people are measured.
    - The White House and its Presidential Personnel Office need to educate and create clear expectations for incoming appointees around driving innovation.
- Top leadership needs to signal support for innovation and tolerance for failure while understanding that innovation needs to emerge from within the organization, not top-down.
- Bringing in new talent remains a challenge across government. Agencies should look at new models for acquiring talent, but should also consider existing authorities that may not be fully utilized.
    - Create a "Tinder"-like website for government as a way to better match people with the skills need of organizations.
    - Bringing in people from outside the organization can infuse new ideas and ways of thinking, but they need to work closely with existing career staff for innovation to stick.
    - Create a Peace Corps model where people come in and out of government for one- to two-year terms. Expand that model to federal employees in other agencies.
    - Use one-year rotations for focused innovation—possibly as part of the Senior Executive Service rotation program.

Process

- Leaders should create structure around initiatives and give the initiatives a name, designate accountable leaders and set-up a reporting process.
- The Office of Management and Budget and other "center of government" agencies are often viewed as adding processes that inhibit positive change—however, they can also drive innovation forward across the government.
- The oversight community, such as inspectors general and the Government Accountability Office can limit innovation when they could and should be a partner in helping agencies identify ways to improve.
- Ground innovation in evidence-based approaches.

Scale

- Innovation in management structures is important (for example, establishing a cohesive shared services governance model) and needs to accompany innovations at scale.
- Embed innovation in transition planning and the execution of campaign commitments.
- Be ready for a crisis. Leaders can use a crisis to drive changes that would otherwise be unattainable and at the same time drive real innovation in the delivery of services.

PART II

Lessons Learned from Past Administration

There is much to be learned from the experiences of past administrations about the use of technology to improve government effectiveness. This section identifies some of the lessons of the major innovation initiatives of the past eight years. The advances in the Obama administration built upon a foundation laid with the E-Gov initiatives of President George W. Bush's administration.

BUSH E-GOV INITIATIVES

In an effort to make government "citizen-centered, results-oriented and market-based" (Presidential Memo on the Importance of E-Government, 2002), the Bush administration developed a wide range of e-government programs that laid a foundation for future technology and innovation initiatives. Milestones included:

Quicksilver Initiatives

- Sponsored by the Office of Management and Budget in 2001, the "Quicksilver" projects were 25 initiatives and strategies intended to leverage IT in transforming service delivery across the federal system.
- Initiatives were categorized into five portfolios: government to citizen, government to business, government to government, and internal efficiency and effectiveness.
- Among these initiatives, were the IRS's Free File initiative for the electronic filing of tax returns—the Business Gateway,—which allowed businesses to access information about federal regulations online.
- Several Quicksilver projects became finalists for Excellence.gov awards in 2005; the Environmental Protection Agency's E-Docket and Regulations.gov; General Services Administration's E-Travel and USA Services; the Labor Department's GovBenefits.gov and the Office of Personnel Management's E-Training. Several of these intiatives still operate successfully today.

The E-Government Act of 2002[3]

- Enacted in December 2002 and effective in 2003, this law was put in place to improve electronic government services and procedures, and to promote the use of the internet and innovative technologies in government operations
- Codified the administrator for E-government and IT within the Office of Management and Budget. (Effectively, this position become the federal CIO, a title formerly designated by the Obama Administration.)
- Included two provisions that recognize the importance of digital security; the Federal Information Security Management Act (which

3 http://bit.ly/29QkPYG

requires each federal agency provide comprehensive information security for their systems) and the Confidential Information Protection and Statistical Efficiency Act (which establishes standards for confidentiality protections for information collected for statistical purposes by U.S. statistical agencies, with allowances to share data between certain agencies).

- The Bush Administration drove a number of cybersecurity intiatives that implemented its E-government work and enhanced data protection across agencies.

The Office of E-Government & Information Technology (2002)[4]

- Created by the Bush Administration in Spring 2001, codified under the E-Government Act of 2002, and led by the federal chief information officer (Administrator for E-government and IT).
- Among the office's mission objective was to "develop and provide direction in the use of internet-based technologies to make it easier for citizens and businesses to interact with the federal government, save taxpayer dollars, and streamline citizen participation."

President's Management Agenda (2002):

- President Bush's management agenda for 2002 outlined "the president's vision for government reform," and included a strategy for e-governance to promote citizen-centered electronic government to drive productivity and cost-efficiency.
- The strategy was supported by a $20 million E-government fund ($100 million over the three years 2002 through 2004), and included specific initiatives and deadlines such as demanding that "by the end of 2002, all agencies will use a single e-procurement portal, www.FedBizOpps.gov."
- A central purpose of the E-government initiative, as part of the Management Agenda, was to "make it simpler for citizens to receive high-quality service from the federal government, while reducing the cost of delivering those services."

4 http://bit.ly/2acRjQ2

OBAMA TECHNOLOGY AND INNOVATION INITIATIVES

Technology was an important part of the Obama presidential campaign as well as his transition. Its importance as an organizing principle carried over into his presidency. The campaign invited its supporters to blog freely on the campaign's website, for example. Technologists volunteered to build get out the vote and other tech tools for the campaign. It set up listservs and wikis dubbed Idearaisers to invite over 5,000 experts from across the country to discuss ideas and then submit to the campaign for consideration one-page proposals they had honed in small groups.

After the election and before the inauguration, the transition team set up the first ever presidential transition website to inform and engage the American people in the process of planning the first 100 days of the new administration. Inspired by Idearaiser, the transition team sought to engage citizens and not just professional experts, inviting people to submit both their questions and their ideas as part of a Citizens' Briefing Book, which would tell the presidential transition team what could be on the new president's first-100-day agenda. More than 125,000 people shared 44,000 ideas creating a public mandate to act differently once in office. The transition also notably included the first ever committee to design and plan a technology strategy for the first 100 days of the Obama administration called the Technology Innovation and Government Reform (TIGR) team.

On January 21, 2009, his first day in office and as one of his first executive actions, President Obama signed the *Memorandum on Transparency and Open Government*,[5] committing his administration to "establish a system of transparency, public participation, and collaboration" for government. It was his administration's first directive on the use of technology and innovation, and aspired to fundamentally redesign, not just reform, how institutions make decisions by opening them up to the value embedded in citizens' skills, talents and abilities.

This turned out to be more easily said than done. After all, in 2009 the White House was running Windows 2000. A newly appointed Obama administration chief technology officer of a large Cabinet department described the situation in his agency this way: "We have a nearly obsolete infrastructure. The amount of manual work is amazing, and embarrassing. Don't think Google server farm. Think gerbil on a wheel."

An obsolete infrastructure was only one of the impediments. Overzealous security procedures blocked virtually all access to social media sites. Even the president had to exert his authority as leader of the free world to be allowed to keep his mobile device. Gift restrictions intended to prevent corruption and bribery prevented de-

5 http://bit.ly/1SHPCHr

ploying even commonly used open source software. Installing any new software on a White House server could take a year or more to pass the necessary security and accessibility inspections. The White House did not have a blog, let alone a Facebook or Twitter account, and only an archaic and barely functioning website inherited from previous administrations.[6]

Despite this inauspicious and frustrating beginning, the federal government has made great progress in the use of technology to change how it makes decisions, solves problems and delivers services. In 2009, Fast Company's almost tongue-in-cheek naming of the White House as the Best New Tech Start Up—with amazement and not a little curiosity—focused on the launch of new websites and the naming of new technology leaders in government.

Since then, the administration has taken concerted action, outlined in detail below, to make technology a key tool in the way it solves problems. In March 2016, President Obama headlined the South By Southwest festival, and, in a speech on Technology and the Imperative of Citizenship, was able to speak about the impact of the use of innovative technology by government on the lives of veterans (enabling them to download their own healthcare records), students (simplifying student aid), immigrants (streamlining the visa process) and the environment (by giving Americans access to their own energy usage data).[7] As Jason Goldman, chief digital officer of the White House, has put it: "[T]his Administration's use of technology is not about novelty. Instead it is rooted in the President's broader vision about citizenship and service."[8]

These projects would not have been possible without government-wide and agency-specific enablers to support such innovative programs. In order to avoid repeating what has already been done and to better understand how the forthcoming administration can scale and deepen the culture of innovation in government, it is worth focusing on these enablers, in particular as they relate to:

- **Personnel:** Institutionalizing and Integrating Innovation;
- **Policies:** Creating the Legal and Policy Frameworks for Innovation;
- **Platforms:** New Technologies to Make Innovation in Governance Real in Practice.

6 This section is based on Beth Simone Noveck, "Smart Citizens, Smarter State: The Technologies of Expertise and the Future of Governing" (Harvard University Press, 2015), Preface.

7 http://bit.ly/1WeFKGl

8 Jason Goldman, Technology and the Imperative of Citizens, available at http://bit.ly/2aevdON

PERSONNEL: INSTITUTIONALIZING AND INTEGRATING INNOVATION

New Innovation Leadership Roles for Government: Chief Technology, Innovation, and Data Officers

One hallmark of the current administration has been the creation and appointment of new technology and innovation leadership roles across the government and in the White House, signaling a commitment to the use of technology and especially data. From the first days of the administration, when technology-related questions were added to the vetting interviews for new Cabinet secretaries, to the designation of people such as former Chief Technology Officer Todd Park to help recruit new technology talent, these new posts have been important in catalyzing a culture of innovation.

Among the posts and other personnel changes created during this administration:

- The first chief technology officer and chief data scientist for the White House were appointed by the Obama administration in 2009 and 2015, respectively. Both serve in the Office of Science and Technology Policy and leverage talent and skills gained in the private sector: For instance, DJ Patil, the current data scientist, had jobs at PayPal, eBay and Skype before joining the White House, and the current federal Chief Technology Officer, Megan Smith, was formerly a vice president at Google. Many departments and agencies have followed suit. The Department of Commerce, for example, has a appointed a chief data scientist and 34 people work for him.

Agile Technology Talent

One other way the government has attempted to bring in new talent and further embed innovative practices into government has been through short-term fellowship positions and events. By borrowing skills and personnel from some of America's most innovative companies and universities, the government has been able to bring on more diverse talent more quickly.

By taking advantage of existing legal authority to bring in people from universities and nonprofits and creating a new pathway—The Presidential Innovation Fellow program—to bring in people from the private sector, the government has been able to attract more technologically-skilled people.

Presidential Innovation Fellowship and 18F

- Launched in 2012, the Presidential Innovation Fellowship is a competitive program that connects innovators from the business, nonprofit, and academic sectors with government departments. Together, they work to produce innovative, short-term projects to improve government efficiency. The program has evolved from one that parachutes new people into the White House to one that pairs innovators with civil servants to help implement change. Cabinet departments and agencies first compete to have their projects chosen and then fellows are selected in response to an agency's defined need. Since 2014, the Presidential Innovation Fellows operate out of 18F, the digital services agency created under the General Services Administration. 18F is modeled after high-tech start-ups, aiming "to provide cutting-edge support for our federal partners that reduces cost and improves service."[9] Federal agencies can consult with 18F to support the creation of their public-facing websites, with the hope of creating a more consumer orientated online platform.

Hack The Pentagon Program (2016)

- Hack the Pentagon is a pilot program which invites hackers to try and compromise the cybersecurity of the Department of Defense. It is designed to attract the best talent from the private sector.
- It is similar to security improvement strategies implemented by the private sector.

Policies: Creating the Legal Frameworks for Innovation

Having people with technology acumen and experience using technology to tackle hard problems is not enough without the policy and legal frameworks needed to enable such leaders to experiment. Without the Presidential Memorandum on Transparency and Open Government, and the related OMB directive on Open Government issued later the same year, agencies would not have had the impetus to change. Key legislation in areas such as open data and prize-backed challenges cleared legal hurdles to the adoption of new ways of working. And new policies favoring pay-for-success grant-making are potentially making how the government spends its money more evidence-based.

Using Technology to Transform the Relationship between State and Citizen

A series of key policies on opening governance articulated the values—transparent, participatory and collaborative—by which government would reorganize its relationship to citizens and move toward structures to enable greater co-creation and co-production of decision-making informed by the knowledge of how government works.

Open Government Initiative (2009-Ongoing)

- The Open Government Initiative is a series of policies, programs and directives aimed at transforming the relationship between citizen and state and using technology to modernize government.
- The Transparency and Open Government Memorandum underlined the intent of the administration to support open data and participatory governance.
- The initiative includes the U.S. Open Government Directive, signed later in 2009, which provided U.S. agencies and departments with guidance on how to implement the memorandum.
- Also of relevance is the Presidential Memorandum in May of 2012 on "Building a 21st Century Digital Government." The strategy aims to improve the digital services available to the American public, and includes objectives on open data, API policy, the prioritization of digital services and adopting a customer-centric approach to digital service delivery.

Open Data Policy (2009-Ongoing)

- The Obama administration issued a series of open data policies, beginning with the Open Government Memorandum and including an Executive Order (May 2013) on Making Open and Machine Readable the New Default for Government Information, and implementing guidance. These policies go beyond earlier policies, which focused on making information about the functioning of government more transparent, to include "high value" data.
- According to a 2009 White House memorandum, high-value government data is any data that can "increase agency accountability and responsiveness; improve public knowledge of the agency and its operations; further the core mission of the agency; create economic opportunity; or respond to need and demand as identified through public consultation."

Digital Accountability and Transparency Act (DATA) (2014)

- Passed unanimously by Congress in 2014, the legislation seeks to improve the level of transparency and accessibility to federal expenditure data. It requires that the Treasury and Office of Management and Budget to "establish government-wide financial data

9 See Adam Mazmanian, GSA Launches Digital Incubator, Federal Computer Weekly, March 19, 2014, available at http://bit.ly/2aevdON

standards for any federal funds made available to or expended by federal agencies and entities receiving federal funds." These standards are to be maintained across all government departments. It also mandates that all federal expenditures are to be published and open to public scrutiny.

Creating Incentives for Engagement: Prize-backed Challenges

In order to create incentives for greater participation, new legal authority was put in place in 2011 to support prized-backed challenges:

- The America Creating Opportunities to Meaningfully Promote Excellence in Technology, Education and Science Act (COMPETES Act) was first signed into law in 2007 by President George W. Bush and reauthorized in 2011 by President Obama.
- The reauthorization in 2011 provided agencies with authority to conduct prize competitions in order to spur innovation, solve tough problems and advance their core mission, as called for in the President's Strategy for American Innovation and the 2010 OMB "Guidance on the Use of Challenges and Prizes to Promote Open Government" (OMB Memorandum M-10-11 of March 8, 2010).

Evidence-Based Policy-Making: "Pay for Success" Grantmaking

The trend toward evidence-based grant-making is part of a larger movement toward evidence-based policymaking, enabled by better tools for managing data.

- The United States government's Pay For Success movement has led to new policies and over $100 million invested in evidence-based initiatives. These include over $10.6 million dollars allocated in 2016 for Pay for Success social innovation grants awarded by the White House Office of Social Innovation and Civic Participation to nonprofits and state and local governments trying to develop projects using data-driven decision-making.
- Examples include the Department of Education's Investing in Innovation Fund, which provides tiered grants contingent on the degree of demonstrated results. By dividing grantees into "development," "validation," "and "scaling-up" stages, each with different maximum grant amounts, the innovation fund helps advance the principle that better evidence should be a prerequisite for bigger grants. The tiered approach also could enable funders to use data to help steer money toward interventions that have already been proven to create economic and scientific value.

Platforms: New Technologies to Make Innovation in Governance Real in Practice

New platforms have complemented the addition of personnel and policies to make innovation, especially data-driven innovation, real in practice, not just in principle. Every administration has had a policy on freedom of information and made pronouncements about transparency, but the creation of Data.Gov created a place for agencies to make their data accessible and for the public to find it, leading to unprecedented openness in the operations of government. Although the COMPETES Act offered the legal basis to support prize-backed challenges, without Challenge.gov offering a place to host challenges and automated tools for setting them up, there would not have been almost 600 federal agency prize-backed challenges conducted.

New Innovation Institutions: Innovation Labs

A particular strategy to institutionalize innovation within government involves the creation of "skunk works" and new innovation offices within government, designed specifically to be more open, collaborative and experimental. More than a hundred such labs or "I-teams" have sprung up in the public sector around the world.[10] Some are focused on using ethnographic research methods to engage citizens in the design of services that they will subsequently use. Others are more explicitly focused on the design and creation of new technologies.

The federal government also has such new institutions for disseminating innovation. They function both as idea labs to encourage employee and citizen innovation, and as new offices tasked with improving the administration's technological toolkit:

- The Office of Personnel Management's Innovation Lab was started in 2012 to provide human-centered design consulting to agencies and help them build better programs. For example, the OPM lab has worked with the USDA's Food and Nutrition Services school lunch project, improving the project's design and efficiency.
- Similarly, the Department of Health and Human Service's IDEA Lab was established in 2013 to create a collaborative environment in order to encourage innovation within the department. The lab boasts an "entrepreneurs in residence" program to learn from private sector innovation and also has programs to encourage HHS employee innovation. The lab hosts the HHS Ignite Accelerator, HHS Venture Fund and the HHS Innovates Award to invest in and stimulate employee innovation.

10 http://bit.ly/W4YaQW

- The US Digital Service, launched in 2014, is a consultancy within the government that advises federal agencies on information technology. It is a part of the Executive Office of the President, which grew out of the team initially tasked with fixing the government's HealthCare.gov website in 2013, but has since worked to improve digital service delivery across the government. In 2014, they created The Digital Services Playbook, a guide for departments to create effective and user-friendly digital services.
- In a similar vein, the General Services Administration's Office of Citizen Services and Innovative Technologies builds digital products for use by federal agencies. Its main focus is to help government agencies build more user-friendly websites and citizen facing information technology. The five main portfolios they manage are secure cloud, customer experience, data services, open innovation and smarter IT delivery. Furthermore, DigitalGov, the citizen services office's online platform, aims to provide resources, services and tools to improve agencies' digital infrastructure.

Enabling Engagement With E-Petitions: WeThePeople.Gov

- In 2012, the White House established an online petitions website, WeThePeople.gov. Like its British counterpart, e-Petitions, the American website allows members of the public to solicit signatures in support of a petition for government action. The White House committed to a public response to all petitions reaching a certain level.
- Petitions were launched on such diverse topics as enacting federal gun control reforms, legalizing marijuana, supporting mandatory labeling of genetically engineered foods, and building a "Death Star," like that in the movie Star Wars.
- The popularity of the system—it is the only way to communicate with the White House directly other than by mail—led to the threshold for warranting a response being raised to 100,000 signatures in a 30 day period.

Open Data Portal (2009-Ongoing)

- Launched in May 2009 with 47 data sets, the website Data.gov now makes more than 184,000 data sets publicly accessible. These federal, state and city based data sets are searchable and downloadable for free and in raw form.
- Data.gov is managed and hosted by the General Service Administration and houses various specialized data portals, including ethics.data.gov and health.data.gov, as a way for those with specific interests to find the data of greatest use and interest to them.
- The Commerce Department's Commerce Data Service creates tools, including sample software code, to help people make better use of open government data.
- Similarly, the website Open.Whitehouse.gov provides accessible data on the administration's budget, staff, nominations and other government data and a revamped federalregister.gov, the newspaper of the federal government, makes day-to-day actions more transparent and searchable.

The Opportunity Project (2016)

- Recently launched on the Census website, the Opportunity Project encourages technologists to use this government data to build tools that address "economic mobility" in local communities.
- Eight cities are currently contributing data, with the intent to expand across the country.

Crowdsourcing For Innovation: Challenge.Gov (2010)

- Posts open competitions from government agencies seeking innovative solutions from the public.
- Over $220 million in prize money has been offered by the platform since 2010.

PART III

New Approaches

Needed for Scaling and Institutionalizing Tech-Driven Innovation in Governance

In this section, we draw on the insights and options that the roundtable discussion revealed in Part I, as well as our own work inside and outside government, to provide a set of recommendations for how the next administration can build upon the efforts of past administrations and create a robust innovation agenda.

Despite the many personnel, policy and platform-related innovations undertaken by the Obama administration, the embrace of technology as a means to do things differently in government is still the exception rather than the norm.

The well-publicized failures of Healthcare.gov in 2014 enabled everyone to understand why the government's ability to make use of technology matters. The central question facing the next administration and every leader is how to scale and institutionalize more technology-driven innovation. In particular, the next administration will need to answer a number of questions:

How do we scale current data-driven and collaborative experiments?
How do we maximize the potential value that open data for making government and society work better? How do we enable government to become a more effective consumer of data, including its own data? How do we leverage advances in the use of technology to enable government to get smarter, not only from the use of data, but from human intelligence?

How do we create a government-wide culture of innovation, experimentation and customer service?
How do we create more innovation leaders and ensure that the civil service, not just a few people in a White House, know how to wield the tools of open data and human-centered design? How do we create institutions that can outlast administrations and transcend politics? Do we have the right arrangements? Becoming more impactful over time may require dividing and conquering.

How do we become more evidence-based in using technology to solve problems?
Despite the significant increase of technology-enabled ways of working during the past seven year, evidence of impact is need to sustain and scale the progress. How do we assess which innovations measurably improve people's lives? How do we carry out such evaluation in real time using big data? Above all, how do we create structures flexible enough to respond to what we learn by changing how government works?

RECOMMENDATION 1

Scale Data-Driven Governance

From the appointment of chief data officers to the launch of platforms like data.gov and the release of almost 200,000 datasets, a significant number of the innovation initiatives undertaken in recent years can be described as enabling data-driven governance. These developments are rooted in the hypothesis that when governing institutions leverage data to inform decision-making, they are more legitimate and effective, and when institutions open data to the public, new public value is created.[11]

We are living in an era defined by an unprecedented flow of information, the so-called big data era. Institutions generate, collect and compile vast amounts of digitized data, often through the efforts and actions of citizens. Add to this flood of new digital data the large stock of already existing data, and it is clear that the challenge of governing in a complex environment does not stem from a lack of information. Rather, the challenge lies in making sense of the data and translating raw information into operational insights and improvements.

Collecting and using data, as well as opening data for use by others, hold the promise of:

- More evidence-based decision-making by government, such as when government uses its own spending data to identify opportunities to save taxpayer dollars.
- Improved decision-making by the public, such as the financial aid calculator that President Obama celebrated at South by Southwest, which is made possible by the new availability of information the government collects about the economy, environment, business and society.
- Greater economic opportunity, such as the way open health data has enabled Medicare to pay bonuses to doctors for patient outcomes rather than paying for services performed.
- Enhanced democratic engagement and civic participation facilitated by the opening up of data as in the case of hackathons.

As we heard often during the roundtable discussion, there is a long way to go in future administrations if we are to realize the value that open data can bring for making government and society work better. Of course, there are wonderful examples of government using open data such as when Mexico was able to spot and eliminate 1,512 ghost teachers on the public payroll (all of whom had the same birthday and were exactly 102 years old); or when Brazil put its government purchases online and was able to reduce its credit card expenditures by 25 percent.[12] However, governments are still fixing problems after the fact instead of using data to develop new ways of working. Chicago, for example, was the first city in the country to use its data about the incidence of foodborne illness to develop algorithms to overhaul how the city inspects restaurants, making enforcement more efficient and effective. At the federal level, we sit on a treasure trove of data. The IRS, however, only announced in 2016 that it would begin using the data it collects from nonprofits, for example, to change how it targets its own enforcement efforts. Predictive analytics—the ability to mine data and develop algorithms to enhance operations—are not yet in widespread use to make more informed and effective policies on a systematic basis.

The next wave in data-driven governance innovation is the development of platforms, policies, the training and hiring of personnel, and the creation of institutions that can enable government to make use of its own and other data to change how government works and improve people's lives.

Several roundtable participants pointed to the need for streamlined service for sharing and integrating data and using predictive analytics. Others contemplated that the use of machine learning could also free up people to solve problems, and that the power of analytics can also help identify areas of focus for innovation.

11 Toward a Research Agenda on Opening Governance, MacArthur Research Network on Opening Governance, http://bit.ly/W4YaQW

12 Open Data Impact Case Studies on Mexico's Mejora Tu Escuela and Brazil's Budget Transparency Portal, available at odimpact.org.

ACTIONS

Expand analytic capacity across the government.

Create a "What Works" center by redesigning the Office of Information and Regulatory Affairs (OIRA) to include a hub of statistical and data science capacity.

- Explanation: The president could 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 empower the Office of the Chief Statistician 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 OIRA by a handful of statisticians with limited training in data science. A revamped OIRA will expand its analytic and data science capacity and become the driver of more innovative, information-based practices across the government..

Build upon open data initiatives.

Adopt the Open Contracting Data Standard and the Open Data Charter to increase transparency and solidify progress made.

- Explanation: The next administration can further the principles of transparency and efficiency by adopting the global Open Contracting Standard, publishing all of the data about how it spends taxpayer dollars on contracts in standardized machine-readable formats, and launching a series of prize-backed challenges to encourage the public to scrutinize the data and identify opportunities for reducing fraud, waste and abuse.

  On May 9, 2014, President Obama signed the Digital Accountability and Transparency Act (DATA Act), Public Law No. 113-101, which had been passed unanimously by both the House of Representatives and the Senate. The legislation mandates that the federal government publish its spending data in machine- readable formats by May 2017.

  The new administration could consider adopting the Open Contracting Data Standard. This standard is a global, non-proprietary data standard promulgated by the nonprofit Open Contracting Partnership through an open process. The data standard covers the full procurement and contracting process, including planning, tender, award, contract and implementation data. It connects the data or documents that governments collect with the needs of users who want to help fix problems, analyze public contracting, and innovate the way contracts are made and delivered. The standard enables users and partners around the world to publish shareable, reusable, machine-readable data, to join that data with their own information, and to create tools to analyze or share that data.

  Such a process toward more open contracting should be complemented by allowing vendors to bring ideas into RFPs and to bring a forward looking perspective, not just respond to where an agency is today, but where they are heading. Further, open contracting arrangements can also be leveraged to promote collaboration between government and industry around innovation.

  In addition, the new administration could adopt the International Open Data Charter, wich seeks to expand the G8 Open Data Charter . The International Open Data Charter contains the following 6 principles:

  - Open by Default;
  - Timely and Comprehensive;
  - Accessible and Useable;
  - Comparable and Interoperable;
  - For Improved Governance and Citizen Engagement; and
  - For Inclusive Development and Innovation.

  By publicly embracing the Charter and outlining means for its implementation across the US government, the next administration would signal a strong commitment to open data and data driven governance.

RECOMMENDATION 2

Scale Collaborative Innovation

Similarly, the federal government has made advances in the use of technology to enable government to get smarter, not from the use of data, but from human intelligence. The government has launched more engagement platforms to tap into that cognitive surplus and work with citizens differently than it has ever done in the past. Projects like Challenge.gov and WeThePeople.Gov, or what we call collaborative governance innovations because they are designed to increase collaboration between government and the public, are rooted in the hypothesis that when government enables diverse participation and better coordinates efforts with other stakeholders, governing decisions are more effective and legitimate.

Such participation can manifest itself in a number of ways. We participate explicitly in our democracy by voting, by serving on federal advisory committees and by mobilizing around political and social issues, and implicitly by volunteering in our communities and responding to the occasional opinion poll. New programs such as the Presidential Innovation Fellowship and other innovation-focused positions in agencies offer new ways for more — but still only a handful of people — to participate in government.

Technology has accelerated civic participation by enabling more people to add or edit articles on Wikipedia, for example, or to write hotel reviews on TripAdvisor, restaurant reviews on Yelp, or book recommendations on Goodreads. Similarly, citizens can participate in difficult and specialized projects via the internet, such as transcribing the works of Jeremy Bentham or ancient Egyptian papyri, that contribute to our collective intelligence and knowledge.

Yet, even as the internet has made it easy to participate in civic life in new ways, there exist only limited avenues for citizens to share their know-how directly with government. WeThePeople.gov creates a new way for people to share what they feel, but because it is open to all, it has invited unserious demands of government leaders, such as "build a Death Star" or "deport Justin Bieber back to Canada." As a result, it is of little operational use in improving the policymaking process. Challenge.gov goes further by asking people what they know, rather than what they feel, and by soliciting expert and detailed advice from the public.

These tech-enabled participation opportunities rely, for the most part, on an open call and the hope that the right people will participate.

Reliance on the open call, however, is ad hoc and unreliable as a way to tap into citizens' know-how. Future administrations will want to do a better job of targeting participation opportunities to those citizens and civil servants with the most relevant credentials, experience, know-how and interest in a given topic.

There are already pilot programs underway to match the demand for expertise to the supply, and to connect with employees in a more effective manner than the open call. The Food and Drug Administration, for example, has created an employee skills directory to accelerate its ability to identify the right civil servants to staff medical device safety review panels responsible for deciding whether a device is safe to take to market. The Environmental Protection Agency has launched an internal Skills Marketplace, where agency managers can advertise projects and employees can find those that match their skills, even if the job is in another part of the agency than the one where they currently work.

There's a long way to go to be able to use technology systematically to enhance the quantity and quality of both employee and citizen participation. Several roundtable participants mentioned the need to move beyond citizen engagement as a "check the box" exercise and turn it into a way to get closer to customers and understand pain points. This will require a stronger link between engagement, user experience, and agency mission, as well as tackling regulatory barriers and inflexibilities that make it difficult for customers to engage with agencies.

ACTIONS

Create cross-agency, cross-sector, user-centered information platforms to improve service delivery and expand economic opportunity.

- Give state and local governments information to deliver better services.
- Support data-driven and human-centered research on effective delivery of government services.
- Support entrepreneurship through open data by bringing together diverse data, including business-filing, tax and demographic data, to give more businesses access to information.

While retail entrepreneurs are experts in their respective trades, they often lack access to high-quality information about economic conditions in the neighborhoods where they operate or are considering operating. There is enough open data available in many communities, however, to be able to give small businesses across America access to high-quality data to help them decide where to establish a new business or expand an existing one. Building on the model of the New York City Business Atlas, the federal government could launch a cross-agency user-centered design effort working with states, localities, and foundations that support entrepreneurship to bring together a diversity of data, including business-filing, tax, and demographic data, to give more businesses access to the kind of intelligence that only big businesses can currently afford, and thereby stimulate entrepreneurship.

The government could invest in the creation of a user-friendly neighborhood data infrastructure, with the toolkit, datasets, and design to:

1. Provide user-friendly tools like the business atlas for subject matter experts around the country;
2. Give state and local governments the data they need to design better citizen services on a neighborhood-by-neighborhood basis; and
3. Stimulate more research about the impact of the delivery of government services.

The impact of open data can be amplified when government works directly with private business on targeted initiatives. This represents a new form of collaboration, beyond the public-private partnership model, in which participants from different sectors, including private companies, research institutions and government agencies, can exchange data to help solve public problems.

Create cross-agency one-stop shop and automatic enrollment capabilities.

- Develop a universal application.
- Create automatic renewal capability to remove burden of repeated applications.
- Develop capability for automatic benefits determination and enrollment.

The White House has the opportunity to help state and local governments dramatically improve the services they provide to citizens while saving money, if it acts to create and support implementation of the policy framework to enable automatic enrollment. Accomplishing these goals is now possible due to significant advancements in technology and responsible information sharing, and leveraging open government data to make data held by government reusable. This would accomplish the following priorities:

1. Universal application, which qualifies citizens for all the human services to which they are entitled based on the completion of a single form;
2. Automatic renewal, which renews people for services rather than depending upon them to reapply;
3. Automatic benefits, which uses open government data from IRS, the Social Security Administration, the Department of Health and Human Services and other agencies to means-test eligibility and automate the process of determination in order to deliver services for which people are eligible.

The federal government can lead the states by challenging governors to reduce bureaucracy and waste by removing unnecessary paperwork and rules in order to provide human service benefits to those who need them. The White House can issue a challenge to states and local governments to make the business rules underlying benefits decisions freely available as open data and invite the private and nonprofit sector to innovate in delivery of government benefits, including by creating new kinds of eligibility apps.

Open opportunities for meaningful citizen engagement and tap into the expertise of people.

- Develop a tool that taps into the intelligence and expertise of citizens to help solve challenges.

The next administration can build upon progress made in citizen engagement. By revamping the We The People website to shift from only asking the public to sign petitions that make simple demands of government to inviting the public to supply the evidence and know-how needed to implement more of citizens' suggested proposals more quickly. Another step in furthering citizen engagement would be to support federal agencies in expanding awareness of opportunities to participate in prize-backed public challenges on Challenge.gov.

The We The People website allows members of the public to solicit signatures in support of a petition for government action. A petition must obtain 100,000 signatures in 30 days. By May 2013, there had been 200,000 petitions with 13 million signatures, yet only 162 have received a response and none can be directly connected to a decision made, a dollar spent, or an action taken. A year and a half later, at the end of 2014, there were still only 165 responses. This is because We The People online petitions do nothing to help already beleaguered policymakers identify innovative new ideas, contribute cogent solutions, quantify their costs and benefits, weigh alternatives, amass supporting data, describe experience with similar policies in other jurisdictions, determine who will be affected, identify experts, or point out practical and political pitfalls. The website needs to be converted from a suggestion box to a tool that takes citizen expertise seriously and asks the public to contribute more meaningfully and usefully.

Challenge.gov, which will celebrate its sixth anniversary this fall, showcases requests by government agencies to the public to tackle hard problems in exchange for cash prizes and other incentives. The initiative capitalizes on the simple idea that knowledge is widely dispersed in society, and more people will share their innovative insights if asked. Since inception of Challenge.gov in 2010, federal agencies have run more than 600 challenges, turning to the public to help ameliorate problems such as decreasing the word gap between children from high-and low-income families or increasing the speed at which saltwater can be turned into fresh water for farming in developing economies. Too often, however, these challenges lack an audience. There is a need for more investment in promoting participation in prize-backed challenges, a role that might fall to a new chief knowledge officer.

Create a platform that allows for matching of citizen expertise with specific community needs.

- Open 911 call data to allow matches to local citizen first-responders.

There has been exciting growth in the use of citizen first-responders in communities across the country. The next administration can help cities across America with the know-how and means to open their 911 call data. Doing so can save more lives through citizen first-responders and give more Americans a chance to participate actively and meaningfully in making their communities better.

For example, 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. Now used by 1,400 communities across the United States, PulsePoint matches those with a specific skill, namely CPR training, to heart attack victims with dramatic results. 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 those with CPR to those who need it, Pulsepoint has already saved 8,000 lives and could benefit every community. This is just one example of the kinds of citizen engagement projects that tap into what people know, and can do to help their neighbors, that the new administration could support. 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 could invest in the use of technology to unlock the potential of citizen engagement to make America's communities stronger.

RECOMMENDATION 3

Promote a Culture of Innovation

In addition to accelerating the use of both data and human intelligence to improve how government manages its work, any new administration committed to innovation should consider ways to institutionalize a culture of innovation. Yes, we have new positions and new offices, such as that of chief technology officer and chief data scientist, signaling a much broader embrace of technology than in the past. But there is a still a deep-seated culture of risk aversion and naysaying. Instead, what is needed, said a roundtable participant, is a bottom-up understanding and embrace of experimentation. "No more sacred cows," declared another.

Embedding and institutionalizing innovation will demand that innovation and technology skills become more widely distributed across the federal enterprise.

More people need to be trained in human-centered design, gamification, data science, data visualization, crowdsourcing and other new ways of working, and more people with those skills need to be brought into government. The Defense Advanced Research Projects Agency, one of the agencies that supports cutting-edge research in science and technology, credits its ability to spot the most innovative trends in the academy and industry to its 25 percent annual turnover of personnel. Because the average tenure of a DARPA program manager is four to five years, the average program is similarly short, which means that lots of new ideas are constantly coming in and creating an atmosphere of surprise and innovation. There needs to be more new blood coming into government to inspire people with fresh ideas and thinking. Government also have to adopt a net-centric mentality—with institutions that are transparent and easy to plug into; networks that are multi-directional; and standardization of infrastructure and a language.

ACTIONS

Adopt private-sector models for a "chief people officer" and a "chief knowledge officer" and educate and engage support teams that influence innovative efforts on how they can support innovation while still safeguarding the public interest.

The next administration can help to build a government that no longer lags behind the private sector in its ability to use new technology to govern more effectively and efficiently. Agencies can make use of the agency's own data to improve how the agency works, and focus on broader diffusion of know-how across the federal government, between levels of government, and between government and the private sector, to make institutions better at tackling hard problems.

The new president can direct agencies to identify key innovation personnel, such as data scientists, and identify ways to engage important support functions such as contracting, grants, personnel officials, finance, lawyers and the oversight community. The administration could also adopt an emerging commercial best practice of a chief people office. Data scientists can address how to use the agency's and other data to help the agency realize operational improvements and to measure those improvements.

For example, legal innovators can create an innovation culture within the legal team, ensuring that the lawyers develop a clear understanding of the necessity of using innovative technology and methods, such as A/B testing, to achieve core priorities. A chief people officer can work closely with data scientists and other managers 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.
- Develop more effective ways to organize teams to break down silos and solve problems faster and more effectively.

Likewise, agencies and the administration can establish the role of chief knowledge officers with responsibility for ensuring the diffusion of innovation skills and knowledge about what's working across the federal government

Increase availability of high-demand skill sets.

- Identify current talent within agencies and develop through training and rotations.
- Build upon current federal efforts such as the Department of Health and Human Services Idea Lab.
- Increase hiring flexibility to bring high-demand skills into government.
- Create a Peace Corps model for technology service with defined term limits for participants.
- Change hiring practices to hire people for selected positions in one month or less.

The next administration can build upon innovative efforts to increase innovation talent in government in order to tackle hard problems. This includes development of existing federal talent and streamlining the ability to bring in new talent.

The administration can 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, the Office of Personnel Management needs to bring down the time required to bring people into 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.

In addition to external hiring, the administration can establish training and center-of-excellence programs for developing innovation skills such as human-centered design, gamification, data science, data visualization, crowdsourcing and other new ways of working.

RECOMMENDATION 4

Prioritize Evidence-Based Innovation

In order to know where to make the investments in new structures, legal frameworks, platforms, and personnel, we need, above all, to know what works.

One can count on two hands, for example, the use of randomized controlled trials to evaluate the effectiveness of alternative programs and policies, and on one hand the use of scientific methods to evaluate the relative effectiveness of different ways of making policy. One participant forcefully made the point at the roundtable about the need to develop a tested science of innovative management, not simply a potpourri of programs. Others suggested the creation of a book or clearinghouse of tech-driven innovation "greatest hits" (successes and failures) to learn from. Similar suggestions were made by others to pull together and share citizen engagement best practices across agencies.

Establishing an evidence-based innovation culture also will require changes in oversight. The oversight community, including the Government Accountability Office and inspectors general, often hamper innovation instead of being a partner in helping agencies identify ways to improve. Several roundtable participants highlighted the need to reinvent relationship of oversight community to promote and support innovation, moving from the "gotcha" mentality to helping and learning.

ACTIONS

Develop a tested science of innovative management—drawing upon techniques such as randomized control trials, A/B testing, and behavioral science and change management approaches.

- Design programs to include funding for testing, evaluation and data analysis

  The next administration can create an enterprise like the Defense Advanced Research Projects Agency for civilian agencies. Such an enterprise could be referred to, for example, as GARPA (Government Advanced Research Projects Agency), and be funded by Congress in order to support government innovation.

  The government spends tens of billions of dollars each year on funding research in the private sector, but the results of that research rarely find their way into government or lead to changes in how government works. The National Science Foundation has spent millions, for example, funding cloud computing research, but that research did not shape the strategy by which the federal government and its agencies shifted operations to the cloud. Just as DARPA supports cutting-edge science and technology research for use by the military, a GARPA-like enterprise could support research in new technologies and insights in the social sciences designed to measure and improve how government works. Substantive experts could be brought in for short tours of duty of three to five years to build innovative research programs designed to improve the functioning of government, and through it, improve people's lives.

  For example, a GARPA-like organization could support new research on how teams work that can then be applied to reorganizing agencies in government. To qualify for funding, research should be genuinely novel in its application to government, and designed to solve a problem impeding government from working as effectively as it could.

RECOMMENDATION 5

Incorporate Innovation into the Transition

Our recommendations can be implemented over the course of the next administration. It is also important to recognize that the transition period, the weeks and months between the election in November 2016 and the swearing-in ceremony in January 2017, represent a unique opportunity to seed the foundations for long-lasting change. Transitions, by definition, provide the opportunity to raise a new sense of urgency and to reorient goals and priorities that, if well-articulated, can drive the first 100 days in office and the rest of the administration. As one participant at the roundtable put it: "Don't waste a transition in governance to further transformation of government." Others pointed to the need for the transition teams to "be ready for a crisis." Leaders can use a crisis to drive changes that would otherwise be unattainable and at the same time drive real innovation in the delivery of services.

ACTIONS

Convene a technology, innovation and government reform working group during the transition.

- A cross-functional TIGR group can connect innovation with the big goals, and prevent a narrow approach to innovation.

Include technologists and data scientists in every agency transition team.

- Having innovation-literate people as part of the planning process will be essential for taking stock of the technology infrastructure and readiness of departments, but also to ensure that technology is at the table when planning the substantive policy agendas.

Make innovation a priority in the selection of appointees and set clear expectations.

- For instance, the transition leadership could prepare a set of technology, data and innovation questions for would-be Cabinet secretaries so they can be evaluated for their familiarity with the role tech can play and put on notice about the importance of technology to the new president.

Plan an early Cabinet retreat focused on innovations in governance.

Conclusion

Innovation is not a means to an end, but a set of tools and methods in service of people and communities. At the same time, efforts to drive innovation must recognize that innovation is not one-size-fits-all. It is important to have a clear vision to innovate and ambitious goals, and administration must take the steps now to create an agenda for the first 100 days that will set government on the path to working better and differently using new technology.

APPENDIX ONE
JANUARY 2016 INNOVATION ROUNDTABLE ATTENDEES

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APPENDIX THREE
SUGGESTED APPROACH FOR IMPLEMENTING RECOMMENDATIONS

RECOMMENDATIONS & ACTIONS
Recommendation 1: Scale Data-Driven Governance
Expand analytic capacity across the government
Build upon open-data initiatives
Recommendation 2: Scale Collaborative Innovation
Create cross-agency, cross-sector, user-centered information platforms to improve service delivery and expand economic opportunity
Create cross-agency one-stop shop and automatic enrollment capabilities
Expand co-design and co-creation capabilities across agencies
Open opportunities for meaningful citizen engagement and tap into the expertise of people
Create a platform that allows for matching of citizen expertise with specific community needs
Recommendation 3: Promote a Culture of Innovation
Adopt private sector models for a “chief people officer” and a “chief knowledge officer” and educate and engage support teams that influence innovative efforts on how they can support innovation while still safeguarding the public interest
Increase availability of high-demand skill sets
Recommendation 4: Prioritize Evidence-Based Innovation
Develop a tested science of innovative management—drawing upon techniques such as randomized control trials, A/B testing and behavioral science and change management approaches
Design programs to include funding for testing, evaluation and data analysis
Recommendation 5: Incorporate Innovation into the Transition
Convene a technology, innovation and government reform working group during the transition
Include technologists and data scientists in every agency transition team
Make innovation a priority in the selection of appointees and set clear expectations
Plan an early Cabinet retreat focused on innovations in governance

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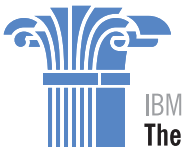

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